Site Specific Odour Management Plan – Ffynnoncyff Farm (2)

Applicant: Mr Daniel James and Mrs Carys James (Stepside Agricultural Contractors)
Permit: SR2010 No4: mobile plant for land-spreading
Permit number: EPR/AB3891CX

Farm address:
Ffynnoncyff Farm, Ferwig, Cardigan, Ceredigion, SA43 1QD

Waste to be applied:

Waste Code	Waste Description	Physical Form	Source
02 05 02	Waste from the dairy products industry – sludges from on-site effluent treatment	Liquid sludge	Mr Daniel Aneurin Rhodri James, Mrs Carys Ellen James, Mr Gareth Rhodri James, and Mrs Sian James - EPR/DB3090CE Ffynnoncyff Lagoon, Ffynnoncyff Farm, Ferwig, Ceredigion, SA43 1QD (Producer: Volac/Sensient, Felinfach)

The waste to be applied is from permitted temporary storage facility - Mr Daniel Aneurin Rhodri James, Mrs Carys Ellen James, Mr Gareth Rhodri James, and Mrs Sian James EPR/DB3090CE Ffynnoncyff Lagoon, Ffynnoncyff Farm, Ferwig, Ceredigion, SA43 1QD. The producer of the waste in temporary storage in this permitted facility is Volac/Sensient, Felinfach – permit: EPR/BP3135EB.

Aim:

To identity potential sensitive receptors to odour near the spreading areas, sources of potential odour generation, factors affecting odour, measures to reduce odour generation, odour monitoring & actions should any odour complaints be received.

Operations will be overseen by the technically competent manager / nominated competent person and all personnel will receive training relevant to their role prior to commencing operations.

Operation description:

The liquid sludge to be spread is from permitted temporary storage facility - Mr Daniel Aneurin Rhodri James, Mrs Carys Ellen James, Mr Gareth Rhodri James, and Mrs Sian James EPR/DB3090CE Ffynnoncyff Lagoon, Ffynnoncyff Farm, Ferwig, Ceredigion, SA43 1QD also located on the farm near to the fields to be spread. The liquid sludge is to be spread from permitted temporary storage facility EPR/DB3090CE Ffynnoncyff Lagoon onto the deployed fields at the required timings as stated in the agricultural benefit statement. The sludge will be spread directly from the permitted temporary storage facility, or may be pumped by lay flat hose from the permitted temporary storage facility to nurse tanks before being spread. Spreading is undertaken by either umbilical method with the liquid delivered to tractor in deployed fields pumped through hose and spread by dribble bar applicator mounted onto the back of the tractor, or a tractor and vacuum tanker with dribble bar applicator. The dribble bar applicator places the liquid in bands onto the surface of the ground. This spread method is effective in limiting odour generation & nutrient losses associated with higher trajectory spread methods such as splash plate. Spreading is undertaken with the use of flow meters to ensure correct rates are applied.

Odour potential of waste being applied:

The liquid sludge from dairy waste treatment has moderately offensive odour and the potential to cause odour generation.

Potential sensitive receptors to odour near the spreading areas:

There are a number of dwellings, a campsite, places of work, Mwnt beach & public footpaths within 500 metres of the spreading areas. The locations of these potential sensitive receptors have been identified on the below maps.

Map Key

	Location of Fields
	Potential Sensitive Receptors to Odour Within 500 Metres of Fields – Dwellings, Campsites, Places of Work, Mwnt beach
	Public Foot Paths
	Nurse Tank

Name: E. Williams
Map Grid Ref: SN 19731 50856
Farm ID: Ffynnoncyff Farm
Post Code: SA43 1QD

Ffynnoncyff Farm
– Potential Sensitive Receptors – Odour – Map

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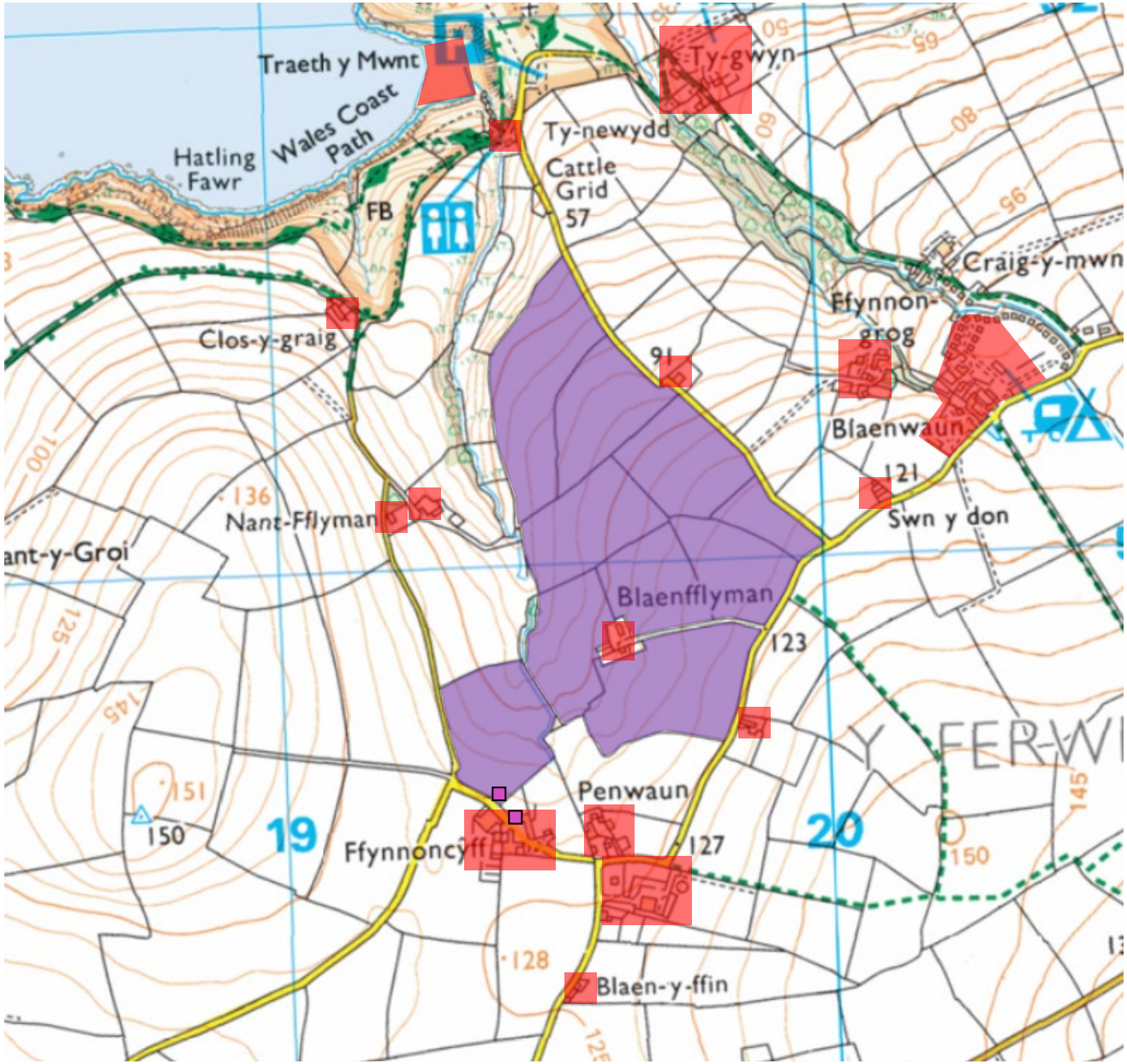

Map Key

	Location of Fields
	Potential Sensitive Receptors to Odour Within 500 Metres of Fields – Dwellings, Places of Work
	Public Foot Paths

Name: E. Williams
Map Grid Ref: SN 19510 50274
Farm ID: Ffynnoncyff Farm
Post Code: SA43 1QD

Ffynnoncyff Farm
– Potential Sensitive Receptors – Odour – Map

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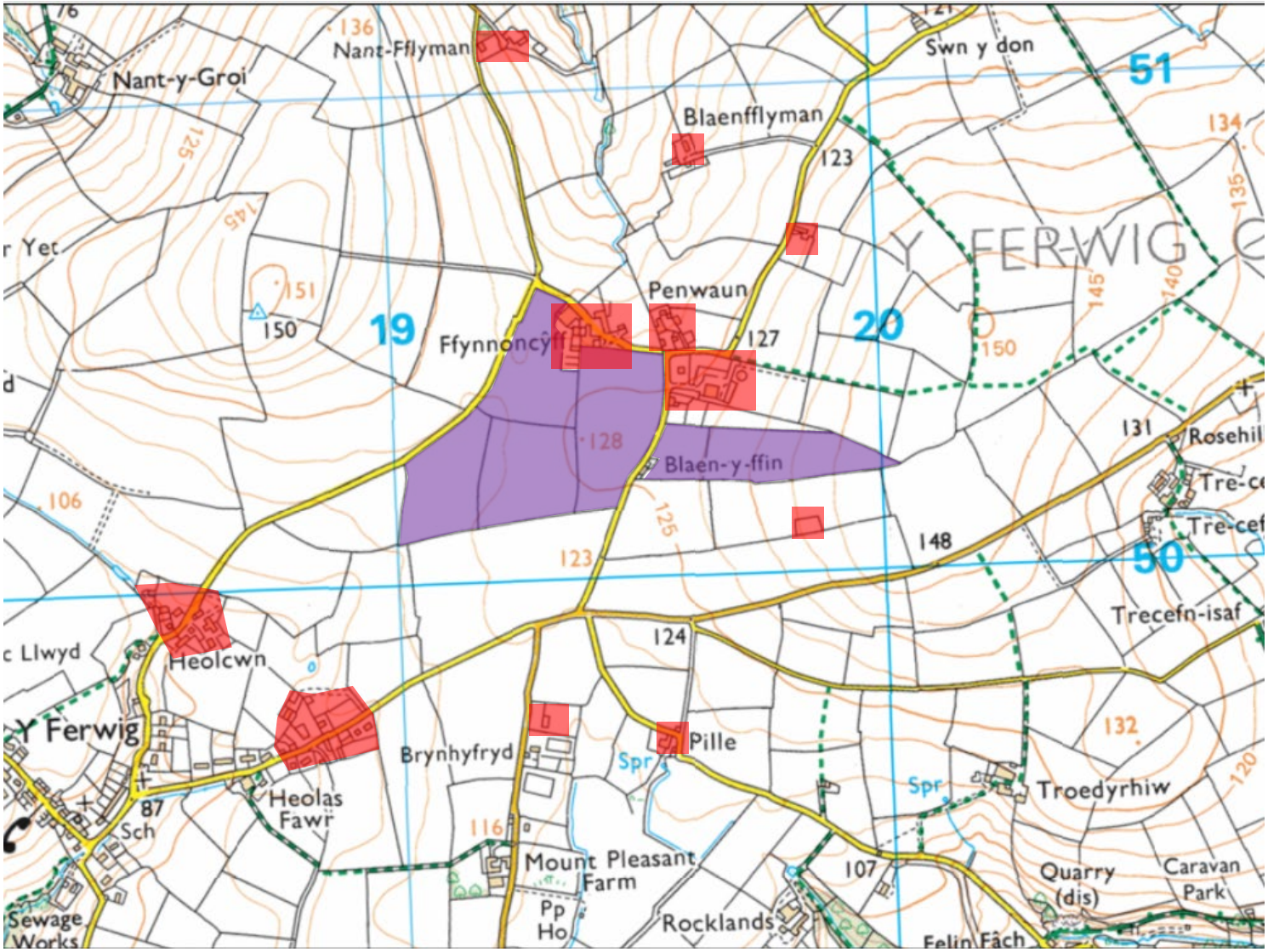

Sources of potential odour generation & control measures:

Temporary storage / Loading

Control of odour from loading from the storage facility can be achieved by ensuring that the wind during filling is away from the nearest identified sensitive receptors. The rate of odour transmission falls by almost an inverse square with distance i.e. doubling the distance from a receptor decreases the odour impact by almost a factor of four.

Loading of the temporary stored liquid sludge from the permitted storage facility covered lagoon prior to the material being spread can potentially increase the amount of odour generated however the lagoon is sealed with cover to limit odour generation. The sludge will be spread directly from the permitted temporary storage facility, or may be pumped by lay flat hose from the permitted temporary storage facility to temporary storage nurse tanks ensuring a closed transfer system before being spread. Where spreading is carried out with umbilical method, the liquid is delivered to tractor in deployed fields pumped through hose ensuring a closed transfer system to control any odour from transfer. If spreading is carried out by tractors and vacuum tankers, suction pipe is connected between the vacuum tanker and the outlet valve on the permitted storage facility covered lagoon or nurse tanks ensuring loading remains a sealed transfer reducing potential odour. During decoupling there is the potential for odour release although this is only for a very short time and is likely to dissipate very quickly.

The nurse tanks are sealed with roofs and the liquid sludge is usually in the tanks only for very short period before being spread. Control of odour from temporary storage in nurse tanks can be achieved by ensuring that the wind during filling or emptying is away from the nearest identified sensitive receptors. The rate of odour transmission falls by almost an inverse square with distance i.e. doubling the distance from a receptor decreases the odour impact by almost a factor of four. Storage periods and quantities will also be kept to as short as possible to reduce any potential for odour.

Where possible, spreading operations should be avoided on hot summer days. Odours are more noted on these days as the heat increases the rate of evaporation and volatilisation of odorous compounds increases and therefore the transmission of odoriferous compounds through the air also increases. In addition, warm days encourage people to be more likely to be outside or have windows open and therefore be more likely to be impacted by any odours.

Spreading

This part of the operation has the greatest potential to lead to odour generation and any odour derived complaints. The method of operation, itself dictated by cropping, crop nutrient requirements & soil type and ground conditions can have the most direct effect on control of odour emissions. Spreading method for liquid sludge is by either umbilical method with the liquid delivered to tractor in deployed fields pumped through hose and spread by dribble bar applicator mounted onto the back of the tractor, or a tractor and vacuum tanker with dribble bar applicator. The dribble bar applicator places the liquid in bands onto the surface of the ground which is an effective method in limiting odour generation & nutrient losses associated with higher trajectory spread methods such as splash plate. Applied liquid sludge should be soil incorporated as soon as practicable following spreading (and within 12 hours) where cultivation is to follow spreading for the arable fields when spread prior to the spring barley and forage maize crops being planted. A complete or near complete covering or inversion is achieved which provides good coverage of soil thus preventing any continuing emission of odour from the spread liquid sludge.

Spreading of the liquid sludge should take place when the wind is blowing away from the nearest sensitive receptors and particularly hot days should be avoided whilst spreading. The application of waste is co-ordinated with local weather forecasts and in line with guidance from the Code of Good Agricultural Practice.

High work rates enable the liquid sludge to be applied when the “weather window” is favourable i.e. the wind is blowing away from nearby sensitive receptors. Depending on operational factors, liquid sludge can be spread at rates more than 1000 tonnes per machine per day.

Factors affecting odour:

Several factors can impact the risk of odour. These include the distance of sensitive receptors from the spreading area, time of spreading, wind direction, topography, temperature and weather conditions, duration of operation, size of area spread & quantity spread.

The distance of the sensitive receptors from the area being spread has one of the greatest potentials for the risk of odour with odour risk reduced the further the sensitive receptors are from the area being spread. Ensuring spreading is only undertaken near any sensitive receptors when conditions are suitable, and when the wind direction is away from the sensitive receptors will reduce odour risk.

Daily and weekly weather forecasts will be used to help reduce the impact of odours to sensitive receptors and ensure spreading is undertaken under suitable conditions. Forecasts are checked prior to spreading commencing and should the competent spreading team or NCP/TCM note the wind direction alter during spreading and pose greater risk of odour to nearby sensitive receptors spreading may have to stop until conditions and wind direction alter if odour is offensive.

The size of the surface area spread can lead to greater risk of odour due to larger surface area for potentially odour emitting waste. Odour emissions are reduced by controlling the area of material exposed to the atmosphere during spreading through spread method used – placement in bands on the surface of the ground by dribble bar applicator. The duration of the operation will be reduced as much as possible through high work rates & the low trajectory spread method implemented will control and reduce odour emissions compared with other methods. Spreading on weekends and bank holidays will be avoided where possible and avoiding periods of warmer weather as there is likely to be greater risk with more people at home or outdoors.

Odour Monitoring:

Stepside Agricultural Contractors will also carry out monitoring of odours in the area around the site to help detect any off-site odours and identify the causes and any suitable action that needs to be taken. This monitoring will be based on the 'sniff test' at various locations around the site following format as in the Stepside Agricultural Contractors land- spreading environmental management system. Odour monitoring will be carried out by a person or persons who has not been working on site within the preceding 2-hour period to avoid undue influence from odour 'habituation'.

There will be three possible evaluations:

1. No odour perceptible. No action required.

2. Slight odour perceptible. Check the area to determine the potential source. This is followed by a second odour estimation and a log of the odour incident and if any remedial action is required.

3. Perceptible odour. Immediate notification to TCM followed by site & boundary checks to determine whether the odour is from spreading area or an external source. An odour report form will be completed and appropriate remedial action will be undertaken and reported.

A full upwind and downwind assessment will be carried out as soon as practicable at any time when local residents, other receptors or NRW telephone or make contact about off-site odours. An odour complaint form is also completed.

Reporting:

Inspections conducted at the site include monitoring the effectiveness of odour control measures. The findings of each inspection are recorded in document Odour Report Form and are then reviewed by the Stepside TCM / management team. The TCM / management team report any odour issues to the company directors and can implement changes quickly. Checks are made as per the permit requirements and recorded. Based upon the findings, odour control methods are modified or updated.

Staff training:

As part of maintaining best management practices for controlling and preventing odour emissions,
relevant staff will be trained to identify odour concerns as part of inspections. The training will cover the control techniques and operating procedures in place for managing odour emissions, how to maintain them, how to conduct an odour observation check and complete the associated paperwork, what to do in the case of an unexpected odour release, and who to notify if there are any concerns or problems.

Refresher training will be provided as necessary and will be based on changes to the odour emission control techniques.

Implementation schedule:

Both the initial implementation date and the schedule for continued use at the operational site are identified. Daily inspections at the operating site are used to monitor the effectiveness of odour management practices and identify further requirements. Use will ensure odour does not cause pollution/nuisance/harm to human health or the environment.

Community involvement:

It is recognised that a positive relationship with local neighbours is an important part of the odour management plan. In order to promote this, contact information may be sent electronically, or handed to, the closest neighbours to the spreading site if any odours at the deployment site are anticipated. Information will also be made available to local parish councils and environmental health officers should it be deemed appropriate. In some instances, neighbours may be invited to a tour of the site so that they understand the process and they will be positively encouraged to actively provide feedback on any odours impact. This will involve these neighbours being asked to make contact directly if they are affected by odours at the time that odours occur so that causes can be investigated and corrective action taken in a timely fashion.

The objectives of this interaction are to use feedback from neighbours to identify when and why odours are detected off-site so that timely remedial and preventative action can be taken to help minimise off-site impact in future. Any calls to, or contact with Stepside Agri about odours will be recorded using the Odour Complaints Record.

The form will also be used to record any odour complaints that come through local council, Natural Resources Wales or other third parties. Prompt follow up investigations and changes to operations can then be carried out.

It is acknowledged that members of the public using public roadways adjacent to the deployed site may experience transient odours when travelling past. The particular highways are in rural areas for local use and not subject to commuter or any other regular form of congestion causing traffic to slow down or queue, and any odour exposure will normally be transient and very short term.

Further Actions:

Deliveries and spreading will be stopped if the measures in place do not control off-site odours satisfactorily and are causing odour nuisance to sensitive receptors. Stepside Agricultural Contractors will endeavour to update residents or relevant persons at the sensitive receptor location as soon as possible. Spreading operations will not start again until the cause of the odour issue has been mitigated or the weather conditions giving rise to the odour issue have altered. A shallow slot injector which places the liquid under the soil surface may be used as a measure that may further reduce odour if deemed appropriate and cropping allows.

This site-specific odour management plan will be implemented in conjunction with the Stepside Agricultural Contractors land-spreading environmental management system.