Statement of Agricultural Benefit – Abergelli Farm

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

Agricultural benefit statement is prepared by:

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This agricultural benefit statement has been prepared based on information provided by Stepside Agricultural Contractors. It is made on the understanding that all information provided is correct and representative of the fields to which the material is to be applied and of the waste material to be applied.

Farm address:

Abergelli Farm, Felindre, Swansea, SA5 7NN

Wastes to be applied:

Waste Code	Waste Description	Physical Form	Waste Producer
19 09 02	Sludge from water clarification	Liquid sludge	Dwr Cymru Welsh Water Felindre WTW

Application:

- The fields will be spread February – September 2026. Spreading is in advance of hay making in summer 2026 / in advance of periods of grazing during season. Spreading of these grass fields may be split into at least 5 separate applications & the total of all applications will not exceed the max application rate for each field as listed in table 1. Each individual application will not exceed 50t/ha in any one application to a field.
- Spreading of the waste will be carried out in accordance with the Code of Good Agricultural Practice, The Water Resources (Control of Agricultural Pollution) (Wales) Regulations 2021 and in accordance with the requirements of the deployment and Environmental Permitting Regulations.
- NRW will be informed at least 48 hours prior to any spreading commencing and no spreading will occur within 48 hours of forecasted heavy rainfall.
- The liquid sludge is either pumped via umbilical hose directly from the lagoons at Felindre WTW to spreading tractor in field, or liquid sludge is removed from the lagoons at Felindre WTW with tractor and tanker to the fields to be spread at the required timings as stated above.
- Spreading is with a dribble bar applicator. The dribble bar applicator places the liquid in bands onto the surface of the ground.
- The maximum application rates for each field listed in Table 1 have been made on a field by field basis using The Nutrient Management Guide (RB209).

Benefits from waste application:

- The analysis and nutrient content of the waste are shown in the waste analysis attachments.
- The waste is a source of nitrogen, phosphate, potassium, sulphur and organic matter. The waste can be beneficially used to replace a proportion of bagged mineral fertiliser.
- The risk of sulphur deficiency has been estimated as 'High' based on the soil texture and expected winter rainfall (RB209). The crop requirements are approximately 60kg SO_3/ha. The amount of available sulphur supplied by the wastes at the proposed maximum application rate is 13kg SO_3/ha.
- The addition of organic matter to the soil will help improve soil structural stability, biological activity, water and nutrient holding capacity i.e. resistance to drought, and reduction of localised flooding, reduced leaching of nutrients, and improved workability in soil.

Materials applied in previous 12 months:

The fields within this deployment application have received the rates (t/ha) of materials as in 'Table 4 - Previous Land Treatment' within the previous 12 months.

It's considered that the nutrients applied from these applications were for the requirements of the previous crops before the material within this deployment is applied for the next crops.

Nutrients supplied by this application:

Rate of application (t/ha)	Nitrogen kg/ha		Phosphate (P_2O_5) kg/ha		Potash (K_2O) kg/ha		Magnesium (MgO) kg/ha		Sulphur (SO_3) kg/ha	
	Total	Available	Total	Available	Total	Available	Total	Available	Total	Available
DCWW Felindre WTW liquid sludge @ 250 t/ha	81	8	34	7	8	2	24	5	125	13
Estimated Availability	10%		20%		20%		20%		10%	

Table 1: Field, Soil & Cropping Details, Fertiliser Recommendations and Application Rates

					Nitrogen		Phosphate			Potash			Magnesium	
Field Ref.	Soil Type	Spreadable Area (ha)	Previous Crop	Next Crop	SNS	N Required (kg/ha)	P Index	P_2O_5 Required (kg/ha)	Crop Use (Offtake) (kg/ha)	K Index	K_2O Required (kg/ha)	Crop Use (Offtake) (kg/ha)	Mg Index	MgO Required (kg/ha)
2225	Medium soils	3.90	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	0	85	35	0	144	94	1	0
3732	Medium soils	2.50	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	1	60	35	0	144	94	1	0
3907	Medium soils	4.00	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	2	35	35	0	144	94	2	0
2908	Medium soils	2.70	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	3	0	35	2-	94	94	2	0
1294	Medium soils	2.50	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	0	85	35	0	144	94	1	0
1808	Medium soils	1.50	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	1	60	35	0	144	94	1	0
3370	Medium soils	3.50	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	2	35	35	2-	94	94	2	0
5867	Medium soils	3.60	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	1	60	35	1	119	94	1	0
4645	Medium soils	4.60	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	2	35	35	2-	94	94	2	0
2133	Medium soils	4.20	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	2	35	35	2-	94	94	2	0
0173	Medium soils	1.70	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	2	35	35	0	144	94	2	0
0455	Medium soils	1.10	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	2	35	35	1	119	94	2	0
1163	Medium soils	1.40	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	2	35	35	1	119	94	2	0
8940	Medium soils	2.10	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	2	35	35	2-	94	94	2	0
26	Medium soils	1.50	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	1	60	35	1	119	94	2	0
27	Medium soils	0.80	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	1	60	35	1	119	94	2	0
6549	Medium soils	2.00	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	2	35	35	2-	94	94	2	0
6262	Medium soils	2.70	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	2	35	35	2-	94	94	2	0
4853	Medium soils	1.00	Grass 1 cut hay & grazing	Grass 1 cut hay & grazing	Moderate	130	2	35	35	1	119	94	2	0
TOTAL		47.30												

Nutrient requirements based on:

Grass 1 cut hay 5t FW/ha (86% DM) + grazing 18t FW/ha (15-20% DM) over season
For grazing calculations assume approximately 80% of the P2O5 and 95% of the K2O is recycled in field by the animal through its dung and urine
Expected DM yields of grass 7-9t/ha, good grass growth class

	Dwr Cymru Welsh Water Felindre WTW - liquid water clarification sludge					
Field Ref.	N Applied - Waste (kg/ha)	P_2O_5 Applied - Waste (kg/ha)	K_2O Applied - Waste (kg/ha)	MgO Applied - Waste (kg/ha)	Application Rate (t/ha)	Total Tonnes
2225	**8	**7	**2	**5	250	975
3732	**8	**7	**2	**5	250	625
3907	**8	*34	**2	*24	250	1000
2908	**8	*34	*8	*24	250	675
1294	**8	**7	**2	**5	250	625
1808	**8	**7	**2	**5	250	375
3370	**8	*34	*8	*24	250	875
5867	**8	**7	**2	**5	250	900
4645	**8	*34	*8	*24	250	1150
2133	**8	*34	*8	*24	250	1050
0173	**8	*34	**2	*24	250	425
0455	**8	*34	**2	*24	250	275
1163	**8	*34	**2	*24	250	350
8940	**8	*34	*8	*24	250	525
26	**8	**7	**2	*24	250	375
27	**8	**7	**2	*24	250	200
6549	**8	*34	*8	*24	250	500
6262	**8	*34	*8	*24	250	675
4853	**8	*34	**2	*24	250	250
TOTAL						11825

* Total nutrient content of waste used on P, K or Mg index 2 or above
** Available nutrient content of waste used on P, K or Mg index 0 or 1
The assumed availability of total nutrients in the DCWW water clarification sludge are N 10%, P_2O_5 20%, K_2O 20%, MgO 20%, SO_3 10%

Potential negative impacts from this application and mitigation measures planned:

Waste composition & receiving soils

- Potentially Toxic Elements: The supplied concentrations at the proposed application rates are all lower than the maximum permissible levels detailed in the Sludge (Use in Agriculture) Regulations for biosolids applied to agricultural land, which is believed to be a suitable comparison for wastes applied to agricultural land.
- Physical contaminants: The waste is produced by managed processes. The waste does not contain physical contaminants.
- Dwr Cymru Welsh Water Felindre water treatment works uses aluminium-based coagulants to condition the water. The liquid sludge will only be spread on fields with a soil pH of 6.0 or above.
- The pH of the receiving soils ranges from pH 6.0 to 7.1.
- Soils have been sampled to 7.5cm depth for permanent grass fields with a 'half cheese' corer soil sampler walking a 'W' pattern across each field collecting approx. 25 sub samples per field.
- Receiving soils have been analysed and are suitable for application at the proposed application rates.

Operations

The fields in this deployment have been designated as 'medium risk' following site checks on the proximity to surrounding protected areas (e.g. SSSIs) and groundwater source protection zones. On the basis of 'medium risk' the proposed operation will be subject to the generic risk assessment for deploying mobile plant under a SR2010 No.4. The potential risks associated with the application of waste on this deployment have been identified as;

- Potential run-off after application: The waste will be applied following the Code of Good Agricultural Practice. The maximum application rate for each field will be split into multiple applications and will not exceed 50t/ha in any one application. The fields will be spread using dribble bar applicator with no spreading areas enforced as per maps.
- All handling of the waste will be in accordance to current regulations and relevant mitigation strategies will be adopted.
- The Dwr Cymru Welsh Water Felindre liquid water clarification sludge is considered to have no noticeable odour.
- Spillages: all spillages will be reported immediately to NRW.
- No waste will be spread within 10m of any ditch, pond or surface water, within 50m of any spring, well, borehole, or reservoir that supplies water for human consumption or farm dairies.
- Operators will aim to empty spreading equipment before the end of each working day to avoid overnight storage of waste in machinery.
- Regular servicing of all machinery is conducted and spreading equipment is annually calibrated. To prevent waste being held in faulty machinery replacement spreading equipment will be available.
- Spreading machinery will travel over the field in a direction which will most easily allow the machinery to turn within the boundaries of the field. Spreading equipment will be turned off prior to turning at the end of each run.
- Machinery turns will be routed to avoid rutting and wheel slip. The turns will not be executed on any buffer strips.
- There will be sufficient trained staff available to ensure that the operation continues throughout operational hours (i.e. there will be sufficient cover for illness, holiday etc.).
- Rights of way have been marked on the spread risk maps. There are public rights of way in fields 2225 & 3732.
- Fields 6549, 6262, 4853 & 27 border site of importance for nature conservation (SINC) Waun Garn Wen, fields 3732 & 3907 border SINC Rhyd-Y-Pandy Valley and Grasslands, and fields 4645, 5867 & 8940 border SINC Llety-Morfil. 5 metres no spread buffers to bordering field boundaries are to be implemented to these sites. SINC Cefn Forest Stream, SINC Rhos Fawr, SINC Penllergaer Forest, SINC Middle Lliw, SINC Pant Lasau, SINC Middle Llan and SINC Felindre Grasslands are also nearby to spreading areas.
- Fields 2133, 4645 & 8940 border ancient woodland and 5 metres no spread buffers to bordering field boundaries will be implemented.
- Field 27 borders priority habitat for Marsh Fritillary butterflies and a 5 metres no spread buffer to bordering field boundaries will be implemented. Field 26 has a fenced section of field between the spreading area and habitat providing a buffer. Liquid sludge will be spread with a low trajectory dribble bar applicator so as reduce impact and coating of grass. High work rates will also ensure spreading period lengths are not drawn out longer than necessary reducing disturbance.
- Where fields border other priority habitat 5 metres no spread buffers will be implemented.
- Weather conditions will be monitored prior to spreading with wind speed and direction assessed.
- Consideration for the public and local residential receptors will be taken into account.

Signed: Robert Tucker	**Date:** 16/12/2025