Design and Access Statement for Proposed Replacement Agricultural Slurry Lagoon at Halghton Villa, Horsemans Green, Whitchurch. SY13 3DY

Design and Access Statement for Proposed Agricultural Slurry Lagoon

and Hard standing along with Safety Fencing and Associated Works .

Clients – P Huxley

Policies taken into consideration:-

Nvz Regulations

The Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (Wales) Regulations 2021

Planning Policy Wales 5

Technical Advise Note 6 & 7

Planning

- • Any new building, structure, tank or excavation for the storage of manure, slurry and dirty water which is to be built within 400 metres of the curtilage of a ‘protected’ building requires planning permission.

- • A ‘protected’ building is one that is occupied by people on a regular basis and is such as a private dwelling or school. The definition excludes a dwelling or other buildings that are used for or in connection with agriculture.

- • The 400-metre rule is in addition to other restrictions on permitted development for agriculture such as that of ‘within 25 metres of the metalled portion of a road’.

- • From 2 January 1992, even if full planning permission is not required, the local planning authority will require to be informed of the siting, construction and size of any planned agricultural buildings and any engineering operations on any size of agriculture unit.

- • Smaller agricultural units of 0.5-5.0 hectares have more restricted development rights.

• • Further information is contained in the booklet ‘A Farmer’s Guide to the Planning System’ that is available free from Welsh Assembly Government offices.

The Code of Good Agricultural Practice for the Protection of Water, Soil and Air for Wales - Welsh Assembly Government

Slurry storage:

- Storage systems must be impermeable, corrosion resistant, and have structural integrity.
- Reception pits must be of appropriate size (capable of holding at least 2 days slurry production, taking account of rainfall and run-off to be collected.)
- There must be 2 valves in-line on any outlet pipes between above ground stores and reception pits, at least 1 metre apart and be locked shut when not in use.
- You must provide at least 4 months’ slurry storage, unless you can demonstrate to Environment Agency Wales that you have a safe year-round slurry management and field application system that includes reducing impact on land to acceptable levels.
- You must also comply with the minimum storage requirement if your farm is in a Nitrate Vulnerable Zone, which is likely to be greater than SSAFO regulations requirements (Ref 3).
- All new or substantially altered earth-banked lagoons must keep a 750 mm freeboard at all times and other slurry and dirty water stores must be sized to include a 300 mm freeboard.

Policies

Technical Advice Note 6 states that when considering applications for livestock and Dirty Water units planning authorities should exercise particular care, to avoid potential future conflict between neighbouring land uses. The main planning consideration relating to this type of proposal is whether it would cause any unacceptable adverse effects on landscape.

The principle of the proposed development at this location complies with relevant planning policy.

Existing Farm

Halghton Villa is a well established mainly Dairy Farm 300 cows with 75 replacement cows and 225 beef store cattle. The farm of some 363 acres. It is not currently proposed that the herd will increase.

Presently the existing slurry storage of 603 cub m is inadequate to meet the farm requirement, clean water and run off from existing yard areas. The larger additional slurry lagoon of 5670 Cub m is required to meet new NVZ requirements.

300dairy cows (6,000ltr to 9,000ltr) all year calving and 75 dairy replacements are housed within several cubicle sheds with approximately 250 going through the parlour daily.

Slurry generated from the dairy cows and replacements is directed into a concrete slurry store. Storage capacity is estimated at 603.7cubic m after allowing the 300mm freeboard.

The concrete slurry store, livestock feeding yard, open FYM store, trafficked yards and silage clamp all collect rainwater. These area totals 4,420.1m sq m which collects 1,520.5cu m (344mm Data Map Wales Lat: Lat: 52.961 - Long: -2.829) of rainwater throughout the winter period. In addition, 1276.80cu m of parlour washings enter the slurry store and becomes contaminated.

All remaining youngstock are loosed housed within several livestock sheds. FYM generated from the loose housing is mucked out regularly and is either applied to land immediately if conditions are favourable or stored within the open / covered FYM store until applied to land or field heaped within regulation.

Proposed Slurry Lagoon - Location Site

Halghton Villa is located some 500 metres south of Horsemans Green and 75 metres from the nearest protected dwelling, The Old Cottage to the north.

The Slurry Lagoon site area consists of 1950 square metres of land.

The land does not currently lie within the Nitrate Vulnerable Zone area in North Wales, or within a flood zone.



The Site

The proposed location for the new slurry lagoon is to the east of the existing farm buildings in an area of field adjacent to the existing equipment parking and material storage area.

This location is considered most suitable for the new Slurry Lagoon because it is adjacent to the stock housing buildings and existing Slurry pit. There are limited direct views from the nearest unclassified highway, a single track road. 130 metres from the nearest protected dwelling and 227 m from the nearest water course to the south.

Proposed Lined Earth Bank Slurry Lagoon

A new earth bank lagoon will be constructed measuring 50.3m x 50.3m x 4m deep (Earth bank at 45 degree), with an estimated capacity of 7,467 cubic meters after allowing for a 750mm freeboard.

The total slurry storage capacity will increase to 7,358.7cubic meters, which is 12.5% more than the future storage requirement of 6,540.46 cubic meters.

The form is established by it required function and follows an established industry design for farm slurry lagoons and Environment Agency Fact Sheet 5. The lagoon will have an artificial lining.

The lagoon depth of 4m includes the slurry and free board allowance, levels are set from the building floor levels. The maximum bank height is about 4m. Slurry will be pumped from the existing slurry pit into the new lagoon.

Scale

The proposed slurry lagoon is of a size to comply with the current NVZ regulation introduced by the government department DEFA and the Welsh Government.

Criteria used as per AHDB slurry wizard, confirms approx. 960 m3 of storage required from the channel invert.

Slurry lagoon extension dimensions
A new earth bank lagoon will be constructed measuring 50.3m x 50.3m x 4m deep (Earth bank at 45 degree), with an estimated capacity of 7,467 cubic meters after allowing for a 750mm freeboard.

Landscape and Appearance

The slurry lagoon is designed to be sympathetic with the surrounding landscape with cut and fill introduced on a sloping site. The slurry lagoon as indicated on the application drawing will have grassed shallow earth banks. A 1.8 m high chain link will be place on top of the earth bank. One access point ramp/hard area will be formed with lockable gates and concrete access ramp to allow access for emptying and mixing. Earth banks have been chosen to avoid unsightly above ground metal towers and to blend in with the landscape as much as possible

Local species hedge row will be planted as ecology mitigation and screening. New Hedge specification,

Mixture of Privet, Oak and cherry Plum trees

Wild privet Ligustrum vulgare	33%
Oak	33%
Cherry plum tree	34%
Total	100%

Local species trees will be planted as ecology mitigation. The fruiting trees will comprise of four Denbigh plumb and three crab apple (Malus sylvestris). They will be selected from local-provenance stock and will be planted within the first planting season post-completion of the development works (December to March, inclusive). The grassed area will have a wild seed mix grass

Ecology

No surveys on protected species have been provided with this application as there is not a reasonable likelihood of protected species being present, due to the continuous agricultural use of the site.

As an enhancement prescription it is recommended that :

BIRDS - Within the Loose stock building that two Vivara Pro WoodStone Swallow Bowls are to be erected within the interior of the agricultural silage shed. They should be fixed at eaves level in an easterly direction. Indicated thus **@**

Two bird nesting boxes Schwegler 1B are installed upon mature trees within the vicinity of the site, fixed on trees with straps at least 5m above ground in a southerly direction. Indicated thus **$**

BATS - As an enhancement prescription it is recommended that one Vivara Pro Large Multi Chamber Bat Box is to be erected upon one of the suitable trees on-site. thus **#**

Green Infrastructure Statement

Reasonable avoidance measures are to be adopted to mitigate any risks to wild birds, badgers, common herpetofauna or other priority wildlife.
As such, subject to the delivery of the above, the proposed development is considered likely to result in a clear biodiversity net gain/a net gain in local green infrastructure.

The 'stepwise approach' should be adopted throughout the design stage of all new developments in Wales. This means that the loss of existing green infrastructure should be avoided whenever possible, and when it is not possible to avoid the loss of or damage to the existing green infrastructure entirely, the extent of the loss or damage should be minimised to the greatest extent possible. When a proposed development poses a risk of harm to green infrastructure, protected habitats or habitats of principal importance, or protected species or species of principle importance, suitable mitigation should be incorporated into the proposed scheme of works to safeguard that green infrastructure/those habitats and species to the greatest extent possible. Finally, if the loss of green infrastructure cannot be avoided, minimised or mitigated for, suitable on-site compensation should be incorporated into the design of the development.

BAT LITE2 – Bat External Lighting General
Any external lighting should be sensitively designed to reduce impacts on nocturnal wildlife. All lighting should be angled downwards and installed with a protective cowl to reduce light spillage.

Guidance is set out in Guidance Note 08/23 Bats and Artificial Lighting at Night (2023) published by Bat Conservation Trust and the Institution of Lighting Professionals. A warm white light source (2700Kelvin or lower) should be adopted to reduce blue light component. Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats. The document can be found at https://www.bats.org.uk/news/2023/08/bats-and-artificial-lighting-at-night-ilp-guidance-note-update-released

BIO GEN1 – Protected Species General Note inc. trees
Many trees support wildlife, such as bats and nesting birds, that is protected by law. The consent given any approval does not override the protection afforded to these species and their habitats through legislation including the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended).

You must take steps to ensure that the work you are carrying out will not harm any protected species, which may include surveys for bats and nesting birds by a suitably qualified ecologist. Works potentially affecting protected species may require a licence from Natural Resources Wales. Advice can be obtained from Denbighshire County Council's Biodiversity Officer (01352 811029 / biodiversity@denbighshire.gov.uk).

BIO GEN3 – General Note Destruction of Bird Nests
Works which could result in the damage or destruction of active bird nests should take place outside of the bird breeding season (March - August, inclusive) or immediately following a nesting bird check conducted by a suitably qualified ecologist.

Access

The proposed slurry lagoon will be accessed from the farmyard. There is sufficient space for turning vehicles in all areas. An access ramp will be formed to provide access for mixing or emptying.

Emergency climb out ladders are to be provided in the form of recycled car tyres chained together. Full Health and Safety signage will be displayed. Access gates will be locked.

Construction

A pit will be excavated to the required dimensions and earth banks will be carefully constructed. (to meet BS5502). and rolled to avoid slippage, with a maximum gradient of 35°& 45° on the inside and 35° on the outside. The topsoil will be used to face the banks externally. A depth of 0.75m freeboard from the liquid to the top of the bank will be provided. Safety fencing and one gate will be provided with concrete ramp for tractor access to mix, fill or empty the lagoon. With a 0.75m freeboard, the slurry lagoon will be 5m deep.

The lagoon will be sheet lined insitu on suitable soil base and anchored by means of a trench at the top of the wall. The liner will be a smooth HDPE Geomembrane type CE marked.

Waste water and slurry will be allowed to free flow from yards and the existing slurry channel and pit. New gutters and downpipes will be installed or repaired on the existing building which will reduce dirty water production by redirecting clean rainwater and preventing it entering the slurry system. All slurry from the cubicles and loose boxes will discharge into the lagoon, keeping waste management simple and providing an excellent store for valuable nutrients.

All works will be carried out to standards required in BS5502 and code of practice for Earthworks and design by a qualified structural engineer and The Water Resources (Control of Agricultural Pollution) (Wales) Regulations 2021 Guidance for Farmers and Land Managers .
There will be no flood lighting on the lagoon, this ensures current dark sky standards are maintained.

Conclusion

The regulation led design solution delivers a sustainable development for the storage of slurry. It is considered that the development integrates into landscape with views which will not detract from the current context. It is considered that the slurry lagoon has sufficient separation from the nearest habitable dwelling, as not to affect the dwelling with unacceptable noxious odours.

Appendix 1 – Photos

Brian Lewis

Architectural Services December 2024