Proposed Silage Clamp

Auchmeddan Farm, Lesmahagow

Design Statement

Per J Struthers

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J.Struthers of Auchmeddan Farm, Lesmahagow an award winning dairy farmer, seeks permission for the erection of a purpose-built silage clamp, drainage works and formation of associated hardstanding access areas and landscaping. -fig 9

In accordance with the Town and Country Planning (General Permitted Development) (Scotland) Amendment (No. 2) Order 2014 (SSI 2014 No. 300). GTA ltd are applying for a decision on whether the prior approval of the PA is needed before development begins.

Under part 6 Class A-

- The farm is an established agricultural unit of over 5ha
- The new agricultural building – see fig 1-is-
    - not for use by livestock, slurry or sewage sludge
    - for agricultural purposes only and is not intended to be used as a dwelling.
    - up to 1,000sqm
    - not close to an aerodrome.
    - at least 25 metres away from a trunk or classified road.

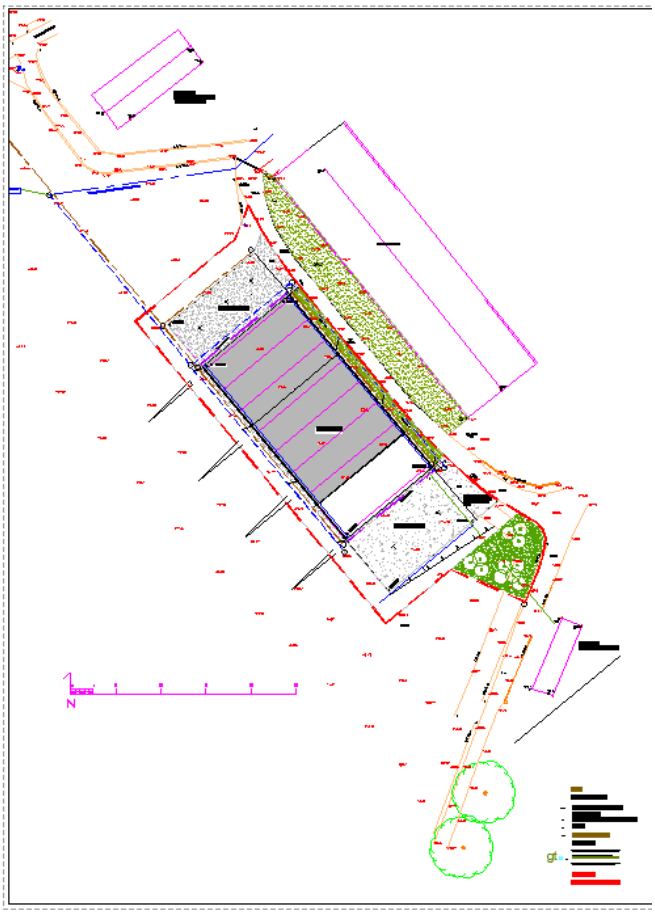

Fig 1 -masterplan

The building –

- measures 1,000m2
- is a Pitched steel portal frame building positioned to the west of the existing track.
- is oriented parallel to the adjacent building on the other side of the track.
- is set back from than the gable of the adjacent building and as such is no nearer to the dwellings to both the north and the south.
- the walls comprise concrete retaining wall sections up to 4m in height with the walls above the concrete panels clad in green steel profile sheet.
- the roof is metal profile sheeting coloured green..
- the building is open at both gables for filling from the southern end and emptying at the north end.
- a concrete apron serves both ends for access

The new building will be served by a drainage system that captures any silage effluent and collects it in an existing silo which will be upgraded to the required capacity.

The silage effluent will be kept separate from the surface water from the roof drainage.

A residential building to the south, owned by the neighbouring farm, is some 44m away from the southern gable of the proposed building.

A further residential building, owned by the applicant lies 53m to the north of the new building.-see fig 2

Fig 2 -View of the dwelling to the north adjacent to the existing farm access-

Justification

The building is to replace an existing silage facility located to the east of the new shed.

The reasons for the replacement facility are-

capacity

Since the old facility was constructed, the grazing area and resulting herd has increased to over 250 dairy cows..

As such the existing facility is undersized for the volume of silage required. - see fig 3

The new facility is predicted to have a capacity of 5,500m3 of silage to cater for the volume required.

existing

Firstly, the farm requires to maintain a level of silage storage to feed the cattle over winter while the new facility is being constructed.

Upon completion the old facility will be demolished

Fig 3 -Existing silage clamp

The proposed clamp will be filled within one growing season from the three annual cuts off the 200 acres of grazing pasture

Thereafter the material is used progressively over winter.

The clamp is emptied and filled in rotation to avoid ever having silage more than 5 years old.

As such it is not feasible to construct the new facility in the same position.

age

The old silage store built prior to 1991 and is uneconomic to refurbish.

While there is a 2-year transitional period for farmers to upgrade their facility the cost of the upgrades is too expensive.

The current Silage Storage Agricultural Fuel Oil regulations proposed change means that stores that were built prior to 1991, which at the time were exempt from the regulations, will no longer be exempt.

Routine inspections on older silage clamps have identified that they can pose an environmental risk mainly due to structural failure caused by highly corrosive nature of silage effluent.

As such the existing facility can no longer be compliant with the regulations.

siting

Silage clamps require a longitudinal fall on the floor slab primarily to facilitate drainage.

The fall on the proposed building is 750mm and as such is positioned to take advantage of the existing topography, parallel to the adjacent shed, making it the most economical and environmentally sensitive solution by only requiring minimal adjustment of the existing ground levels.-see fig 4

As such its proposed footprint creates the minimal disturbance to the existing topsoil and land.

Fig 4- View from corner of existing dwelling north and the site for the proposed building

effluent

Silage effluent is a bi-product of silage clamps.

A new drainage system that deals with the effluent is mandatory.

This is then stored in an effluent silo. An existing silo located to the north west of the building will be enlarged for the volume of the silage stored. See fig 5

The minimum capacity rules for effluent tanks are that it should give you at least 2 days' storage at peak flow.

For every 1m3 of clamp space up to 1500m3 20litres of effluent storage is required and thereafter 6.7litres for every 1m3.

As such the 5,500m3 of clamp space proposed will require an effluent storage of 56,000litres or 12,444 gallons.

Fig 5 -View of the existing silo to be upgraded for the effluent silage.

The Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) (Scotland) Regulations 2003 ("the SSAFO Regulations") are intended to prevent environmental pollution by silage effluent.

All silos, effluent tanks and any associated pipes and channels must be designed in such a way that with proper maintenance they will satisfy the requirements of the Regulations for at least 20 years.

All parts of the silo must be sited at least 10m from a watercourse, including permeable drains (e.g. field drains) and open ditches, to which any escaping effluent could enter.

You must not make or store any silage or unwrap baled silage within 10 metres of inland or coastal waters.

In addition, you must not store field silage within 50 metres of a protected water supply source. This is any place where water is abstracted (taken) for any of the following purposes:

- human consumption
- use in farm dairies
- human food preparation

The SEPA regulations regarding silage effluent are stringent with potential substantial fines.

The concern with the existing drainage is that it is not fit for purpose.

To renew the drainage within the central area of the farm would be too disruptive operationally and equally economically not viable.

All silage effluent collection systems must have a device fitted, with a dedicated power supply, which triggers an alarm when there is a risk of overflowing

Neighbours

The proposed building will not have an adverse impact on the two adjacent dwellings.

The dwelling 43 m to the south lies at an oblique angle to the new facility- as such is not in direct view from its main front elevation. – see fig 6

As to the dwelling 53m to the north, the building is partially screened by vegetation on the perimeter of its garden.

Fig 6 -View of the dwelling to the south

Odour

The new facility will not create any impact in terms of any adverse odour.

The material stored is loose silage covered –which while it does have an odour- is relatively 'sweet' smelling and not unpleasant. However, the building, with being open ended at both gables is well ventilated and as such there will be no build-up of odour.

Equally the two buildings are directly adjacent to fields which are spread with slurry several time a year. A practice that pre-dates their construction

Fig 7- Existing yard to the north of the adjacent shed

Noise

The new facility will not create any noticeable increase in farm vehicle movements as the area to the north is constantly being heavily trafficked.

Fig 8 - View from dwelling to the north looking towards the existing access track and adjacent sheds.

Landscaping

The proposed position of the building leaves a small triangular area to the north – see ifg 2- which has no benefit in farming terms

In line with environmental schemes encouraged by the Scottish Government through the Greening Scheme the area will be planted with trees and bordered with a new hedgerow.

Statutory approvals

Over and above obtaining the necessary planning approvals the applicant will obtain all the necessary approvals from SEPA and Building Standards.

Prior to construction the applicant will notify SEPA. this will give SEPA an opportunity to assess an application for compliance and advise on any potential issues.

Notification will be supported by a declaration signed by the construction company confirming that the installation design complies with the regulatory requirements.

This reduces the risk of potentially costly post implementation alterations.

A Building Warrant will also be obtained from South Lanarkshire Council Building Standards

In addition, all new silos brought into operation after proposed regulations come into force must display the maximum loadings for the structure calculated in accordance with paragraphs 15.6.1 to 15.6.3 of the Code of Practice on Buildings and Structures for Agriculture published by the British Standards Institution and numbered BS 5502-22:2003+A1:2013.

Comply with the Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) (Scotland) Regulations 2003.

- notify SEPA at least 28 days before bringing into use any new, substantially enlarged or substantially reconstructed silo and silage effluent storage facility
- ensure the base of the silo, effluent tank and drains are impermeable. In addition, they, and any silo walls, should be resistant to attack from silage effluent
- properly maintain all parts of the silo system such that it will meet a 20-year design life
- ensure the minimum effluent tank capacity requirements are provided. Consult SEPA on the size of tank required

Location –
Fig9