

Project No: 2020.295

Project: Proposed Poultry Rearing Farm Development
At West Lodge Farm, Roxholm, Sleaford, Lincolnshire.

Date: 18 September 2020

Subject: Design Statement – Drainage



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1.0 INTRODUCTION

1.1 It is proposed to develop Stonegate Farmers Limited West Lodge site, Roxholm, Sleaford, NG34 8NB. The purpose of the development is to provide 4176 sq m (44934 sq ft) of poultry rearing sheds with the associated access; manoeuvring areas; services and drainage.

This design statement is limited to the procedure; parameters and technical references to be used for the detailed design of the various types of drainage.

1.2 Drainage for the site shall be separated into four distinct types: -

1. Roof drainage from the various buildings (clean water)
2. Surface Water Drainage from the general surfaced access route and vehicle manoeuvring areas (dirty water)
3. Foul Drainage from the toilets, wash hand basins and the like.
4. Slurry and effluent wash down.

2.0 ROOF AND SURFACE WATER DRAINAGE

2.1 In general terms, the disposal of roof drainage and surface water drainage to the access route and manoeuvring areas shall be designed to sustainable standards following the hierarchy as laid down by the National Policy for Technical Requirements together with any local requirements of the Lead Local Flood Defence Authority and Part H of the Building Regulations.

1st Choice To soak-a-way.

2nd Choice To an existing watercourse at a rate equal to greenfield run-off.

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3rd Choice To public surface water sewer subject to the Water Authorities agreement which may involve a restricted rate of flow requiring attenuation.

2.2 The roof drainage should not require any treatment prior to disposal.

2.3 Surface Water shall be treated by the introduction of a Type I Separator, meeting the Environment Agency's Pollution Prevention Guidelines PPG3 and the Construction Products Regulations.

3.0 FOUL DRAINAGE

3.1 Welfare facilities will be provided on site which will produce foul water from the toilets, wash hand basins and the like.

3.2 The disposal of the foul drainage shall be by either:

i. Discharge direct to the public sewer, subject to a Section 106 Agreement with the Water Authority.

or

ii. On site treatment via a package treatment plant, conforming with EN 12566-3, and discharge to a watercourse, subject to authorisation for the Environment Agency, in the case of main river, or, the Local Drainage Authority, in the case of an ordinary watercourse.

4.0 SLURRY AND EFFLUENT WASH DOWN

4.1 The overriding Authority for the storage and disposal of slurry and effluent wash down is the Environment Agency and the basis for the design shall be Fact Sheet 3 for Farmers.

4.2 The design of the system shall be carried out in accordance with the Silage, Slurry and Agricultural Fuel Oil (England) Regulations, commonly referred to as the SSAFO Regulations.

4.3 In addition, the guidance for construction, repair and maintenance of Silage Clamps and Effluent Tanks as published by ADAS shall be adhered to.

4.4 The pertinent aspects for the design and specification of the tanks shall be:-

- Design to be carried out by Chartered Civil or Structural Engineers, that conforms to the Control of Pollution Regulations, the Water Code and BS5502 (See References 1,2,3)
- Impermeable base e.g. Concrete to BS 8007 with water bars to joints or Hot Rolled Asphalt if site is suitable.

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- Floor must extend beyond any walls and have an external perimeter effluent collection channel.
- Effluent collection channels and tanks must conform to the Control of Pollution Regulations (See reference 1 & 2)
- Walls and their foundation must be designed to withstand the loading described in BS 5502, Part 22 (See Reference 3)
- The walls could become overloaded if an effluent drain is not installed at floor level with 500 mm of the inside face of the wall.
- Proprietary wall panels and timber railway sleepers may be used. However, professional advice must be obtained on their use and on the support system and foundations appropriate for the site conditions.
- All silos must be provided with an effluent tank with a capacity equivalent to 3m³ for each 150m³ of silo capacity up to 1500m³ and an additional 1m³ capacity for each 150m³ of silo capacity in excess of 1500m³.
- Effluent tanks constructed on site using in-situ reinforced concrete, masonry or other structural materials must be impermeable. Take professional advice on an appropriate design.
- Proprietary silage effluent tanks are common. Tanks and any associated drainage should be installed strictly in accordance with the manufacturer's specification.
- Tanks must have a 20-year durability life without maintenance and require certification to Environment Agency requirements.

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