

SITE CONDITION REPORT

For full details, see H5 *SCR guide for applicants* v2.0 4 August 2008

COMPLETE SECTIONS 1-3 AND SUBMIT WITH APPLICATION

DURING THE LIFE OF THE PERMIT: MAINTAIN SECTIONS 4-7

AT SURRENDER: ADD NEW DOC REFERENCE IN 1.0; COMPLETE SECTIONS 8-10; & SUBMIT WITH YOUR SURRENDER APPLICATION.

1.0 SITE DETAILS	
Name of the applicant	Gooderham Farms Limited
Activity address	Lower Barn Poultry Unit Thetford Road Garboldisham Diss Norfolk IP22 2SP
National grid reference	The site is centred on TM 01833 81052

Document reference and dates for Site Condition Report at permit application and surrender	1. Site condition report prepared in September 2020 using a desk top study to identify and examine in broad terms readily available information, without any intrusive investigation, relating to development of the land with 4No. poultry houses for rearing chickens intensively, associated structures, drainage and ancillary buildings, identified on the site layout and drainage plans. A site visit was undertaken on Tuesday 18 th August 2020.
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Document references for site plans (including location and boundaries)	2. Lower Barn Poultry Unit Site Location, Proposed Site Layout Plan and Proposed Site Drainage Plan.
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Note:

In Part A of the application form you must give us details of the site's location and provide us with a site plan. We need a detailed site plan (or plans) showing:

- Site location, the area covered by the site condition report, and the location and nature of the activities and/or waste facilities on the site.
- Locations of receptors, sources of emissions/releases, and monitoring points.
- Site drainage.
- Site surfacing.

If this information is not shown on the site plan required by Part A of the application form, then you should submit the additional plan or plans with this site condition report.

2.0 Condition of the land at permit issue	
<p>Environmental setting including:</p> <ul style="list-style-type: none"> • geology • hydrogeology • surface waters 	<p><u>Location</u></p> <ol style="list-style-type: none"> 1. The site is located approx. 1km east of the village of Garboldisham in Norfolk, to the south of the Thetford Road (A1066). The site is accessible off the Thetford Road via an existing track. 2. Undeveloped agricultural land surrounds the site on all four sides.- mostly fields under arable cultivation - cereals, sugar beet oilseed rape, and rearing of animals. Intensive poultry production is common in the area with poultry farms and processing plants nearby. <p><u>Existing Site Layout & Topography</u></p> <ol style="list-style-type: none"> 3. The existing site comprises approx. 5.18ha of undeveloped agricultural land. A drainage ditch runs along the north-eastern boundary of the site, another drainage ditch runs along the south-western boundary. 4. The site is gently falling towards the south and west and towards the Little Ouse River. Ground levels vary across the site from 31m Above Ordnance Datum Newlyn (AODN) in the south-west, to 36m AODN in the north-west and south-east. 5. The site is located in the Natural England National Character Area Profile: 83 South Norfolk and High Suffolk Claylands. Characterised by a large plateau area of chalky glacial till that is generally flat or only gently undulating but can be locally concave. The edges of the plateau have been dissected by watercourses that form notable slopes, especially along the tributaries of the meandering River Waveney to the north. Fragmented ancient woodland, game copses, shelterbelts and carr woodland as well as hedgerow trees provide a treed landscape, despite much boundary loss.

6. There is mature woodland adjacent the site northern boundary and strong hedgerows on the east, west and southern boundaries for landscape mitigation purposes.

Geology

7. The British Geological Survey's (BGS) digital geological map identifies the site is underlain by Lowestoft Formation (Diamicton) Superficial Drift Deposits and that the White Chalk Subgroup comprising Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culvar Chalk Formation and Portsdown Chalk Formation Bedrock is located at depth.
8. Lowestoft Formation (Diamicton) Superficial Drift Deposits were formed up to 2 million years ago in the quaternary Period when the local environment was dominated by ice age conditions. These sedimentary deposits are glacial in origin – detrital, created by the action of ice and melt water, they can form a wide range of deposits and geomorphologies associated with glacial and inter-glacial during the Quaternary – chalky till, together with outwash sands and gravels, silts and clays with low to moderate permeability.
9. The White Chalk Subgroup is sedimentary Bedrock formed approx. 72 to 94 million years ago in the Cretaceous Period when local environment was dominated by warm chalk seas. These sedimentary rocks are shallow-marine in origin. They are biogenic and detrital, generally comprising carbonate forming distinctive beds of chalk and have fractured flow type with very, high permeability.
10. Three BGS borehole records TM08SW31, TM08SW19, and TM08SW44 are located within 2000m of the site boundary, and provide details on the ground conditions, and are the same superficial deposits and bedrock formations. To establish the ground conditions surrounding the site, the logs of the borehole records have been reviewed below.
11. Borehole TM08SW31 is located 995m north-east of the site at Poplar Farm, North

Lopham, at a ground level of approx. 45m AODN. Shows clay to be present to 19m below ground level (bgl) next sand to 67mbgl, then chalk.

12. Borehole TM08SW19 is located 40m north of the site at Lower Barn, Garboldisham at a ground level of 36m AODN. Shows layers of boulder clay, glacial silt, glacial sand, and clay to be present to 22mbgl, then Upper Chalk Bedrock.

13. Borehole TM08SW44 is located 1,700m west of the site at Fen Farm, Garboldisham at an approx. ground level of 22mAOD. Shows sand and gravels to be present to 19.5m, then chalk.

14. The Groundsure Insight Report does not indicate presence of any Artificial and made ground, worked, infilled, disturbed, or landscaped ground on-site. Artificial ground can be associated with potentially contaminated material.

Soil Vulnerability Classification – Leaching Potential

15. Cranfield Soil and Agrifood Institution's Soilscape Viewer identifies the soil in the east of the site is characterised as No.18 - slowly permeable seasonally wet slightly acid but base rich loamy and clayey soils with impeded drainage. Main risks are associated with overland flow from compacted or poached fields. Organic slurry, dirty water, fertiliser, pathogens, and fine sediment can all move in suspension or solution with overland flow or drain water.

16. Cranfield Soil and Agrifood Institution's Soilscape Viewer identifies the soil in the west of the site is characterised as No. 8 – slightly acid loamy and clayey soils with impeded drainage. Farmland is drained and therefore vulnerable to pollution run-off and rapid through-flow to streams; surface capping can trigger erosion of fine sediments.

Hydrogeology

17. The MAGIC Aquifer Designation (Superficial Drift) map identifies the underlying Superficial Deposits are classified as a Secondary (undifferentiated) Aquifer. These include a wide range of rock layers or drift deposits with an equally wide range of water permeability and storage. In general, these layers have been designated as both minor and non-aquifers in different locations due to the variable characteristic of the rock types.
18. The MAGIC Aquifer Designation (Bedrock) map identifies the underlying solid strata (the Crag Formation) is classified a Principal Aquifer. Layers of rock or drift deposits that have high intergranular and/or fracture permeability, where they usually provide a high level of water storage. These aquifers may support water supply and/or river base flow on a strategic scale. Generally principal aquifers were previously designated major aquifers.
19. The Groundsure Insight Report identifies the secondary superficial aquifer has high vulnerability to a pollutant discharged at ground level on site. The principal bedrock aquifer has medium vulnerability to a pollutant discharged at ground level on site. Where an assessment is based on the hydrological, geological, hydrogeological and soil properties and groundwater vulnerability is described as High, Medium-High, Medium, Medium-Low, or Low.
20. The MAGIC Source Protection Zones map identifies the site as being located in a Total Catchment Groundwater Source Protection Zone (Zone 3). Environment Agency has defined SPZ for groundwater sources such as wells, boreholes, and springs for public drinking water supply. These zones show the risk of contamination from any activities that might cause pollution in the zone. Where zone 1 is an inner protection zone, zone 2 is an outer protection zone and zone 3 is the total catchment. The closer the activity, the greater the risk.

21. The Groundsure Insight Report identifies 7 licensed groundwater abstractions for more than 20 cubic metres per day for potable water supply, transfers between sources and spray irrigation within 2000m. There are no groundwater, surface water, or potable water abstractions on site.

Hydrology & Catchment

22. There will be water networks and surface water features on site. Currently there is an underground culvert connecting the drainage ditch on the north eastern side with the drainage ditch on the southwestern side and is in the same place as the proposed poultry houses so may be relocated,/ replaced by swales to divert the water around the poultry houses. Development of the land with poultry houses, ancillary buildings and an open concrete apron will result in an increased amount of surface water runoff compared to greenfield. The runoff will discharge into a proposed attenuation pond to be located in the south of the site, and outfall at a controlled rate into an offsite drainage ditch at the south-western corner of the site. Controlled release helps to reduce instantaneous runoff from the site on to the surrounding land and risk of minor localised flooding. The attenuation drainage system will be designed to contain up to and including the 1 in 100 year rainfall plus climate change. For draining uncontaminated run-off from the roofs and concrete apron only. There is limited opportunity for infiltration drainage owing to the Lowestoft Formation Superficial Deposits underlying the site have high clay content and low permeability.

23. The Environment Agency Data Catchment Explorer identifies the site and the ditch are located in the waterbody catchment of the Cam and Ely Ouse. The ditch travels eastwards, along the southern edge of the unnamed road towards the settlement of Smallworth, then joins a wider ditch network, and outfalls into the Little Ouse River in 2.4 km from the site. The Environment Agency

has designated the Little Ouse River a statutory main river.

24. The Environment Agency Data Catchment Explorer identifies the Little Ouse River (Thelnetham to Hopton Common) has an overall classification of Moderate. With Moderate ecological quality and Good chemical quality as recently as 2016.

25. The Groundsure Insight Report identifies the Cam and Ely Ouse Chalk groundwater body underlying the site as having overall ratings of Poor. With Poor chemical and ecological ratings as recently as 2015.

Flooding

26. The Environment Agency's Flood Map for Planning indicates the site is in Flood Zone 1 with low probability of flooding. Flood Zone 1 has less than 0.1% chance of flooding at a location in any one given year).

27. The Groundsure Insight Report shows the Environment Agency Ambient Risk Analytics surface water (pluvial) FloodMap identifies areas of the site are at risk of surface water flooding. Highest Risk 1 in 30 year (3.3%) and greater than 1.0m, with surface water flowing from the north-eastern corner of the site to the south western corner. The two boundary ditches here have been connected with an underground culvert to take drainage from the north-eastern corner to the south western corner. The Insights Report includes an aerial photograph captured in June 1999 showing evidence of earthworks across the site, probably associated with installation of the culvert replacing a ditch. The flood water has been shown to ingress into the proposed footprints of the poultry houses and flow across the yard to the south of the buildings. The Flood Risk Assessment & surface Water Drainage Strategy prepared by Plandescil Ltd proposes special consideration be given to the foundations to reduce risk of pluvial flooding. A swale is also proposed bounding the eastern and southern sides of the proposed development to help divert the flooding around the poultry houses.

	<p>28. The Groundsure Insights Report identifies the site is at Moderate Risk of groundwater flooding by unusually high groundwater levels, when the water table rises above the ground surface.</p> <p><u>Environmental designations</u></p> <p>29. The MAGIC land-based map identifies no statutory designations within the site. There are areas designated for nature conservation within 5km of Lower Barn Poultry Unit including Redgrave & South Lopham Fens Ramsar, Waveney & Little Ouse Fens Special Area of Conservation (SAC), Breckland Special Protection Area (SPA) and The Blo' Norton & Thelnetham Site of Special Scientific Interest (SSSI) is within 2km.</p> <p>30. The Groundsure Insight Report identifies the site is on the Ely Ouse and Cut-off Channel Nitrate Vulnerable Zone (NVZ) for surface water. Nitrate vulnerable zones are areas at risk from agricultural nitrate pollution. These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas must follow mandatory rules to tackle nitrate loss from agriculture.</p>
<p>Pollution history including:</p> <ul style="list-style-type: none"> • pollution incidents that may have affected land • historical land-uses and associated contaminants • any visual/olfactory evidence of existing contamination • evidence of damage to pollution prevention measures 	<p><u>Pollution incidents that may have affected land</u></p> <p>31. Unlikely/none reported.</p> <p><u>Historical land-uses and associated contaminants</u></p> <p>32. Ordnance Survey maps 1883-2003 show the site has not been previously developed, and probably continually used for arable agriculture and grazing to the present day.</p> <p>33. The Groundsure Insight Report identifies there are no records of the site being used for any current or historical industrial uses, and no records of any releases of any substances to the environment that might have caused soil or groundwater pollution.</p> <p>34. The Groundsure Insight Report identifies BGS have estimated background soil chemistry. Provides estimated values of the</p>

	<p>likely background concentration of the potentially harmful elements, Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of 1 per 2km².</p> <p>35. The Groundsure Insight Report identifies 78 waste exemptions within 500m, the nearest 312m S and all relate to waste activities on farms and agricultural waste only.</p> <p>36. There will be emissions of pollution inventory substances when the poultry houses are brought into use. Operators will be reporting annually on the emissions of dust (PM10) and ammonia into the air, and nitrogen and phosphorous excreted into the litter, and off-site waste transfers, including waste poultry litter, dirty water, and waste packaging.</p> <p><u>Visual/olfactory evidence of existing contamination</u></p> <p>37. Site visit and walkover on Tuesday 18th August in the afternoon. Weather conditions were sunny, generally dry, some showers. Confirmed the land had been in agricultural use as recently as 2020 for growing cereal, evidenced by the residual short stubble across the site without much weedy vegetation. The soil surface was generally visible across the site and no visual/olfactory evidence was discovered for any previous industrial use or potential contamination.</p> <p><u>Evidence of damage to pollution control measures</u></p> <p>38. N/a</p>
Evidence of historic contamination, for example, historical site investigation, assessment, remediation, and verification reports (where available)	39. No evidence for any historic contamination in the desk top study or in the site visit.
Baseline soil and groundwater reference data	40. Not required.
Supporting information	Natural England National Character Area Profile: 83 South Norfolk and High Suffolk Claylands [online], The British Geological Survey digital geological map [online], Cranfield Soil and Agrifood Institution's Soilscape Viewer [online], Groundsure Enviro+Geo Insight; 03/09/2020; Lower Barn Farm, MAGIC Land Based Designation Maps [online]; Environment Agency Data Catchment Explorer

[online]; Environment Agency Flood Map for Planning [online], Plandescil Ltd Flood Risk Assessment & surface Water Drainage Strategy, Ordnance Survey Maps 1883-2003.

3.0 Permitted activities

Permitted activities

1. The operator must obtain an environmental permit before bringing the proposed poultry houses into operation in accordance with The Environmental Permitting (England and Wales) Regulations 2016; Regulation 2(1); Schedule 1; Part 2; Section 6.9; Part A(1)(a)(i) Rearing poultry or pigs intensively in an installation with more than 40,000 places for poultry.
2. Storing feedstuffs in package silos, liquid petroleum gas (LPG) in tanks for heating, red diesel in a back-up generator, and disinfectants, and storing dirty water in package underground tanks are directly associated activities.
3. The proposed poultry houses will be designed and constructed to modern specifications – wide span steel portal frames, concrete panel walls and concrete floors poured over a continuous damp proof membrane and insulated low pitched roofs and dark green steel cladding. A concrete apron for access and loading with a kerb around its entirety will be installed outside. The concrete floors, hardstanding and kerbs provide an impervious and permanent barrier to prevent soil and ground water pollution or runoff on to unmade ground. Buildings and equipment on site will be regularly inspected and checked for visual signs of leakage, corrosion, structural damage, security, and correct operation.
4. Dirty and surface water drainage will be separated to prevent pollution in any watercourse, underlying geology, and groundwater.
5. Clean roof water and surface water runoff will be directed into a Sustainable Urban Drainage System (SuDS) designed to contain up to and including the 1 in 100-year

	<p>rainfall event including climate change. To prevent flooding on site and flooding from instantaneous run-off from the site on the surrounding land.</p> <p>6. Clean roof water and runoff from the open concrete apron (excluding during periods of litter removal and washout) will be channelled via stone-filled French drains with perforated pipes and solid pipes into an on-site engineered attenuation pond, next via a flow control device into the off-site ditch on the southwestern corner of the site, identified as a tributary of the Little Ouse River. Some clean water will infiltrate into the ground via perforated pipes in the French drains and from the attenuation pond.</p> <p>7. The concrete apron will become dirty when the litter is being removed and the houses washed out. Dirty water will be channelled via kerbs and a catch pit into package underground concrete encased dirty water tanks. Otherwise outside the cleaning period, when the apron is clean and uncontaminated, the apron via a diverter valve will drain into the attenuation pond. Dirty water will be periodically transferred off-site in tankers.</p> <p>8. Site will be operated in accordance with an environmental risk assessment approved by the Environment Agency.</p>
Non-permitted activities undertaken	<p>9. All activities at Lower Barn Poultry Unit will be permitted for the rearing of poultry intensively and directly associated activities.</p>
<p>Document references for:</p> <ul style="list-style-type: none"> • plan showing activity layout; and • environmental risk assessment. 	<p>10. Site Layout Plan showing extent of poultry rearing and directly associated activities, and Site Drainage Plan for Lower Barn Poultry Unit.</p> <p>11. Lower Barn Poultry Unit H1 Environmental Risk Assessment.</p>

Note:

In Part B of the application form you must tell us about the activities that you will undertake at the site. You must also give us an environmental risk assessment. This risk assessment must be based on our guidance (*Environmental Risk Assessment - EPR H1*) or use an equivalent approach.

It is essential that you identify in your environmental risk assessment all the substances used and produced that could pollute the soil or groundwater if there were an accident, or if measures to protect land fail.

These include substances that would be classified as 'dangerous' under the Control of Major Accident Hazards (COMAH) regulations and raw materials, fuels, intermediates, products, wastes, and effluents.

If your submitted environmental risk assessment does not adequately address the risks to soil and groundwater, we may need to request further information from you or even refuse your permit application.

4.0 Changes to the activity	
Have there been any changes to the activity boundary?	If yes, provide a plan showing the changes to the activity boundary
Have there been any changes to the permitted activities?	If yes, provide a description of the changes to the permitted activities
Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a result of the permitted activities?	If yes, list of them
Checklist of supporting information	<ul style="list-style-type: none"> • Plan showing any changes to the boundary (where relevant) • Description of the changes to the permitted activities (where relevant) • List of 'dangerous substances' used/produced by the permitted activities that were not identified in the Application Site Condition Report (where relevant)

5.0 Measures taken to protect land	
Use records that you collected during the life of the permit to summarise whether pollution prevention measures worked. If you can't, you need to collect land and/or groundwater data to assess whether the land has deteriorated.	
Checklist of supporting information	<ul style="list-style-type: none"> • Inspection records and summary of findings of inspections for all pollution prevention measures • Records of maintenance, repair, and replacement of pollution prevention measures

6.0 Pollution incidents that may have had an impact on land, and their remediation	
Summarise any pollution incidents that may have damaged the land. Describe how you investigated and remedied each one. If you can't, you need to collect land and /or groundwater reference data to assess whether the land has deteriorated while you've been there.	
Checklist of supporting information	<ul style="list-style-type: none"> • Records of pollution incidents that may have impacted on land • Records of their investigation and remediation

7.0 Soil gas and water quality monitoring (where undertaken)

Provide details of any soil gas and/or water monitoring you did. Include a summary of the findings. Say whether it shows that the land deteriorated as a result of the permitted activities. If it did, outline how you investigated and remedied this.

Checklist of supporting information

- Description of soil gas and/or water monitoring undertaken
- Monitoring results (including graphs)

8.0 Decommissioning and removal of pollution risk

Describe how the site was decommissioned. Demonstrate that all sources of pollution risk have been removed. Describe whether the decommissioning had any impact on the land. Outline how you investigated and remedied this.

Checklist of supporting information

- Site closure plan
- List of potential sources of pollution risk
- Investigation and remediation reports (where relevant)

9.0 Reference data and remediation (where relevant)

Say whether you had to collect land and/or groundwater data. Or say that you didn't need to because the information from sections 3, 4, 5 and 6 of the Surrender Site Condition Report shows that the land has not deteriorated.

If you did collect land and/or groundwater reference data, summarise what this entailed, and what your data found. Say whether the data shows that the condition of the land has deteriorated, or whether the land at the site is in a "satisfactory state". If it isn't, summarise what you did to remedy this. Confirm that the land is now in a "satisfactory state" at surrender.

Checklist of supporting information

- Land and/or groundwater data collected at application (if collected)
- Land and/or groundwater data collected at surrender (where needed)
- Assessment of satisfactory state
- Remediation and verification reports (where undertaken)

10.0 Statement of site condition

Using the information from sections 3 to 7, give a statement about the condition of the land at the site. This should confirm that:

- the permitted activities have stopped
- decommissioning is complete, and the pollution risk has been removed
- the land is in a satisfactory condition.