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Division(s): Benson

PLANNING & REGULATION COMMITTEE – 13 SEPTEMBER 2010

ERECTION AND OPERATION OF AN ANAEROBIC DIGESTION FACILITY

Report by Interim Head of Sustainable Development

Location: Crowmarsh Battle Farm, Preston Crowmarsh

Applicant: Agrivert Ltd.

Application No: P10/W0877/CC

District Council Area: South Oxfordshire

Introduction

1. Agrivert Limited proposes to build an Anaerobic Digestion (AD) facility at Crowmarsh Battle Farm for the recycling of food waste. The application site is currently used for open windrow composting for green waste and animal bedding. The AD plant would mix food waste with energy crop silage to produce biogas which would be used to generate renewable energy and fertiliser.

Location

2. The site is adjacent to the A4074 Oxford to Reading road 1km (0.62 mile) north of Crowmarsh and 1km (0.62 mile) south of Benson and some 19 kilometres (11.78 miles) southeast of Oxford.

The Site and its Setting (See plan 1)

3. The site is located in open countryside covering an area of 2.5 hectares. Access to the site is directly from the A4074.
4. The nearest dwellings are located at Crowmarsh Battle Farm over 300m away beyond the A4074 to the west.
5. Directly south of the site is a sewage works and a small market garden. The works and market garden are separated from the application area by hedgerows with trees. RAF Benson lies to the east and north of the site and further east beyond the aerodrome is housing associated with RAF Benson.

6. The site is located about half a mile (750 metres) from the River Thames and outside its floodplain.
7. No footpaths or sites of ecological interest are affected by the proposal.
8. The site does not lie within any specially designated landscape area but the North Wessex Downs AONB lies approximately 650m to the west and the Chilterns AONB approximately 800m to the south east of the site.

Background

9. The applicant (Agrivert) has recently entered into a contract with the County Council to treat Oxfordshire's biodegradable organic waste. This involves the treatment of combined food and green waste from the north of the County at an In-Vessel Composting (IVC) facility just south of Ardley and source segregated food waste treatment at the AD facility currently under construction at Worton Farm, Yarnton. The south of the County could be served by the AD facility which is the subject of this application. This application arises as a result of this contract.

Details of the Development

10. The applicant is seeking permanent planning permission for this development. The annual quantity of material that could be put through the facility would be approximately 45,000 tonnes of biodegradable organic waste. This waste would be sourced mainly from Waste Collection Authorities doorstep collections of household food waste but also from the Commercial and Industrial (C&I) waste stream including restaurants, schools and food production companies. The energy crop, used to stabilise the food waste, would be grown on the adjacent agricultural fields. The proposed facility would mainly serve the south of the County.
11. If planning permission is granted for this development, it would replace the existing composting facility on the site. Permission for the composting facility was originally granted in November 2007. The relocation of the composting operation to a position immediately adjacent to this development (to the east) was the subject of a separate planning application which was approved, under delegated powers, at the beginning of this month.

Buildings and Structures (Plan 2)

12. The built development would comprise three digestion and two storage tanks, a waste reception building, office and welfare facilities, biofilter, weighbridge, gas engine units, transformer, accelerator tank, energy crop silage area, energy crop silage feeder, access roads, car parking area, a wood chip dryer and ancillary plant.
13. The five digestion and storage tanks would be cylindrical in shape 8 metres high and rising in a conical fashion to a central point 11.5 metres high and would each be 28 metres in diameter. The reception building would cover a

ground area of 36 metres by 32 metres with a ridge height of 12 metres. The accelerator tank would be a small tank, 5 metres in diameter and 5 metres high. The energy crop silage storage area would cover an area of 3100 square metres. Silage would be stored to a maximum height of 3 metres and covered with plastic sheeting for protection. The wood chip dryer would be similar in appearance and construction to the reception building but measuring approximately 1200 square metres.

14. Solid waste would be delivered to the site in both refuse collection vehicles (RCVs) and bulkers. Liquid waste would arrive in tankers. The liquid waste would mainly comprise waste products from the food and farming industries including cooking oils, milk, brewery waste, leachate and factory processing wastes. All delivery vehicles would be weighed on the weighbridge and then proceed into the reception building.
15. The waste would be pre-treated within the reception building, involving reducing the particle size and mixing with liquids, before being pasteurised and pumped into the digesters. It would remain within the digesters for between 50 and 70 days, where it would be gently heated and stirred to encourage the digestion process and biogas production.
16. The biogas would be fed into gas engines, which would power a generator unit to produce electricity. This electricity would be transmitted directly into the National grid via a high voltage connection. It is anticipated that the facility would have a generating capacity of 2MW of electricity, providing the equivalent power for 3,333 households.
17. The digestate end product is used as a nutrient contributor for growing the energy crops feeding the digester and as a conventional agricultural fertiliser for nearby farms.
18. The wood chip dryer would use heat produced in the AD process to dry out wet "as chipped" wood, from sources such as highway maintenance and landscape gardeners. This would then be turned into pellets, which can be used as a carbon neutral fuel in any building that has biomass boilers.

Traffic and Access

19. The development would use the existing access from the A4074. The waste being brought to the AD facility would generally be transported in refuse collection vehicles (RCVs). Tankers would bring any liquid waste. The development would generate in total an average of approximately 82 vehicle movements daily (41 in and 41 out) if operating at maximum capacity. The relocated composting facility would continue to use this existing access. Traffic movements to the composting operation currently total 40 so the total number of movements using the same access would therefore average 122.
20. The original composting facility permission on this site was subject to a routing agreement. The applicant has agreed to enter into a routing

agreement for the new proposal to ensure that HGV's only turn left out of the site and left into the site.

Hours of Operation

21. The AD process would operate continuously 24 hours a day. However, waste would only be delivered between the hours of 0700 and 1800 Monday to Friday, 0700 to 1600 on Saturday and 0800 to 1400 on Sundays and Bank Holidays. The applicant states that these hours of delivery are required in order to accommodate the Waste Collection Authorities' need to deliver waste collected each working day and to catch up over Bank Holidays.

Lighting

22. External lighting would be required on the reception building, office and tanks for use during poor light in the winter months. The lighting is proposed to be used during permitted operational hours or if necessary during maintenance or emergency work. All external lights would be fitted with hoods and directed towards operational areas to minimise light spill and subsequent disturbance outside the site boundaries.

Assessment of Environmental Impacts

23. This application does not require a formal Environmental Impact Assessment (EIA) but the applicant has identified the main potential environmental impacts as visual, noise, dust, odour, bioaerosols, water pollution and has proposed mitigation measures for each impact.
24. Water and Leachate
 - The application proposes a completely sealed liquid management system. All liquids from incoming waste are immediately captured in the reception tanks and bunkers. Following reception the whole process would be totally enclosed and no liquids would leave the plant other than the treated digestate destined as liquid fertiliser.
 - Rain water which falls upon the roof of the reception building would be collected and reused in the AD process. Runoff from other roofs and the digestion and storage tanks is considered clean and would therefore be collected and fed into an open attenuation area, which would then be discharged to the adjacent stream. Runoff from the hardstanding areas would go to the same attenuation and discharge system via a silt trap and hydrocarbon interceptor. Any runoff from the energy crop storage area requires separate collection and would be reused in the AD process.
 - All potential contaminants i.e. leachate and diesel, would be stored in suitably designed tanks with adequate storage capacity.

25. Noise

- The gas engine would be the main source of noise and therefore be housed in a specially designed insulated container with a very low noise output.
- The other noise generating activities would be associated with HGV movements importing waste material and exporting digestate, as well as a loading shovel transporting the energy crop silage to its feed bunker. It is proposed that on site vehicles such as loading shovels should be fitted with white noise reversing alarms to minimise noise levels.

26. Dust and Odour

It is proposed that the reception building be equipped to mitigate any potential dust or odour problems from incoming waste. The reception building would be sealed to prevent egress of dust or odour outside the building. The sealed building would be kept under negative pressure ensuring dust and odours are prevented from escaping the building even when doors are open. A biofilter would scrub the air leaving the reception building including dust and odours.

27. Visual Impact

- Additional landscape planting is proposed around the site to provide screening of the development and to break up any views of the site from local vantage points. The proposed landscaping scheme includes a new belt of planting adjacent to the existing soil bund on the western, northern and eastern boundaries of the site and a new hedgerow along the northern and eastern boundaries of the field, bordering RAF Benson.
- The applicant has had a Landscape and Visual Appraisal carried out. The appraisal concludes that the impact of the proposed development would not be more than slight at a local and District level and negligible at a County level. It goes on to say that it would have minimal landscape and visual impact with no impact on important views within the North Wessex Downs and Chilterns AONB.

Consultation Responses and Representations

28. South Oxfordshire District Council:

Planning and EHO - No objection to the proposal, subject to:

- OCC being satisfied that the highway impacts of the development are acceptable.
- Suggest OCC impose conditions on landscaping and lighting and Environment Agency control odour and noise by EPR permit.

- Highlight the fact that there is local concern regarding the impact of the proposed number of HGV movements.
29. Benson Parish Council - Object to the proposal for the following reasons:
- Breaches of the existing routeing agreement.
 - Proposed number of HGV movements would increase the likelihood of a serious accident.
 - Even if the vehicles followed the agreement, then the movements on this stretch of road would be far more than the proposed movements, with many routeing up and down the A4074 to reach the agreed roundabout.
 - There must now be a physical barrier to prevent drivers turning across oncoming traffic such as roundabout or separate channels.
30. Crowmarsh Parish Council - No objection to the proposal.
31. Natural England - No objection.
- Concerned that the North Wessex Downs AONB has not been referenced in the landscape and ecological assessment and recommend that comments are sought from the AONB planning officer.
 - Supports the proposed landscape mitigation measures of screening by vegetation.
32. Environment Agency - No objection subject to conditions requiring that the mitigation measures detailed in the Flood Risk Assessment (FRA) submitted with the application are applied and for a scheme to dispose of surface and foul drainage. Also provides advice to applicant regarding the Environmental Permit and waste handling.
33. North Wessex Downs AONB –
- First Comment - the Landscape Appraisal submitted by the applicant has made no reference to the North Wessex Downs AONB . The Landscape Appraisal should be amended to consider this and accordingly offer suitable mitigation measures if required.
- Second Comment - Revised Landscape Appraisal makes reference to the North Wessex Downs AONB and therefore no objection to the proposal.
34. Chiltern AONB - No response has been received yet.
35. Ministry of Defence (MOD) - No objection.
36. Highways Agency - No objection.
37. Transport Development Control - No objection in highway terms but would like the following to be secured:

- Submission of a Movement Access Plan (for vehicle movements within the site)
 - Submission of a Travel Plan
 - Routeing agreement to enforce the proposed 'left-in, left-out' system.
 - Retention of parking and manoeuvring areas in accordance with submitted plan
 - Submission and implementation of detailed design for the access to encourage left in and left out only vehicle movements.
38. County Ecologist - No objection to this development from a landscape or ecology point of view provided that conditions proposed relating to protected species (i.e. breeding birds), vegetation/landscape (i.e. retention & protection of existing vegetation and new planting) and long-term management of planting are imposed.
39. County Archaeologist - No objection subject to conditions requiring an archaeological watching brief and the presence of an archaeologist during the construction phase following approval of the proposed written scheme of investigation.

Third Party Representations

40. One local resident has raised the following objections:
- The application fails to consider properly the production of volatile substances and how these will be controlled throughout all stages of the anaerobic digestion process, in order to avoid odour pollution/nuisance.
 - There is no provision for monitoring odour pollution/nuisance.

Request that OCC require the applicant to provide full technical details covering three points:

- The spectrum of volatile compounds likely to be produced, their likely concentration and the odour thresholds of such compounds.
- Measures that will be taken to capture/trap these substances and otherwise prevent them being vented to the atmosphere in an uncontrolled manner
- Measures taken to monitor odour pollution/nuisance, including analytical measurement and sensory evaluation.

Relevant Planning Policies – (See Policy Annex)

41. All relevant policies are set out in the Policy Annex at Item 12 on this Agenda.
42. Development should be decided in accordance with the Development Plan unless material considerations indicate otherwise.

The Development Plan for this area comprises the saved policies of the Oxfordshire Structure Plan, Oxfordshire Mineral and Waste Local Plan (OMWLP) and South Oxfordshire Local Plan (SOLP) 2011.

The government guidance in planning policy statement (PPS10), Planning Policy Statement (PPS22) – Renewable Energy, the Waste Strategy for England 2007 and Oxfordshire Joint Waste Management Strategy (OJWMS) are material to consideration of the proposal.

The key policy issues deal with (i) open countryside; (ii) the need for waste facilities (iii) transport and (iv) local environmental impacts.

43. In terms of the need for the development national policy PPS10, PPS22 and the Waste Strategy for England 2007 are relevant. For location of the development in open countryside, policy to be considered includes W4 of the OMWLP. Landscape and visual impact of the development are covered by policy G4 and C1 of the SOLP and W5 of OMWLP. For environmental and amenity effects policies W3 (c) of OMWLP and EP1 and EP2 of SOLP are applicable. Transport issues are covered by policies T1 of the SOLP and W3 (a) and (b) of the OMWLP.
44. The Government has recently revoked the regional plans including the South East Plan. They advise that this fact should be a material consideration when determining planning applications. Evidence that informed the preparation of the revoked Regional Plans may also be material, depending on the facts of the case.

Comments of the Head of Sustainable Development

45. The main issues to address in deciding this application relate to (i) whether the proposed location is acceptable in principle in open countryside and whether there is a more suitable alternative site available (ii) whether there is a need for the development (iii) whether the landscape and visual impacts are acceptable (iv) transport impacts and (v) whether potential local environmental impacts can be dealt with satisfactorily.

The Principle of the Development in Open Countryside

46. The development proposes some fairly large permanent structures in the open countryside. Although, this is not strictly a recycling proposal (it involves waste treatment). It stands above incineration in the waste hierarchy as it is a renewable energy recovery process and counts as composting for the purposes of the Waste Strategy 2007 targets for re-use, recycling and composting of household waste. Whilst strictly speaking OMWLP policy W4 is not relevant to this specific development it can still be usefully applied. OMWLP policy W4 does not support recycling and ancillary process in the open countryside unless there is an overriding need and there is no other suitable site available.

47. In terms of need for the development, this has been considered in paragraphs 49-52 of this report. Whether that need is 'overriding' will be considered at the end of the report when all other relevant impacts have been considered. As part of the submission, the applicant has provided an assessment of alternative sites for this development in south west Oxford, Abingdon, Didcot and Wallingford areas. These alternative sites have all been discounted for a number of reasons – limited space, proximity to residential properties, poorly located for proximity to waste source, distance to potential markets for the final product and inappropriate location in terms of environmental constraints.
48. I agree with the applicant's evidence that there would appear to be no other better site available for this specialist type of facility that is not located in open countryside. In this case therefore, the proposal can be regarded as consistent with the aims of policy W4 of OMWLP.

Need for the Development

49. Facilities that divert waste from landfill are supported by PPS10. In addition to the national requirements, the Oxfordshire Joint Waste Management Strategy (OJWMS) policy 6 sets out that the Oxfordshire Waste Partnership will provide an integrated system of collection and processing of household waste which will achieve, as a minimum:
- By 31 March 2010: recycle or compost at least 40% of household waste;
 - By 31 March 2015: recycle or compost at least 45% of household waste;
 - By 31 March 2020: recycle or compost at least 55% of household waste.
50. The strategy recognises that new waste treatment facilities will be needed if we are to meet our targets to reduce the amount of waste sent to landfill.
51. Oxfordshire achieved a recycling and composting rate of 43 per cent in 2008/09. This rate is above the target for 2010 set out in the Waste Strategy as well as the achieved UK average. However, the recycling and composting rate needs to be increased if targets for future years are to be met, and particularly to meet the future targets for 2020 set by the waste strategy for England and OJWMS. This AD proposal would make an important contribution to meeting that future target, additional to recycling and aerobic composting and would also contribute to meeting targets for recovery of waste and diversion of waste from landfill. It also sits well with the regime of similar facilities that have already been established in the County. The IVC facility near Ardley deals with green waste from north Oxfordshire and the AD facility at Worton Farm near Yarnton will treat source segregated food. This site, the subject of this application could serve the south of the County.
52. The Waste Strategy for England outlines that Government wishes to encourage AD, because their recent research suggests that it has significant environmental benefits over other options for food waste (and may be particularly cost effective for food waste if separately collected) and that the electricity generated from the biogas recovered in AD is eligible for Renewable Obligations Certificates (ROCs). This facility would be expected to

generate up to 2 MW of electricity per year. This generation of renewable energy is also supported by PPS22.

Landscape and Visual Impact

53. The development proposes some fairly large structures, up to 12 m in height. There are existing bunds and fencing around the site but the landscape and visual appraisal undertaken by the applicant suggests additional landscape planting should be undertaken as part of the development.
54. The additional planting proposed would contribute to improving the existing landscape character of the surrounding area and would break up any views of the site from local vantage points. If planning permission is granted, then conditions should be attached to secure the proposed planting around the site and other measures to mitigate the visual impact of the development. These mitigation measures include: i) a new belt of planting adjacent to the soil bund on the western, northern and eastern boundaries of the site; and a new hedgerow along the northern and eastern boundaries of the field, bordering RAF Benson and ii) the buildings and tanks to be built as agricultural type structures designed to fit into the local context and rural location.
55. There are no objections to the visual impact and landscape impact of the proposed buildings on site. Neither the County Ecologist Planner nor North Wessex Downs AONB board raised any concerns in this respect. In my view, other than its immediate impacts, the proposal should not have any significant detrimental impact on the character of the landscape of this area and would not unduly compromise the aims of SOLP policy G4 and C1 and OMWLP policy W5.

Traffic and Access

56. The main objection to this proposal, from Benson Parish Council, is on access and highway grounds. However, access to the site which previously served the composting site, from the A4074, is good. The number of additional vehicle movements proposed for this development is 82 (41 in, 41 out) maximum over the course of a working day. The existing composting operation which is to be moved to a site immediately adjacent to the east (using same access) has 40 movements (20 in, 20 out) maximum. Transport Development Control have confirmed that the additional HGV movements arising from this development when added to the composting traffic can be safely accommodated on the road network, taking into account the left in, left out route that they would need to take to follow the routing agreement.
57. The routing agreement would be intended to prevent the need for HGVs to turn across a lane of oncoming traffic i.e. to enter and leave the site only turning left. The access would be re-designed to make right turning difficult.
58. Benson Parish Council say there have been breaches of the routing arrangements for the present composting facility. I do not have any record of these alleged breaches. However, the concern of the Parish Council is noted

and any reported breaches in future would be investigated by the Council's enforcement and monitoring team. The site would also be subject to regular monitoring visits to ensure that the operation permitted is undertaken in accordance with that permission.

59. The site is also well related to the transport network, the A4074 giving access to the main routes through the south of the County and as such satisfies OMWLP policy W3 (b) and SOLP policy T1.

Local Environmental Impacts

Odour

60. There has been one objection from a local resident to this application raising a technical question on how odour from the development is to be controlled. This process, the subject of this application would take place inside buildings which should minimise the risk of odour nuisance. In addition, the applicant has set out how the management of the process and design of the tanks and associated buildings would minimise the risk of odour problems. The Environmental Health Officer has not raised any objection on odour grounds to the development.
61. I believe that the mitigation measures proposed and the fact that the proposed location of the facility is over 300 metres from the nearest property, significantly reduce the likelihood of odour being a problem. The facility will also need an Environmental Permit from the Environment Agency. Permit procedures would also ensure that odour is controlled. The proposal, therefore, satisfies OMWLP policy W3 (c) and SOLP policy EP1.

Noise

62. The gas engine would be the main source of noise in this development. However, it would be housed in a fully enclosed insulated acoustic container and its operation should result in a very low noise output. Vehicle movements on site may be another source of noise e.g. loading shovels. These would be fitted with white noise reversing alarms to minimise the noise levels and a condition could be attached to any permission requiring these controls.
63. Vehicles accessing the site would use the direct access off the A4074. This access road does not run close to any dwellings and there is unlikely to be any significant noise disturbance. The proposed mitigation measures outlined above should ensure that noise disturbance does not occur which is sufficient to satisfy MWLP policy W3 (c) and SOLP policy EP2. The Environmental Health Officer has raised no objections to the proposals on this ground nor has there been any objection from local residents.

Dust

64. Dust nuisance should not be a problem on this site but the applicant proposes to use a bowser if dust levels increase sufficiently on site. The internal haul

roads are hard surfaced which should minimise the possibility of dust generation on site. The applicant has also proposed to spray the site to minimise the surface drying out. A condition could be attached to any permission requiring all the mitigation measures to be provided and implemented as necessary.

Conclusions

65. There is a need for AD facilities both nationally and locally. Increase in recycling/composting rates is supported by the Waste Strategy for England and PPS10.
66. The site already has screening bunds and fence and further planting would improve screening on the site. It should, therefore, not unacceptably damage the local landscape character or visual amenity of the open countryside and the surroundings and therefore accords with OMWLP policy W5 and SOLP policy G4 and C1.
67. The access to the site is to be used by both this development (AD proposal) and the relocated composting operation. However, the existing access is good and Transport Development Control have confirmed that it can accommodate the traffic movements proposed. In addition, the access would be realigned to make right turning difficult. The site is well related to the transport network and the proposal would, subject to a routeing agreement and a condition requiring signage on site, accord with OMWLP policy W3 (b) and SOLP policy T1.
68. Noise, dust, odour and visual intrusion could be controlled through conditions so that the proposal does not cause an unacceptable nuisance to local residents in accordance with OMWLP policy W3 (c) and SOLP EP1 and EP2.
69. The principal matter relating to this proposal is whether there is an overriding need for a development of this size and nature being located in an area of open countryside. In this instance, in my view, the case for a permanent AD facility at this location has been sufficiently well argued. The development sits well within the network of similar operations in the County and will significantly help the County to meet targets set for dealing with this type of waste in the next few years. The site also has good access to the A4074 and it is close to the source of and market for the waste. It is an existing (albeit temporary) waste management site, located alongside an existing waste site (sewage works) and I do not consider that the direct environmental impacts are significant. On this basis I consider that the need for this proposal has been substantiated and that this is sufficient to override development in the countryside.

RECOMMENDATIONS

70. **It is RECOMMENDED that subject to a routeing agreement to ensure that vehicles turn left out of and into the site that planning permission for Application P10/W0877/CC be approved subject to conditions to be**

determined by the Head of the Sustainable Development dealing with matters including those set out below.

Conditions to include:

1. **Compliance condition**
2. **Commencement date – 3 years**
3. **Operating hours to be agreed**
4. **Organic waste only to be treated**
5. **Fertiliser to be used on surrounding fields only as proposed in application**
6. **Lighting details to be submitted**
7. **Existing vegetation to be protected and retained**
8. **Planting scheme to be implemented**
9. **Effective silencers to be provided on plant, machineries and vehicles**
10. **External building materials to be agreed**
11. **Movement Access plan within the site to be submitted**
12. **Travel Plan to be submitted**
13. **Parking and Manoeuvring Areas to be retained**
14. **Vehicles access design onto the A4074 to be submitted and agreed.**
15. **Site signage to be agreed and displayed**
16. **Noise control measures to be implemented**
17. **Mitigation measures detailed within the Flood Risk Assessment (FRA) to be carried out.**
18. **Scheme to dispose of surface and foul drainage to be submitted and agreed.**
19. **Elevations of gas engine building to be submitted**
20. **No mud on the public highway**
20. **A water bowser to be used**
21. **Maintenance of screening bunds**
22. **Odour control scheme to be submitted in the event of any complaints.**
23. **Clearance of any vegetation in accordance with time agreed**
24. **Organising and implementing an archaeological watching brief**

EA Informative:

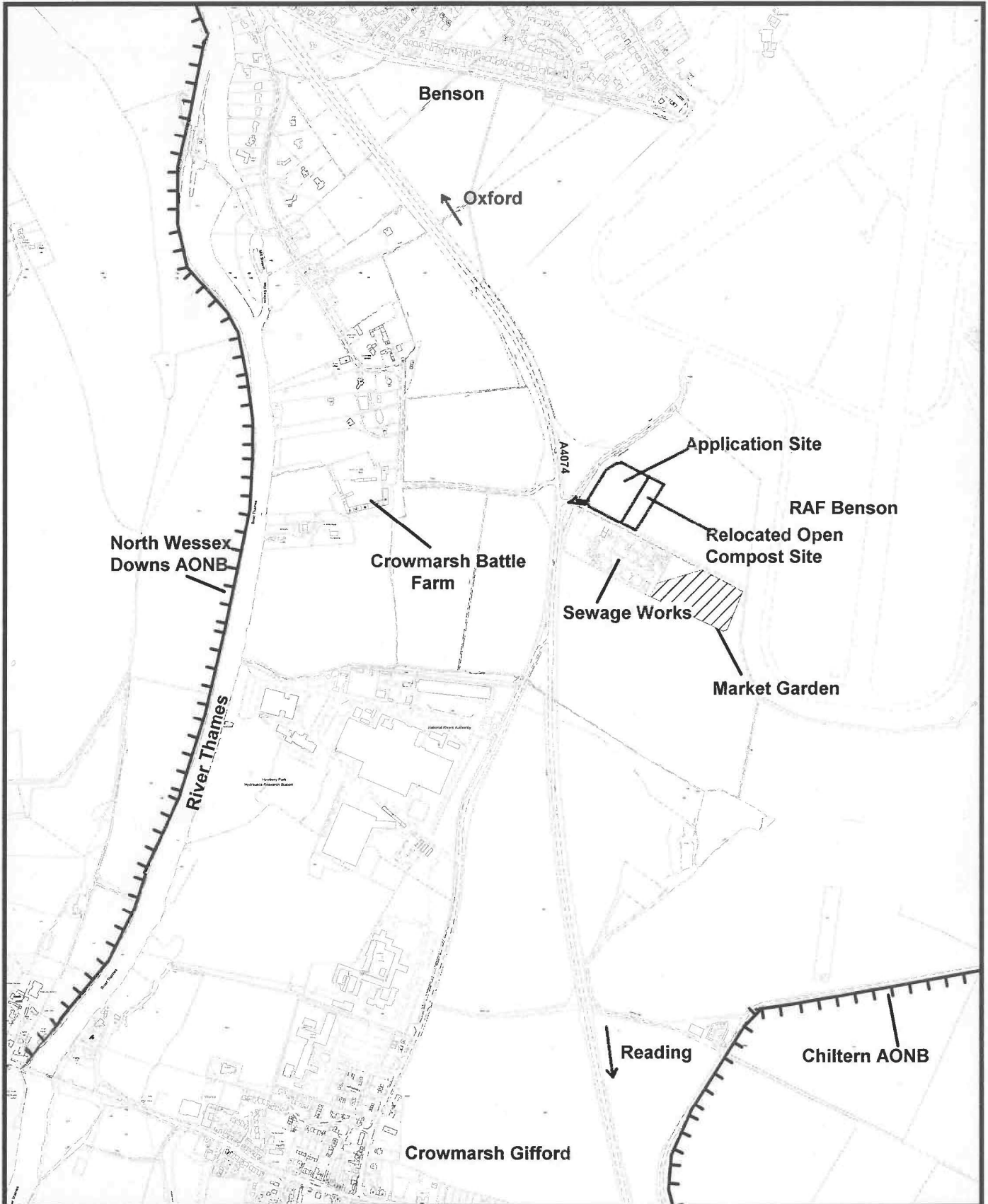
Issues of odour control, pest and vermin control and gas safety to be dealt with through the Waste Management Licence.

MARTIN TUGWELL
Interim Head of Sustainable Development

Background papers: File held in Speedwell House

September 2010

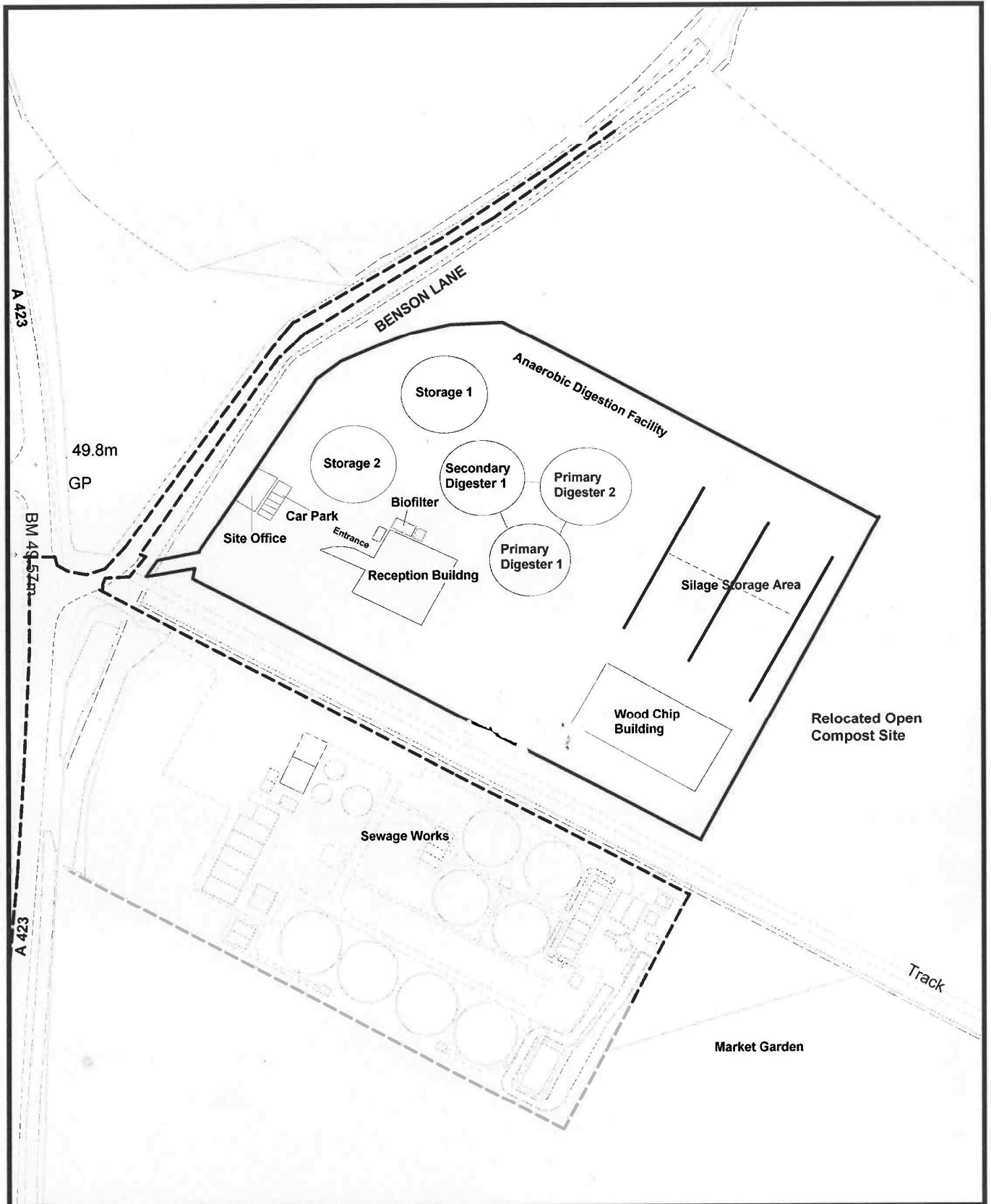
Plan 1



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Plan 2



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