

Environment Agency permitting decisions

Variation

We are minded to issue the variation for Westmill Waste Management Facility operated by Biffa Waste Services Limited.

The variation number is EPR/DP3431PC/V006.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

This is a draft decision document, which accompanies a draft variation notice.

It explains how we propose to determine the applicant's application, and why we have included the specific conditions in the draft variation we are considering issuing to the applicant. It is our record of our decision-making process, to show how we have taken into account all relevant factors in reaching our position. Unless the document explains otherwise, we have accepted the applicant's proposals.

The document is in draft at this re-consultation stage, because we have yet to make a final decision. Before we make this decision we want to explain our thinking to the public and other interested parties, to give them a chance to understand that thinking and, if they wish, to make relevant representations to us on the proposed variation. We will make our final decision only after carefully taking into account any relevant matters raised in the responses we receive. Our mind remains open at this stage, although we believe we have covered all the relevant issues and reached a reasonable conclusion, our ultimate decision could yet be affected by any information that is relevant to the issues we have to consider. However, unless we receive information that leads us to alter the conditions in the draft variation, or to reject the application altogether, we will issue the variation in its current form.

In this document we frequently say "we have decided". That gives the impression that our mind is already made up; but as we have explained above, we have not yet done so. The language we use enables this document to become the final decision document in due course with no more re-drafting than is absolutely necessary.

We try to explain our decision as accurately, comprehensively and plainly as possible. Achieving all three objectives is not always easy, and we would welcome any feedback as to how we might improve our decision documents in future.

Purpose of this document

This decision document:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the specific conditions in the permit other than those in our generic permit template.

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

Structure of this document

- Key issues
- Annex 1 the decision checklist
- Annex 2 the consultation, web publicising and newspaper advertising responses

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Key issues of the decision

Permitted Installation Activities

The operator has proposed to vary their existing landfill permit to include a soil treatment facility. This variation only relates to the proposed soil treatment facility, the controls relating to the landfill remain unchanged apart from the list of acceptable final restoration materials as addressed in this document. The soil treatment facility will solely serve Westmill landfill, providing waste soils for the restoration of the landfill.

The soil treatment operation will be a directly associated activity to the landfill operation. It will treat hazardous waste containing organic contaminants including petroleum hydrocarbons and non-hazardous wastes containing hydrocarbons, which are classed as non-hazardous due to their contamination thresholds. During the determination of the application there were some modifications made to the activities the operator originally applied for. This was due to the implementation of the Industrial Emissions Directive and further assessment of the waste types the operator intends to accept. These changes have been outlined further down in this section of the document.

The treatment process will involve placing the waste into mounds referred to as biopiles and mixing them with a micro-organism culture and small amounts of green waste. The biopiles are then left to allow the micro-organisms to break down the organic pollutants within the soils (bioremediation).

Other site activities will include the screening and crushing of wastes which contain components not suitable for direct use in restoration e.g. concrete and stones. These materials will be treated to an appropriate standard to meet the criteria for the landfill prior to being used as restoration materials.

The applicant has demonstrated that they will install appropriate infrastructure and put in place appropriate management systems to ensure that risk of emissions causing pollution beyond the boundary of the site is insignificant. We have assessed their proposals and consider them to represent best available techniques for the facility. The proposals are in line with the requirements of Environment Agency guidance IPPC Sector Guidance Note S5.06 Guidance for the Recovery and Disposal of Hazardous and Non-Hazardous Waste, and Technical Guidance Note EPR 1.00 How to Comply with your Environmental Permit.

Based upon the information in the application, we are satisfied that the operator can undertake the proposed treatment activities and accept the wastes they have proposed as appropriate measures are to be put in place to prevent or where that is not practicable minimise and effectively mitigate emissions to prevent a significant risk of pollution beyond the boundary of the site.

Location of activities

The operator has outlined in their application that the soil treatment facility will be located in the southern corner of the Westmill landfill site on an area of the landfill which has not been subject to waste disposal. All associated treatment operations will be carried out on an impermeable surface with sealed drainage.

Acceptance of hazardous wastes

The waste acceptance and handling procedures proposed by the operator are in accordance with the requirements of the Environment Agency Sector Guidance Note S5.06: Guidance for the Recovery and Disposal of Hazardous and Non-Hazardous Waste (SGN S5.06). The operator has confirmed they will operate the site in accordance with this guidance and this guidance has been incorporated into the permit's operating techniques via reference of the application technical standards table in table S1.2.

The site will only accept wastes that are hazardous as a result of organic contamination. Therefore at the acceptance stage all wastes brought onto the site will meet the requirements for landfill restoration in regards to all other inorganic contaminant thresholds. The suitability of waste for treatment and their inorganic content will be controlled through the sites pre-acceptance which will involve testing prior to the waste being delivered to the site. The results of the testing will be assessed against Biogenie biopile treatment criteria of behalf of the operator to ensure that the waste is suitable for treatment and will produce an appropriate non-hazardous restoration soil.

The operator has outlined an appropriate monitoring and sampling scheme at the acceptance stage which is in line with our guidance note SGN 5.06. This sampling method ensures that results taken are representative of the level of contamination throughout each soil batch. Samples are then sent to an appropriately accredited laboratory for analysis. Proposed batches which do not meet the Biogenie treatment requirements will not be accepted at the site.

The operator's pre acceptance will also allow them to determine if any special requirements are necessary for a particular waste. This will allow the site to prepare to receive that waste in order to ensure all appropriate mitigation is put in place at the site ready for when the wastes arrives.

We have assessed the waste acceptance procedures proposed by the operator and we are satisfied that appropriate procedures will be in place to ensure only appropriate wastes enter the site. It is also clear that the operator's site infrastructure is sufficient to accept the waste types they have proposed and the operator has the appropriate infrastructure and procedures in place to manage non conformances.

Odour management

The operator has identified that the wastes accepted at the soil treatment facility and its associated processing activities have the potential to produce odorous emissions. The operator has therefore produced a soil treatment facility specific odour management plan which outlines odour mitigation techniques that are design to specifically manage odour emissions from the soil treatment activities. These techniques will in turn be supported by the existing landfill odour management plan and associated odour monitoring which is already in place at the site.

Soils contaminated with organic pollutants and stored in profiled heaps referred to as biopiles are considered the source of potential odorous emission. In order to manage odour emissions from the biopiles, each of the piles will be placed on a bed of perforated pipes connected to an extraction unit. The extraction unit will draw air containing pollutants out of the base of the biopiles and pass it through a biofilter which is considered for this type of operation a best available technique for removing potentially odorous or harmful substances including Volatile Organic Compounds (VOCs) prior to release to atmosphere.

The biofilter is considered to be a proven method of removing VOCs from air and is listed as an appropriate measure in our technical Sector Guidance Note S5.06. The biofilter is constructed from a mass of organic material including wood and a partly composted green mixture, which is contained within a tarpaulin cover and placed on a bed of perforated pipes. The contaminated air is pumped into the biofilter from the base and passes between the organic materials within the biofilter. The biological

material and micro-organisms within the organic matter actively filter the air removing polluting contaminants and odour producing components including VOCs prior to releasing of the air to atmosphere.

To demonstrate the biofilter is working effectively the operator will implement process monitoring controls as required by the permit to ensure appropriate conditions for example temperature and humidity are maintained at an optimum level within the biofilter. The aim is to consistently produce optimum environmental conditions under which the air is actively filtered. This will maximise the activity of the biological processes within the filter in order to ensure the biofilter treats air efficiently and to the highest standard achievable.

To further increase the efficiency of the biofilter it will be constructed to a large scale and air will be passed through it at a low flow rate. This will maximise the contact between the biological medium and the air for effective interception and treatment of contaminants.

The operator will also monitor the emissions emanating from the biofilter to determine the performance of the biofilter, any significant increase in emissions will be reported to the Environment Agency. The operator will also use these results as an indicator to determine whether optimum conditions are being maintained within the biofilter and to establish whether they need to adjust or reassess process controls. The operator monitoring regime is outlined later in this document.

In addition to the biofilter the operator has proposed a selection of odour mitigation techniques. These include:

- The operator will prioritise the selection of low odour wastes for treatment at the pre acceptance stage. The operator will exclude those which could contain contaminants such as chlorophenols which could degrade during the treatment process and result in significant additional odour emissions.
- Wastes which could potentially present a significant odour risk will be identified at the pre-acceptance stages and action will be taken immediately to appropriately accommodate the waste on site in order to effectively manage potential odour. This will include forming waste into biopiles and implementing biofilter extraction infrastructure as soon as the waste arrives on site in order to ensure odours are effectively mitigated. This will be followed up by regular odour monitoring to ensure the risk is being effectively mitigated. In the event an significant odour risk is detected the operator will investigate the source of the odour through additional monitoring, examination of site activities and review of meteorological conditions to
- Wastes considered to present a significant odour risk will once profiled into biopiles be covered with tarpaulins to minimise the level of odorous emissions released from the piles and maximise the emissions extracted through the base of the piles for treatment.
- Drawing air through the base of the biopiles will result in aeration of the piles and reduce the amount piles have to be turned therefore reducing odour emissions as a result of agitation of waste.
- In the event excessive odours are identified cessation of soil movement will take place to minimise emissions and isolate odour sources. Regular odour observations shall be then made and odour risks investigated.
- Remedial measures will be implemented as required and changes to site mitigation and management will be proposed then implemented where appropriate to manage the risk of odour.

We have reviewed the mitigation techniques and odour management proposals outlined by the operator and consider them to demonstrate that the operator will be able to effectively manage odour emissions from the soil treatment facility in line with the best available techniques.

In order to further ensure effective management of the emissions from the soil treatment facility and landfill, we have added Pre-operational condition 2 into the permit. This requires the operator to develop and submit to the Environment Agency for approval an odour management and monitoring plan which is specific to the soil treatment facility. The aim being to bring together the mitigation, management techniques and monitoring proposed at the soil treatment facility into a single document and make it easier to review and manage odour mitigation at the soil treatment facility.

In the unlikely event the operator's proposals do not manage emissions to a satisfactory standard the permit requires the operator to revise their odour management plans and demonstrate to the Environment Agency that they can effectively manage odour at the site. If the operator cannot demonstrate they have implemented the appropriate measures outlined in their application and their approved management plans the Environment Agency will seek to take enforcement action against the site operator.

Air emissions from the biopiles

Air emissions including Volatile Organic Compounds (VOCs) will be mitigated in the same way that odour is managed, as these air emissions are the main potential source of odour at the site. Air is extracted through the base of the biopiles and passed through the biofilter for treatment as outlined in the previous section. The biofilter is a proven method of managing VOCs (e.g. BTEX - benzene, toluene, ethyl benzene, xylene), petroleum hydrocarbons (TPHs) and polycyclic aromatic hydrocarbons (PAHs). The operator will monitor these emissions from the biofilter and use the results to demonstrate the biofilter is working effectively. The conditions within the biofilter including temperature and humidity will also be monitored to ensure the optimum conditions are in place to allow an effective level of treatment.

Storage of the waste in biopiles which may still result in a release of VOC emissions however the levels on contaminants released will be insignificant in the relation to benchmark thresholds outlined in our guidance. To mitigate potential releases biopiles from high risk wastes biopiles will be covered using tarpaulins to minimise emissions from the top of the biopiles this will maximise extraction through the base.

Dust

The operator has identified potential sources of dust emissions from the proposed soil treatment facility and has outlined mitigation techniques to prevent significant dust emissions outside the boundary of the site.

To manage dust during the waste acceptance stage, wastes will be brought onto the site in contained or sheeted vehicles for which speed limits will be imposed. When vehicles leave the site they will be required to enter the landfill's wheel wash to remove soil debris, this will prevent soil from being deposited on public roads minimising the sources of dust emissions.

To manage dust during general operation, biopiles will be covered with a tarpaulin when wastes present a high risk of emissions or meteorological conditions require. In the event of dry weather there will be a water bowser available on site to spray the installation and the biopiles including before and after vehicle movements. Surfaces will be kept clean by scraping and sweeping and access roads will be cleaned by a road sweeper.

Dust is unlikely to be an issue during biopiles turning as the batches are to be kept moist as part of the remediation process therefore suppressing dust particulates. If

biopiles become dry additional water will be added to manage dust and assist the remediation process.

In regards to the aggregate crushing and screening activity where there is a potential risk of dust emissions, the operator will implement the dust prevention methods mentioned above. The operator has also outlined techniques they will implement to specifically manage emissions from crushing and screening these include:

- dampening of waste during the crushing and screening process;
- minimising dropping heights
- a water spray system will be directed onto all temporary stockpiles to manage dust generation.
- the predominant wind direction is away from nearby receptors therefore dust emissions pathways to nearby sensitive receptors will be infrequent. The operator will manage emissions during these infrequent wind direction by Only undertaking the activity when the wind is not in the direction of sensitive receptors
- routine cleaning and dampening of surfaces using a water bowser and spray rails or equivalent;
- stock piles which present a dust emission risk will be covered
- low dropping heights
- The operator has stated in their environment monitoring procedures they will carry out daily visual inspection of the facility in addition to independent dust measurements carried out by a laboratory or subcontractor who will record emission risks so the operator can take remedial action.
- Other control procedures include recording of any complaints and following them up. This will involve identifying the source of emissions and reviewing management system to remove any risk of pollution.

In the unlikely event the mitigation techniques proposed by the operator are not effective and there are substantiated dust emissions, the Environment Agency will notify the applicant to undertake a review of their management plan. These plans will be reviewed by the Environment Agency and once approved they must be then implemented at the site. In the event the operator cannot demonstrate that they have implemented all appropriate measures outlined in their application and management plans the Environment Agency may seek to undertake enforcement action at the site.

Noise

Our sector guidance note S5.06 requires the operator to employ noise control techniques that are necessary to ensure that the noise from the installation does not give rise to a reasonable cause of annoyance in the view of the regulator. The operator has agreed to operate within the requirements of this guidance and therefore must continuously demonstrate they comply with it.

To demonstrate they will effectively manage noise emissions the operator has identified potential sources of noise from the soil treatment facility including the aggregate crushing and screening and has proposed site specific emission mitigation and management techniques to prevent significant noise emissions outside the permitted boundary of the site. These include;

- The sites operating times for traffic and mechanical plant will restricted to those specified in the sites planning permission.
- To prevent significant traffic noise haulage roads will be routed to allow maximum screening and separation distance from sensitive receptors. Roads will be kept clean and in a good state of repair and will be subject to a 20 mph speed limit to avoid unwanted vehicle noise.
- Vehicles will also undergo regular maintenance and where possible be fitted with silencers. They will be operated to prevent noise emissions by

minimising dropping heights, ensuring no unnecessary revving of engines and machinery which is used intermittently will be shut down in the intervening periods.

- Use of reversing alarms shall be minimised as far as is reasonable possible whilst maintaining site safety. Where appropriate, for example where there is a significant risk of noise impact vehicle reversing alarms will incorporate broadband noise alarms which localises alarm noise. The operator will select site equipment that has been designed to prevent noise, using plant fitted with lined and sealed acoustic covers. Where possible silencers will be installed and if available plant will be electrically powered to remove potential noise risks.
- The blower and electric motor from the air extraction unit will run continuously so will be housed in an acoustically insulated shipping container.
- All equipment such as pumps and mechanical plant will be located at the furthest possible distance away from sensitive receptors and will be electrically powered removing noise from engines and generators. If practical they will be also be located below ground level and behind the biopile treatment pads to provide noise screening. Where necessary, acoustic enclosures shall be used particularly where pumps etc. are to be used 24 hours a day.
- The Mobile plant will comply with the limit levels as defined by the EC Directive 86/662EEC and subsequent amendments on the limitation of noise emitted by heavy vehicles e.g. hydraulic excavators, dozers and loaders.

As the operator has identified the crushing activity as particular noise risk they have proposed mitigation specific to that activity. Measures include:

- Selection of quiet plant where appropriate;
- Plant may be fitted with lined and sealed acoustic covers and kept closed while the machines are in operation;
- Machines used intermittently will be shut down in the intervening periods;
- The machinery will maintain minimal dropping heights.

In the unlikely event the mitigation techniques proposed by the operator are not effective condition 3.4.2 of the permit requires the operator if notified by the Environment Agency that their activities are giving rise to pollution to submit to the Environment Agency a revised noise and vibration management plan. The operator will be required to show that they have reviewed their operating techniques and demonstrate to the Environment Agency that the revised measures will be effective. Once the plan has been approved by the Environment Agency the operator will then be required to implement the revised measures outlined in the management plan.

Pollution of water and land

The operator has designed the site to contain surface runoff, storing and treating wastes on an impermeable surface engineered from asphalt underlain by a Geosynthetic Clay Liner (GCL). The surfaces are graded to fall to designated contaminated water drain which will collect all potentially contaminated runoff. The runoff will then be directed to process water tanks which will be bunded to 110% of their capacity in the event of tank rupture. The collected leachate will be stored and tested to determine whether it needs to be treated at the landfill sites leachate treatment facility or can be reused to keep the biopiles moist. If the level of contamination is below appropriate surface water thresholds without having been diluted, the runoff can be sent to the site's surface water lagoon prior to being subject to the landfill site's surface water management plan. In areas not used for the storage or treatment of wastes, surface water runoff is collected in a separate drainage

system and directed to a fit for purpose retention pond in the footprint of the soil facility. The retention pond will attenuate runoff prior to controlled discharge of clean surface water to the Westmill Landfill surface water management system. This water is monitored monthly and regular checks are made to ensure there is no visible oil or grease at the discharge point.

The soil treatment facility and landfill are located within a sensitive area, situated on a major aquifer within an area designated as a Source Protection Zone 2. Therefore the operator will be required to demonstrate that the treated soil to be deposited on Westmill landfill for restoration will not impact on the local groundwater. This will be managed through pre-operational conditions within the permit.

Pre-operational condition 4 requires that prior to sending any treated waste soils to landfill for restoration, the operator must submit to the Environment Agency for written approval a site specific risk assessment linked to their hydrogeological risk assessment. Only if the assessment demonstrates to the Environment Agency's satisfaction that the deposit of waste soils will have no significant environmental impact on groundwater will the deposit be allowed.

While this risk assessment is in the process of being approved, the operator will be allowed to temporarily send treated soils for use as daily cover within the landfill provided they satisfy the requirements of pre-operational condition 5. This condition similarly requires the operator to submit a report to the Environment Agency for approval demonstrating whether the waste soils are suitable for acceptance within the landfill.

Litter and pests

The operator has identified potential sources of litter at the site and has proposed appropriate mitigation measures to manage litter emissions.

The operator will control the waste types brought onto the site through their waste pre-acceptance and acceptance stages. These stages will identify and remove waste streams which consist of excessive amounts of items which can be easily blown off the site. If items considered as litter are received at the site they will be removed from the waste stream and in the event litter is blown off site it will be collected as soon as possible.

In regards to pests at the site the wastes accepted are not considered to be attractants for pests. The only potential source of putrescible waste is the green wastes used to drive the remediation process. Green waste will be added straight to biopiles therefore storage on site will be minimal prior to use. If in any case there is an issue with pests on the site a specialist contractor will be employed.

Site Traffic

The amount of additional traffic to and from the site is outside the scope of the Environmental Permitting Regulations. The applicant has stated that the soil treatment facility will not result in any significant increase in the amount of traffic movements to and from the site due to the amount of waste received and processed.

Soil and debris on external roads

The soil treatment facility measures to manage soil and debris being tracked from the site work partly in combination with the controls presently in place at the landfill site. These measures include the requirement for all vehicles leaving the site to enter the sites wheel wash and the implementation of the landfill surface cleaning regime.

There are however a number of measures that are specific to the soil facility which are in place to prevent potential emissions working in combination with any potential emissions from the landfill. These measures include the storage of biopiles on impermeable pads and managing the waste piles appropriately to prevent soil piles overhanging the edges of the pads. This will prevent vehicle wheels coming into

contact with large amounts of soil as they do not need to track through the soil to manage the piles. This will minimise debris being picked up by vehicles and will limit the debris on vehicles as and when they enter the vehicle wheel wash minimising the chance that debris will remain on the vehicles when they leave the site, preventing mud being tracked outside the site.

We have assessed the measures proposed by the operator and consider them to represent the best available techniques to manage these emissions in line with our guidance.

In the event soil and debris emissions are a reoccurring issue at the site, the operator will be required to take remedial action in line with permit condition 3.2.1. This condition requires the operator to ensure emissions of substances not controlled by emissions limits such as tracking of soil and debris do not cause pollution. In the unlikely event there is a significant level of pollution substantiated by the Environment Agency, under Condition 3.2.3 the Environment Agency will notify the operator that the activities are giving rise to pollution. The operator will be required to submit to the Environment Agency for approval an emissions management plan. This revised plan will review the operator's site procedures to identify and implement effective measures to manage emissions from the site. Once approved by the Environment Agency the plan will then have to be implemented within the requirements of the permit.

Waste types going to the landfill

The soil treatment facility will treat hazardous and non-hazardous wastes through the use of biopiles. This method will actively reduce organic contaminants within the waste making it suitable for use as a restoration material on the neighbouring landfill site. The operator has stated the treated restoration material will be classified under EWC code 19 13 02 (solid wastes from soil remediation other than those mentioned in 19 13 01) meaning the wastes going to landfill will all be non-hazardous.

Wastes that have been subject to treatment but testing shows they have not been treated to a sufficient standard for use as a restoration soil will be re-treated. If re-treatment is unsuccessful but meets the relevant landfill disposal criteria it will either be used for landfill daily cover or will be sent off site for appropriate disposal.

Wastes will be treated until they achieve levels of organic contamination in line with the appropriate thresholds for restoration soils. The operator will work to contamination thresholds in line with the Inter Department Committee for the Redevelopment of Contaminated Land (ICRCL) trigger thresholds for parks playing field and open spaces (set out in ICRCL 59/83). These thresholds will be used for each contaminant until the appropriate Contaminated Land Exposure Assessment (CLEA) soil guidance lines values have been published, under which contaminant thresholds will be appropriately revised. Compliance with these restoration thresholds will ensure that the soil being used for the restoration of Westmill Landfill will have no significant impact on human health when deposited to land.

In addition to the applicant achieving ICRCL and/or CLEA thresholds for health, the operator will also be required by pre-operational condition 4 within the permit to produce a site specific risk assessment which is linked in to their hydrogeological risk assessment. This site specific risk assessment will assess whether the treated waste soils produced by the soil treatment facility are suitable for deposit to land and will not impact significantly on the groundwater. As required by pre-operational condition 4, this assessment will be submitted to the Environment Agency for written approval prior to any waste being used as a restoration material.

Cumulative impact with landfill

To prevent cumulative emissions between the soil treatment facility and the landfill, the operator has proposed mitigation measures which are specific to the soil

treatment facility not just generic to the entire landfill. We have assessed the site specific measures and consider them to represent the best available techniques to manage emission from the soil facility. As a result we are satisfied that we will be able to effectively regulate all the conditions within the permit including those specific to the soil treatment facility and those specific to the landfill. We consider it unlikely that emissions from either operation alone or in combination will contribute significantly to offsite emissions and result in an unacceptable impact.

How the site will monitor emissions

The operator has submitted a H1 risk assessment with their application which identifies the risks associated with the operation. They have outlined how they will effectively mitigate the risk and have outlined appropriate monitoring proposals to ensure mitigation is effectively managing emissions. The operator has outlined a monitoring scheme for each emission they have identified. Air emissions are monitored using methods which comply with the Environment Agency's certification scheme (MCERTS) and sampling and analytical methods will be in line with British standards.

VOC's and Odour emissions

VOC's are considered the main source of odour and potential health effects from the site therefore the operator has proposed to undertake regular monitoring of VOCs to identify any significant fluctuations in emissions in order to manage any potential risk. The operator has confirmed that VOCs and odour will be monitored in accordance with the procedures outlined in their landfill site odour management plan and application supporting documents.

In order to ensure effective implementation of the monitoring and management techniques outlined in the operator's application we have inserted a pre-operational condition into the permit which requires the operator to submit to the Environment Agency an odour monitoring and management plan. This plan will incorporate all the site specific odour monitoring and management measures to be implemented at the soil treatment facility and ensure a structured monitoring regime is in place for the facility.

The operator has outlined in their application and Biffa's working instruction (QP76) the techniques already in place to monitor VOC's and odour across the entire landfill site. These measures include:

- Routine olfactory monitoring at pre determined zones around the perimeter of the site performed by a member of staff who has been appropriately trained in odour monitoring.
- Utilisation of a Perimeter Flame ionisation detection (FID) tool which detects low levels of flammable gas containing carbon compounds. Where relevant, monitoring shall take into account specific offsite receptors and climatic conditions. Where high readings are noted additional monitoring will be used to trace emissions sources.
- Evaluation and identification of potentially odorous waste types on at the Pre acceptance and acceptance stages.
- If significant odour risk are identified and remedial action taken. Any site improvements and subsequent control works will be subject to routine monitoring to determine effectiveness.
- Recording and investigations into complaints for validation.

- General monitoring and identification of odour sources using olfactory surveys, flame ionisation detection (FID) and the examination of the site activities evaluation of meteorological conditions.

As well as the measures in place to manage odour and VOC emissions across the entire landfill, the operator has outlined in their application some additional monitoring measures which will be specific to the soil treatment facility to ensure the soil facility is not contributing significantly to the emissions of the entire site.

Soil facility specific measures will include:

- Olfactory odour monitoring is performed on a daily basis within the vicinity of the soil treatment facility and results are recorded in the site diary.
- Monitoring of VOC on a bi monthly basis around the perimeter of the soil facility, in between the biopiles and at the biofilter using a photo ionisation detector (PID).
- Evaluation of potentially odorous waste or on site activities in order to identify whether they present an environmental risk. Identification of a risk will result in an increase to daily monitoring for the duration of the risk.
- Biofilter release sampling from exhaust vents will be undertaken monthly scheduled through a nominated laboratory for accredited independent testing. The result will be reported and recorded to check compliance with the permit conditions.
- Biffa have confirmed in the event they detect a release which exceeds any relevant limit or criteria then the Environment Agency will be notified immediately.
- Emissions from the biofilter will be monitored on a monthly basis to ensure that they are being effectively mitigated by the biofilter. The result are also used as an indicator that the conditions within the biofilter are being maintained to allow optimum efficacy.

Dust Monitoring

Dust emissions will be monitored via daily visual inspections of the facility including visual dust and inspection of site surfaces and any evidence of significant emissions will be reported. Appropriate remedial measures will be identified and implemented and the actions taken will be recorded. In addition meteorological conditions will be monitored to ensure certain activities only take place when conditions are favourable and will not result in potential pathways for dust emissions to impact on nearby receptors.

Noise Monitoring

The operator has stated that noise monitoring will be implemented in accordance with the requirements of the permit to verify the activities are free from noise at levels likely to cause pollution outside the site. These include daily routine inspections of the site observing noise from activities and reporting any emissions or potential issues to the site manager for appropriate corrective action to be taken. In the event that noise is an issue at the site the permit will require the operator to take remedial measures to manage the impact and to submit a revised noise management plan to the Environment Agency to demonstrate how they plan to effectively manage noise at the site.

Surface runoff (Process water)

Runoff from waste treatment and storage pads will be collected in the soil facilities sealed drainage system and stored in appropriately bunded tanks. Samples will be taken to ascertain the quality of the process waster to determine its fate. If contaminated water is identified it will be directed to the leachate treatment plant prior to discharge to sewer to meet sewer undertaker criteria. Discharges to sewer will be monitored in line with the requirements of the sewer undertaker.

If the testing determines the water runoff is only slightly contaminated it will be incorporated back into the sites biopiles to keep them moist. In the event the water is deemed entirely uncontaminated it will be stored in the onsite attenuation pond and managed in line with the landfill surface water management plan.

Surface run off (rainwater)

The site drainage systems for surface water and process water are entirely separate therefore it is unlikely the surface water from non waste processing areas will become contaminated. There is no direct discharge to groundwater and the site has implemented a sealed drainage system with impermeable surface considered the best available technique for preventing emissions to groundwater. Therefore we do not consider the site a risk to groundwater and no monitoring has been proposed.

Surface water will be monitored in line with the requirement of the permit. The operator has stated they will carry out a daily inspection of the facility to identify any source of potential contamination to surface water from the site such as spillages or leakages. This will identify contaminated waste to ensure it does not enter the surface water management system. At the point of discharge from the landfill the surface water management plan states sampling will be undertaken in line with the requirements of the permit including ensuring non visible oil or grease is present.

These monitoring proposals are in line with our guidance S5.06 which outlines how regularly the operator should be undertaking routine monitoring to effectively demonstrate emissions from the site are not significant. For more information on the monitoring proposal outlined by the operator please refer to the key issues section of this application.

Industrial Emissions Directive Amendments

During the determination of this permit the Industrial Emissions Directive (IED) amended the Environmental Permitting (England and Wales) Regulations 2010 (EPR). As a result, the draft permit and decision document were withdrawn from the minded to decision public consultation to amend the permit to incorporate these changes. Changes to the permit include new and modified permit conditions and Schedule 1 activity references as follows:

- The activity landfill gas utilisation is no longer a scheduled activity under the amended regulations and therefore has been moved to the directly associated activity section of activities table S1.1 (activity A9).
- The Schedule 1 reference for the activity A2 leachate treatment in Table S1.1 has been amended to reflect the schedule reference in the amended regulations.
- The activities covered under section 5.4 Part A(1) (c) recovery of hazardous waste at a capacity of greater than ten tonnes per day will now be divided into:
 - A3 - S5.3 A(1)(a)(vi): Recovery of hazardous waste with a capacity exceeding 10 tonnes per day.

- A5 - S5.3 A(1)(a)(iii): Blending or mixing prior to submission to any of the other activities listed in section 5.3.
- A6 - S5.6 A(1)(a): Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes pending a 5.3 activity.
- The directly associated activity for the treatment of non-hazardous waste will now be a schedule 1 Listed activity and associated activities have been split into the following activities:
 - A7 - S5.4 A(1)(b)(i): Recovery of non-hazardous waste soils in a plant with a capacity of more than 75 tonnes per day.
 - A15 – (Directly Associated Activity) Blending or mixing prior to submissions to any of the other activities listed in section 5.2.
 - A16 – (Directly Associated Activity) Temporary storage of non-hazardous waste pending not pending a 5.3 activity.
- Two conditions have also been inserted into the permit in line with the requirement of the IED regulations these include a Notifications conditions 4.3.1 and 4.3.2 in section 4.2 notifications and an emission monitoring condition 3.1.9 within section 3.1.

Clarification of recovery and disposal activities on site

During consultation of the application it was identified by the Environment Agency that some of the waste types applied for under this variation may contain proprieties which could render the final soil product unsuitable for use as a recovered restoration material once subject to the proposed treatment. This was an additional reason for the draft variation being withdrawn from the minded to decision public consultation. We therefore asked the operator to justify the acceptance of these waste at the site. After reviewing the operator's justification we have determined that four of the waste types which were of concern will be suitable for acceptance at the soil treatment facility based on specific criteria listed below:

- 19 03 06* (Waste marked as hazardous, solidified) 19 03 07 (solidified wastes other than those mentioned in 19 03 06) are included in the permit and limited to waste soils, which prior to solidification did not possess a hazardous property derived from dangerous substances other than oil derived hydrocarbons, and that have been solidified by a permitted process using non-reacting binders such as clay,
- 19 02 05* (sludges from physico/chemical treatment containing dangerous substances) and 19 02 06 (sludges from physico/chemical treatment other than those mentioned in 19 02 05) are included in the permit and limited to only street sweepings and gully suckings which have been subjected to physico-chemical treatment. The wastes must also meet restoration standards for inorganic contaminants prior to being accepted at the soil treatment facility.

Waste codes 19 03 04* (wastes marked as hazardous, partly stabilised) and 19 03 05 (stabilised wastes other than those mentioned in 19 03 04) were considered not suitable for acceptance at the soil treatment facility as they were clearly unsuitable for the process. This is due to their potentially hazardous inorganic properties which cannot be treated by the process. In addition the physical and chemical properties of the waste types described by the operator for these two codes appear to indicate the waste they intend to accept would more likely fall under the descriptions of alternative European waste catalogue codes which the operator either already has applied for and have in their permit or waste codes we have excluded from the permit as they are unsuitable for the process.

Ensuring appropriate production of suitable restoration soil

Due to the variety of waste the operator intended to accept at the site we have specified in the permit only wastes which we consider acceptable for bioremediation and which could be deemed a soil or soil component. Whilst satisfied with the proposals in principle, to ensure in practice the process produces soil with satisfactory physical and chemical characteristics we have inserted a pre operational condition into the permit which will require the operator prior to beginning operation to submit to the Environment Agency a blending and mixing methodology for approval. This procedure shall outline the waste types, physical and chemical characteristics of the waste and quantities of each waste type the operator intends to combine in order to produce an appropriate soil for restoration. The operator will be required to implement the approved blending and mixing methodology in line with the limits outlined in their the permitted activities table.

Ensuring appropriate level of public consultation as a result of this withdrawal and change

As a result of withdrawing of the variation notice part way through the original minded to public consultation to amend to the variation notice, the Environment Agency's revised minded to decision document and variation notice are being re consulted upon for an additional 20 working days in line with the requirements of our public participation statement.

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Annex 1: decision checklist

This document should be read in conjunction with the Duly Making checklist, the application and supporting information and permit/ notice.

| Aspect considered | Justification / Detail | Criteria met |
|--|---|--------------|
| | | Yes |
| Consultation | | |
| Scope of consultation | The consultation requirements were identified and implemented. The decision was taken in accordance with RGN 6 High Profile Sites, our Public Participation Statement and our Working Together Agreements. | ✓ |
| Responses to consultation, web publicising and newspaper advertising | The web publicising, consultation and newspaper advertising responses (Annex 2) were taken into account in the decision. The decision was taken in accordance with our guidance. | ✓ |
| Operator | | |
| Control of the facility | We are satisfied that the applicant (now the operator) is the person who will have control over the operation of the facility after the grant of the permit. The decision was taken in accordance with EPR RGN 1 Understanding the meaning of operator. | ✓ |
| European Directives | | |
| Applicable directives | All applicable European directives have been considered in the determination of the application. | ✓ |
| The site | | |
| Extent of the site of the facility | The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility. A plan is included in the permit and the operator is required to carry on the permitted activities within the site boundary. | ✓ |
| Site condition report | The operator has provided a description of the condition of the site. We consider this description is satisfactory. The decision was taken in accordance with our guidance on site condition reports – guidance and templates (H5). | ✓ |
| Biodiversity, Heritage, Landscape and Nature Conservation | The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat. A full assessment of the application and its potential to affect the sites has been carried out as part of the permitting process. The operator has implemented measures to appropriately manage emissions from the site. We have assessed | ✓ |

| Aspect considered | Justification / Detail | Criteria met |
|---|--|--------------|
| | | Yes |
| | <p>these measures and consider them to represent the best available techniques. As the soil facility and landfill are over 3 km away from European protected sites and all treatment and storage activities taking place at the soil treatment facility are situated on an impermeable surface with sealed drainage. We consider that the application will not affect the features of the sites.</p> <p>We are required to consult if a proposal presents a significant risk to a protected site either alone or in combination. The decision not to formally consult on the application was based on the insignificant risk from the activity due to distance from protected sites, emission mitigation and the nature of the facility. This decision was taken in accordance with our guidance.</p> | |
| Environmental Risk Assessment and operating techniques | | |
| Environmental risk | <p>We have reviewed the operator's assessment of the environmental risk from the facility.</p> <p>The operator's risk assessment is satisfactory. Please refer to the key issued section of this document for more information.</p> | ✓ |
| Operating techniques | <p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes.</p> <p>Operational procedures have been submitted as part of the application which cover different aspects of site operations including the following;</p> <ul style="list-style-type: none"> • Waste pre-acceptance; • Waste acceptance; • Waste storage; • Checking for contamination of source segregated materials; • Emissions from the process; and • Abatement of fugitive emissions. <p>The proposed techniques/emission levels are in line with the requirements and benchmark levels contained in the Sector Guidance Note 5.06 Guidance for the Recovery and Disposal of Hazardous and Non-hazardous Waste and Technical Guidance Note EPR 1.00 How to Comply with your Environment Permit. We therefore consider them to represent appropriate techniques for the facility.</p> | ✓ |
| The permit conditions | | |
| Waste types | <p>We have specified the permitted waste types, descriptions and quantities, which can be accepted at the regulated facility.</p> | ✓ |

| Aspect considered | Justification / Detail | Criteria met Yes | | | | |
|-------------------|--|---------------------|--|-----------|---|--|
| | <p>We are satisfied that the operator can accept the wastes listed in the permit tables because they have the necessary infrastructure, operating systems and technical capability to run the installation in an appropriate manner. They have identified all the risks involved in managing these wastes and will carry out the proposed activities using appropriate measures.</p> <p>We have excluded the following European Waste Catalogue (EWC) codes for the following reasons:</p> <table border="1" data-bbox="488 786 1323 857"> <tr> <td data-bbox="488 786 635 819">19 03 05</td> <td data-bbox="635 786 1323 819">stabilised wastes other than those mentioned in 19 03 04</td> </tr> <tr> <td data-bbox="488 819 635 857">19 03 04*</td> <td data-bbox="635 819 1323 857">wastes marked as hazardous, partly stabilised</td> </tr> </table> <p>We have determined that the wastes above are not suitable for acceptance at the soil treatment facility. As the waste codes are either unsuitable for the process due to their potential inorganic hazardous properties or the descriptions given by the operator appear to satisfy the descriptions of alternative European waste catalogue codes which the applicant either already has in their permit or we have excluded from the permit as they are unsuitable for the process.</p> <p>We have conditioned the following EWC codes in order to ensure the wastes accepted at the soil facility from offsite treatment facilities are suitable for the process both physically and chemically. The permit states waste accepted under these codes must be “wastes soils which prior to solidification did not possess a hazardous property derived from dangerous substances other than oil derived hydrocarbons, solidified by a permitted process using non-reacting binders such as clay”. This is to ensure that wastes which were solidified offsite do not contain properties which could inhibit the bioremediation process or contain hazardous levels of inorganic contaminants which cannot be treated by the process. This is because even though the waste is solidified it contains contaminants which could potentially leach out during the treatment process It will also ensure that the process produces an output which meets non hazardous restoration soil ICRCL and/or CLEA criteria. For further information please refer to the key issues section of this document.</p> | 19 03 05 | stabilised wastes other than those mentioned in 19 03 04 | 19 03 04* | wastes marked as hazardous, partly stabilised | |
| 19 03 05 | stabilised wastes other than those mentioned in 19 03 04 | | | | | |
| 19 03 04* | wastes marked as hazardous, partly stabilised | | | | | |

| Aspect considered | Justification / Detail | | Criteria met |
|----------------------------|---|--|--------------|
| | | | Yes |
| | 19 03 06* | Waste marked as hazardous, solidified | |
| | 19 03 07 | solidified wastes other than those mentioned in 19 03 06 | |
| | <p>We have conditioned the following waste types in order to ensure the wastes accepted at the soil treatment facility are suitable for the process physically and chemically. The operating techniques table (S1.2) in the permit states that only street sweepings and gully suckings which have subject to physico/chemical treatment maybe accepted under these waste codes. The waste must meet restoration standards for inorganic contaminants prior to being accepted at the soil treatment facility. This will ensure that street sweepings and gully sucking which contain inorganic contaminants at levels unsuitable for restoration and which cannot be treated by the bioremediation process are not received by the soil treatment facility</p> | | |
| | 19 02 06 | sludges from physico/chemical treatment other than those mentioned in 19 02 05 | |
| | 19 02 05* | sludges from physico/chemical treatment containing dangerous substances | |
| | <p>We made these decisions with respect to waste types in accordance with the IPPC Sector Guidance Note S5.06: Guidance for the Recovery and Disposal of Hazardous and Non-Hazardous Waste (December 2004) and How to Comply with your Environment Permit (August 2012).</p> | | |
| Pre-operational conditions | <p>Based on the information in the application, we consider that we need to impose the following pre-operational conditions:</p> <ul style="list-style-type: none"> ▪ Pre-operational condition 1 has been inserted to ensure that prior to operation the operator demonstrates that the leachate treatment plant is able to appropriately treat leachate produced by the soil treatment facility. This will ensure the site has the ability to process and contain any contaminated leachate from the site. ▪ Pre-operational condition 2 has been inserted to require the operator to submit to the Environment Agency a soil treatment facility specific odour management and monitoring plan. The site presently has an odour management plan in place developed around the operation of the landfill site. However due to the sensitivity of this site the operator will be required to submit a specific odour management and | | ✓ |

| Aspect considered | Justification / Detail | Criteria met Yes |
|------------------------|--|---------------------|
| | <p>monitoring plan to address the specific odour risks from the soil management facility and manage cumulative impact.</p> <ul style="list-style-type: none"> ▪ Pre-operational condition 3 has been inserted to ensure the operator submits a methodology for the blending and mixing of hazardous and non-hazardous waste. This is to ensure that mixing of wastes does not result in the dilution of any hazardous properties. ▪ Pre-operational condition 4 has been inserted into the permit to ensure that the treated soils classified under the waste code 19 13 02 will have no adverse environmental impact when deposited on the landfill for restoration. ▪ Pre-operational condition 5 has been inserted into the permit to ensure that the treated soils under waste code 19 13 02 are suitable for acceptance at Westmill landfill and will have no adverse environmental impact when used within the landfill for daily cover. ▪ Pre-operational conditions 6 and 7 have been inserted into the permit to ensure the operator demonstrates after construction of the site but prior to beginning operation that the facility construction and its operating techniques remain in line with the proposals in the permit application. This will ensure that all measures considered BAT by the Environment Agency have been implemented and if there has been deviation from the original design or operating techniques it is fully justified and alternative techniques considered BAT are implemented prior to the activity commencing. ▪ Pre –operational condition 8 requires the operator to produce a gas risk assessment. The soil treatment facility resides in an area of Westmill landfill not subject to waste deposit, however there is the potential for gas to migrate from Westmill 1 towards the soil treatment facility. The operator’s risk assessment shall assess how likely gas is to migrate towards the soil facility and whether it will could impact on the facility. The assessment will also propose appropriate gas collection measures if deemed appropriate. The assessment will be submitted to the Environment Agency for Approval | |
| Improvement conditions | Based on the information in the application, we consider that we need to impose improvement conditions. | |

| Aspect considered | Justification / Detail | Criteria met Yes |
|-------------------|--|---------------------|
| | <ul style="list-style-type: none"> ➤ Improvement condition 12 - The operator stated in their application that the operating parameters of the biofilter (e.g. temperature, humidity) will be established during the commissioning. In order to effectively treat air emissions from the biopiles these parameters will be maintained at levels which provide an optimum environment within the biofilter to allow maximum efficacy. This improvement condition requires the operator to submit a report to the Environment Agency which specifies the operating parameters for the biofilter and the level at which they will be maintained at in order to achieve optimum efficacy. The monitoring and maintenance of the specific operating parameters will be implemented through the permit's process monitoring table S3.12 ➤ Improvement condition 13 – The operator confirmed in their application that they will carry out regular monitoring of the biofilter operating parameters and air emissions from the biofilter. This condition requires that a written monitoring programme is submitted to the Environment Agency for approval to ensure the monitoring methods and frequencies are appropriate and in line with the proposals in the operator's application. It will also ensure there is a structured plan outlining the sites monitoring regime. This monitoring shall be implemented as per table S3.12 and the operator's operating techniques as outlined in their application. | |
| Monitoring | <p>We have decided that monitoring should be carried out for the parameters listed in the permit, using the methods detailed and to the frequencies specified.</p> <p>Process monitoring requirements have been inserted to ensure the operator carries out monitoring of the operational parameters of the biofilter. This is to ensure that the conditions inside the biofilter provide the optimum environment for it to operate to its maximum efficiency.</p> <p>Monitoring of treated soil batches has been inserted to ensure the operator demonstrates that soil batches have been treated to a point where the contaminants are below the required thresholds for restoration soils.</p> <p>We made these decisions in accordance with SGN 5.06.</p> | ✓ |

| Aspect considered | Justification / Detail | Criteria met |
|-------------------------------|--|--------------|
| | | Yes |
| Reporting | <p>We have specified reporting in the permit.</p> <p>The reporting frequencies for composite sample of treated soil batches and process monitoring requirements specified are consistent with reporting frequencies specified for identical sites already in operation.</p> <p>We made these decisions in accordance with SGN 5.06</p> | ✓ |
| Operator Competence | | |
| Environment management system | <p>There is no known reason to consider that the operator will not have the management systems to enable it to comply with the permit conditions.</p> <p>The decision was taken in accordance with RGN 5 on Operator Competence.</p> | ✓ |

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Annex 2: Consultation, web publicising and newspaper advertising responses

Summary of responses to consultation, web publication and newspaper advertising and the way in which we have taken these into account in the determination process.

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| Response received from |
| HPA |
| Brief summary of issues raised |
| <p>In relation to potential risk to public health we recommend that the EA also consult the following relevant organisation(s) in relation to their areas of expertise: Local Authority, Food Standards Agency and Primary Care Trust.</p> <p>We recommend that any Environmental Permit issued for this site should contain conditions to ensure that the following potential emissions do not impact upon public health: bioaerosols, odour, volatile organic compounds (VOCs) and particulate matter arising from the composting process Public health: bioaerosols, odour, volatile organic compounds (VOCs) and particulate matter arising from the composting process.</p> |
| Summary of actions taken or show how this has been covered |
| <p><u>Consultation of relevant organisations</u> The listed organisations were consulted as part of this application and any comments received have been addressed in this document.</p> <p><u>Confirmation of on site process</u> The activity proposed in the application is the bioremediation of contaminated soils. No composting activities will take place at this site. Green waste is accepted at the site and stored briefly in small quantities prior to being added to the biopiles to drive the remediation process.</p> <p><u>Bioaerosols</u> Bioaerosols are not considered a significant risk with soil remediation activities due to the waste types accepted. Bioaerosols are associated with the break down of biodegradable wastes e.g. composting operations. A limited quantity of green waste is accepted at this site but this is not subject to the composting procedure and is only utilised in small amounts for mixing into the soil (<1% of each biopile).</p> <p><u>Odour and VOCs</u> The main potential source of odour at this site is the release of VOCs from contaminated soil therefore the controls put in place to manage odour emissions at the site will in turn act to manage VOC emissions. We have assessed the techniques proposed by the operator to manage odour and VOC emissions from the soil facility and consider them to represent the best available techniques for this operation. Odour and VOCs are mainly managed through the use of the air extraction system and biofilter, which is a proven method of treating organic air contaminants. Air is extracted from the base of the biopiles and passed through the biofilter which contains a biological medium that can actively remove components from the air which produce odour e.g. VOCs. Other odour mitigation includes covering biopiles with tarpaulins to contain odour and managing the pre-acceptance of waste to ensure wastes received at the site are not significantly malodorous. Please refer to the key issues section of this document for more information regarding odour and VOCs mitigation. In addition this variation to the permit will include a pre-operational condition which requires the operator to produce an odour monitoring and management plan. This will ensure the operator appropriately identifies sources of emissions from the site and outlines effective site specific mitigation for implementation at the soil treatment</p> |

facility. It will also allow them to specify the monitoring to be undertaken at the site and demonstrate how they will review the effectiveness of their mitigation. The operator will be required prior to the soil treatment operation commencing, to submit this document to the Environment Agency for written approval. This will allow us to ensure appropriate mitigation, management techniques and monitoring schemes are to be put in place to prevent significant impact on nearby receptors, whether alone or in combination with Westmill Landfill.

The existing permit also contains standard odour prevention conditions which require the site to prevent odour beyond the site boundary. The permit additionally incorporates the requirements of the operator's odour management plan for Westmill landfill site into the operating techniques of the permit.

PM₁₀ and dust

The permit contains conditions which require the operator to appropriately manage the emission of substances not controlled by emission limits, including dust. In order to demonstrate they will effectively manage dust within the requirements of the permit and Environment Agency guidance the operator has proposed a number of measures for managing dust and therefore PM₁₀ emissions at the site. We have assessed these measures and consider them to represent the best available techniques in line with our guidance. Please refer to the key issues section of this document for further information on the types of dust mitigation proposed at the site.

Response received from

East Hertfordshire District Council Environmental Health

Brief summary of issues raised

This department is aware that a number of complaints have been made in the past by members of the public with regard to odour. In their application Biffa stipulate measures which should in theory eliminate potential odour complaints. However it is recommended that the Environment Agency apply conditions to the permit to ensure that Best Available Techniques are applied to effectively manage all possible odorous emissions across the boundary.

Summary of actions taken or show how this has been covered

The operator has proposed a number of site-specific techniques to manage odour at the soil treatment facility. These include covering biopiles with tarpaulins and extracting odorous air to a biofilter. For further information on odour mitigation please refer to the key issues section of this document. We have assessed the measures proposed by the operator and consider them to represent the best available techniques.

To ensure odour emissions from the site are appropriately mitigated, monitored and reviewed, this variation includes a pre-operational condition. This condition requires the operator, prior to commencing operation, to submit to the Environment Agency for approval a review of their odour monitoring and management plan specific to the soil treatment facility to ensure measures are effectively implemented and to determine whether any additional measures are required. This plan will encompass and build upon the measures the operator has outlined in their application and work in addition to the existing Westmill Landfill odour management plan. This will ensure that the soil facility will not have a significant impact on sensitive receptor alone or in combination with the landfill.

Web publicising responses

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| Response received from |
| Public response |
| Brief summary of issues raised |
| <p>Potential for biopiles to cause odour and potentially work in combination with odour emissions already emanating from the landfill.</p> <p>How the operator intends to control onsite odour through the waste accepted at the site.</p> <p>Potential for odour emissions from the regular turning of biopiles.</p> |
| Summary of actions taken or show how this has been covered |
| <p>The operator has identified the potential sources of odour at the soil treatment facility site and has proposed specific mitigation to manage odour from them. We have assessed these proposals and consider them to represent the best available techniques in line with our guidance How to comply with your Environmental Permit EPR 1.00 and SGN 5.06 Guidance for the Recovery and Disposal of Hazardous and non Hazardous wastes.</p> <p>As a result we consider it unlikely that the emissions from the site will contribute significantly to the emissions from the landfill. Please refer to the key issues section of this document for further information on odour mitigation.</p> <p><u>Odour management through waste acceptance</u></p> <p>Prior to any waste arriving at the site the operator will carry out pre-acceptance testing and checks to determine the properties of the waste and to confirm the waste can be treated at the soil treatment facility. This process allows the operator to identify wastes with particular contaminant concentrations which could result in the waste being potentially odorous.</p> <p>Using the pre-acceptance stage to identify potentially odorous wastes will allow the soil treatment facility to make appropriate arrangements to manage the risk posed by these waste prior to the waste arriving at the site. The operator has confirmed that waste will only be brought onto the site if appropriate measures can be put in place to fully accommodate the risk.</p> <p>Please refer to the key issues section of this document for further information on managing odorous waste received at the site.</p> <p><u>Mitigating odour from the turning of biopiles</u></p> <p>The operator must occasionally turn the biopiles to facilitate the remediation process. To limit the air emissions emitted during the turning of biopiles, contaminated air within the biopiles is continuously extracted through the base of the pile via perforated pipes. It is then directed to the sites biofilter for treatment. The continuous extraction throughout the storage of the piles also leads to the aeration of the biopiles as the extraction draws fresh air into the biopile. This minimises the frequency the biopiles must be turned and reduces the potential risk of odour emissions.</p> <p>To compliment the extraction measure the operator will carry out boundary monitoring during turning. If the operator's monitoring identifies a risk of odour outside the site boundary during biopile turning they will be required to reassess the effectiveness of the sites mitigation during biopile turning.</p> |

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| Response received from |
| Public response |
| Brief summary of issues raised |
| Concerns regarding increase in the number of pests such as flies. The soil remediation process encourages the growth of bacteria which could result in the biopiles harbouring potential pathogens that could potentially become airborne or enter water courses. |
| Summary of actions taken or show how this has been covered |
| <p><u>Pests</u> Waste soils are not considered to attract pests and no putrescible wastes are accepted at the soil treatment facility. Only small amounts of green waste will be accepted to aid the remediation process. It will be briefly stored prior to being directly added to the biopiles therefore the risk of attracting pests is low. In the event of pests on the site the operator will record any occurrence and take appropriate action.</p> <p><u>Biopiles harbouring pathogens</u> There is the potential for micro-organisms used in the bioremediation process to be pathogenic. The operator will manage the risk of potential airborne emissions through the sites proposed mitigation for air and dust emissions. These measures include covering biopiles with tarpaulins and keeping biopiles moist. Please refer to the dust management section in the key issues section of this document for further dust and air emission management techniques. The operator will prevent leachate runoff potentially containing pathogens from entering groundwater or water courses by implementing containment measures. Measures include the storage and treatment of all wastes on an impermeable surface with sealed drainage. This system will collect all potentially contaminated run off and store it appropriately prior to it being sent for treatment. Please refer to the key issues section for more information drainage. We have assessed the mitigation techniques proposed by the operator in regards to managing microbial emissions from the site and have determined they are in line with our guidance How to Comply with your Environmental Permit EPR 1.00 and represent the best available techniques. We are satisfied that the proposals will prevent significant pollution or harm to human health</p> |

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| Response received from |
| Public response |
| Brief summary of issues raised |
| There will be a continuous underlying noise from the facility and extraction units operating 24 hours a day. There will be a consistent noise from machinery including vehicle reversing alarms. Noise from crushing large amounts of waste. |
| Summary of actions taken or show how this has been covered |
| <p><u>Clarification of operating hours</u> The hours of site operation are restricted through the operator's planning permission. The operator has confirmed that the biopile air extraction equipment will operate continuously 24 hours a day to mitigate emissions from the site. To manage noise emissions from this plant it will be housed within an acoustically sealed shipping container to ensure noise is contained during unsocial hours.</p> <p><u>Noise emissions</u> The operator has proposed site specified mitigation techniques to manage noise emissions at the site. These include appropriately maintaining machinery to prevent excessive noise, fitting equipment with silencers where possible and keeping the use</p> |

of audible reversing alarms to a minimum.
 The operator will impose speed limits and where possible route internal haulage roads to allow for maximum distance and acoustic screening. All equipment will be located on the site at the furthest point away from nearby receptors. Where possible the equipment will be placed in areas below ground level and behind biopile storage areas to provide noise screening. Please refer to the key issues section of this document for further information.

Noise specifically from the crushing activity

To manage noise from the crushing and screening activities the equipment will be regularly maintained and kept in good working order to meet manufacturer's noise rating levels. Silencers will be used on applicable plant where appropriate and equipment will be shut down when used intermittently. Quiet plant lined or fitted with sealed acoustic covers will be selected where possible.

Additionally mobile plant at the site must maintain noise emissions which comply with the limit levels as defined by the EC directive 86/662/EEC and subsequent amendments. This directive places limitations on noise emitted by hydraulic excavators, rope-operated excavators, dozers, loaders and excavator-loaders.

We have assessed the noise mitigation proposed by the operator and have determined they represent the best available techniques to manage noise from the activity in line with the requirements of our guidance.

Response received from

Public response

Brief summary of issues raised

Increase in lorry movements to and from the site and the impact of this on the wear and tear of the road system.

Does the site require planning permissions?

Is the operator extending the operational life of the landfill?

Is this a long term change to the use of the site and will the operation of the soil facility continue after closure of the landfill?

Summary of actions taken or show how this has been covered

Traffic

Traffic to and from the site is outside the scope of the Environmental Permitting Regulations.

Does the site require planning permission?

It is the operator's responsibility to ensure they have appropriate planning permission in place prior to varying their permit to include a soil treatment facility.

Extension to the operating life of the landfill

We have assessed this application on its merits and there is no reason to suggest the proposal will extend the operational life of the landfill.

Operation of the soil facility after the landfill closure

The proposed soil treatment facility will serve the landfill providing restoration materials. If the operator deems it viable to continue operating the facility in this area once the landfill reaches the end of its operational life and has been fully restored, it is the operator's responsibility to ensure appropriate permissions are in place at that time.

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| Response received from |
| Public response |
| Brief summary of issues raised |
| <p>The site is taking hazardous wastes which will contain contaminants that could leach into the local environment.</p> <p>There is a potential for contaminants from the waste soils to enter the water table contaminating local soils and leaching through to resident's properties.</p> <p>The risk associated with depositing treated soils on top of Westmill landfill.</p> |
| Summary of actions taken or show how this has been covered |
| <p><u>Containment of leachate</u></p> <p>The operator has confirmed that all treatment and storage will take place on an impermeable surface with sealed drainage to appropriately contain any contaminated runoff within the facility. The impermeable surface will be constructed using asphalt underlain by a Geosynthetic Clay Liner (GCL). These surfaces will be graded to fall towards a collection drain which will be connected to appropriately bunded storage tanks for the collection and storage of contaminated runoff prior to contaminant threshold testing. If the contamination thresholds are high the runoff will be sent to the site's leachate treatment plant. Low level contaminated runoff will be reintroduced into the biopiles to maintain the moisture. Runoff with insignificant levels of contamination will be dealt with through the site surface water management plan. We are therefore satisfied there is sufficient infrastructure in place to contain contaminated surface runoff.</p> <p><u>Soil entering the surrounding environment</u></p> <p>Air emissions and dusts from hazardous waste are managed through the measures outlined in the operators H1 risk assessment. Please refer to the key issues section of document for further information on dust and air emissions mitigation.</p> <p><u>Restoration of the landfill using remediated soils</u></p> <p>To prevent significant negative impact on the environment or human health the operator will be required to demonstrate that treated waste soils intended for use as restoration material contain organic and inorganic contamination levels in line with the Inter Departmental Committee for the Redevelopment of Contaminated Land trigger thresholds for parks playing field and open spaces (set out in ICRCL 59/83). These threshold figures will be used for each contaminant until the appropriate Contaminated Land Exposure Assessment (CLEA) soil guideline values have been published for each contaminant.</p> <p>The operator has demonstrated that they will achieve these standards through sampling and testing at particular stages in the process.</p> <p>Waste shall be tested at the pre-acceptance stage and will only be approved for acceptance at the soil treatment facility if its inorganic contamination levels are in line with the standards in the ICRCL and CLEA guidance.</p> <p>After treatment batches will then be tested again to determine their organic contaminant levels. If organic contamination levels are above the ICRCL and CLEA standards waste soils will be retreated then retested. If the waste soil does not meet the appropriate standard after retreatment it will either be disposed of within the landfill if it meets the non hazardous landfill waste acceptance criteria or sent offsite for appropriate disposal at a suitable facility.</p> <p><u>Sensitivity of the location</u></p> <p>The site is situated on a major aquifer within a Source Protection Zone 2 therefore the operator will in addition to ensuring waste soils meet ICRCL and CLEA standards will be required to demonstrate that the remediated soils will not impact on the local groundwater.</p> <p>To ensure the operator demonstrates the wastes they accept will not have significant</p> |

impact on groundwater a pre-operational condition has been inserted into the permit. This condition will require the operator to produce a site specific risk assessment linked to their Hydrological Risk Assessment for the landfill. The assessment will determine the risk the treated waste soils may present to the environment and demonstrate there is no potential for significant impact. This assessment will be submitted to the Environment Agency for written approval prior to any waste being deposited at the landfill.

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| Response received from |
| Public response |
| Brief summary of issues raised |
| <p>The biofilter does not remove 100% of the contaminants within the extracted air prior to release. The VOCs have a potential to affect the health of nearby residents.</p> <p>How the operator will effectively maintain the biofilter.</p> <p>There are a range of organic compounds released to air which could impact on nearby residents.</p> <p>The wind direction drives pollutants towards ware and housing estates.</p> |
| Summary of actions taken or show how this has been covered |
| <p><u>Control of VOCs and effectiveness of the biofilter</u></p> <p>Volatile Organic Compounds emissions produced by the proposed soil remediation process will be appropriately mitigated through use of a biofilter as outlined in the key issues section of this document. The biofilter is able to reduce the level of VOC in the air to levels which are considered to present an insignificant risk of impact on surrounding human and environmental receptors. The biofilter is a proven method of controlling VOCs emissions as outlined in our Sector Guidance Note - Recovery and Disposal of Hazardous and Non Hazardous Waste (SGN 5.06). We therefore consider this method to be the best available techniques for VOCs mitigation at this site.</p> <p>In order to maximise the effectiveness of the biofilter and further minimise VOC emissions the operator will also ensure that wastes are only accepted at the site if the emissions they could potentially produce are suitable for effective treatment via the biofilter.</p> <p>Please refer to the key issues section of this document for more information on the biofilter.</p> <p><u>Maintenance of the biofilter</u></p> <p>As required by the permit's process monitoring the operator will undertake monitoring of the conditions within the biofilter on a daily basis. This will allow them to determine whether factors such as humidity and temperature which influence the performance of the biofilter are being effectively maintained to provide an optimum environment. This will allow the operator to determine if they need to take appropriate action to adjust the conditions within the filter to improve its performance. In the event the biofilter is not operating at an optimum and there is a significant emission release the operator will investigate the occurrence. They will report the occurrence to the Environment Agency and take remedial measures to prevent reoccurrence. This will include checking the biofilter humidity and temperature to ensure optimum conditions are being maintained for effective air treatment.</p> <p>The biofilter will be replaced on an annual basis, removing all the biological materials within the unit and replacing them with similar materials.</p> <p><u>Control of organic compound releases</u></p> |

The biofilter is able to actively filter a range of organic compounds in the air including petroleum hydrocarbons (TPHs), polycyclic aromatic hydrocarbons (PAHs), benzene, toluene, ethyl benzene and Xylenes (BTEX). Therefore we consider the biofilter the best available technique to mitigate the range of air emissions which may be released during the bioremediation process.

Wind direction drives pollutants towards Ware and housing estate

The operator has demonstrated in their odour modelling that the prominent wind direction is from the southwest and west south-west. Therefore the town of Ware and the housing estate are not downwind of the operation the prominent wind direction passing over the soil facility in the direction of the landfill.

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| Response received from |
| Public response |
| Brief summary of issues raised |
| Global warming impact of soil treatment as micro-organism bi-product is CO ₂ |
| Summary of actions taken or show how this has been covered |
| <p>CO₂ is an inevitable product of the bioremediation activity. The amount of CO₂ emitted from the activity will be determined by the quantity of wastes being treated at the site, which is already subject to conditions in the permit. It is therefore inappropriate to set an emission limit value for CO₂, which could do no more than recognise what is going to be emitted. The gas is therefore not targeted as a key pollutant for setting an Emission Limit Value (ELV), as it is effectively minimised through operation controls.</p> <p>We therefore consider that setting equivalent parameters or technical measures for CO₂ has been implemented through controls in the form of restrictions on the volume and type of waste that can be accepted at the installation. In addition the permit contains conditions relating to energy efficiency to effectively apply equivalent technical measures to limit CO₂ emissions.</p> |

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| Response received from |
| Public response |
| Brief summary of issues raised |
| <p>There is a potential for dust emissions from the soil treatment facility to work in combination with dust from the existing landfill site.</p> <p>The potential for dust emissions from the crushing and screening activity and the turning of biopiles.</p> <p>The dust emissions may contain hazardous contaminants and accumulating outside the site.</p> <p>The wind direction drives pollutants towards Ware and housing estates.</p> <p>The site will lead to more litter emissions from the Westmill site.</p> |
| Summary of actions taken or show how this has been covered |
| <p><u>Dust and cumulative impact</u></p> <p>To prevent dust emissions beyond the boundary of the soil treatment facility which could work in combination with dust emission from the landfill the operator has proposed dust mitigation techniques specific to the soil treatment facility. Please refer to the key issues section of this document for a description of the proposed dust mitigation measures which will prevent the site contributing significantly to potential dust emissions.</p> <p>We have assessed the site specific mitigation proposed for this site against our</p> |

guidance How to Comply with your Environment Permit EPR 1.00 and Sector Guidance Note S5.06 and consider them to represent the best available techniques to manage dust at the site.

Crushing and screening

The site's aggregate screening and crushing activities are not the site's main activity and are only on site to facilitate the recovery or disposal of over sized materials removed from waste batches. These activities will be subject to the dust mitigation measures outlined in the key issues section of this document. In addition the equipment will be fitted with water spray rails for dust suppression. If oversized materials need to be temporarily stockpiled during dry periods a water spray system will be focused directly onto stockpiles to minimise the risk of dust being generated.

Hazardous properties of dust emissions from site

There is the potential that dust particulates could contain organic contaminants. However as above, we consider that the techniques proposed by the operator represent the best available techniques to manage dust emissions from the site. Therefore we have determined that the risk of particulates accumulating in sufficient amounts to have an impact on features outside the site is insignificant.

Wind direction

The operator has provided wind data from Stansted airport to demonstrate the prevailing wind direction. The data shows that the prominent wind direction is from the south-west and west south-west therefore the town of Ware is not located downwind of the operation.

The operator has outlined measures to manage dust emissions in windy conditions. These include covering biopiles with tarpaulins, keeping the piles moist and cleaning the site surfaces through scrapping and sweeping to manage surface dust. We consider the operators proposals to represent the best available techniques to manage wind blown dust leaving the site.

Litter

Waste brought onto site should not consist of items which can be easily blown off the site. This will be controlled through the sites pre-acceptance and acceptance stages. In any case if litter is blown of site it will be collected as soon as possible.

Response received from

Public response

Brief summary of issues raised

Aggregate crushing process - What happens to the aggregates and where they go?

Will waste contain asbestos? What if this waste is sent through the crusher?

Summary of actions taken or show how this has been covered

Aggregate crushing and screening

The soil treatment facility will accept waste which may contain non-hazardous construction and demolition materials. These materials will be screened, sorted and separated to remove soil from larger objects which make the waste unsuitable as a restoration material. Large components will then be periodically crushed into a secondary aggregate for use at the landfill site.

Asbestos

The operators permit does not allow the acceptance of asbestos waste at the site. It is the waste producer's responsibility to appropriately classify their waste at the pre-acceptance stage prior to it being sent to the soil treatment facility. If a waste contains asbestos the producer is required to classify the waste appropriately as a hazardous waste containing asbestos.

Prior to any waste being sent to the site the operator will carry out pre-acceptance testing to double check the composition and classification of the waste. If the producers classification is satisfactory and in line with the restrictions in the permit it

can be sent to the soil facility. If the classification is not in line with the requirements of the permit e.g. it contains asbestos, the waste will not be sent to the soil treatment facility. Once the waste arrives at the soil treatment facility it is visually inspected to determine if the load is in line with the pre-acceptance description. If asbestos is found in any loads during site acceptance, the load will be immediately rejected from the site and returned to the producer.

Response received from

Public response

Brief summary of issues raised

Concern that the water supply may become contaminated to a number of homes which are not connected to mains water supplies and use water abstraction licenses.

Concern regarding the proximity of the drinking water boreholes used by residents and farmers. Has this been considered in the site risk assessment.

Please demonstrate the standard required and testing that will be undertaken prior to treated waste soils are placed on the landfill.

Will the operator carryout frequent testing of water sources covering the whole area of Ware Park? What accountability would they hold should a problem occur either within or after the next five years?

Summary of actions taken or show how this has been covered

Proximity of the drinking water boreholes and concerns that water source will be contaminated

We have checked the proximity of the site in relation to abstraction licenses and there are no abstractions within 500 m of the soil treatment facility.

The operator has produced a site specific risk assessment for the soil treatment facility, identifying potential sources of groundwater pollution and outlining how they intend to manage the risks. All treatment operations and storage of wastes will take place on impermeable surfaces which are designed to fall to a sealed drainage system. The drainage system will collect all contaminated runoff and direct it to appropriately bunded tanks. It will then be stored and tested prior to being disposed of or reused on the site. Please see the key issues section of this document for more information on containment of contaminated runoff. We have assessed the mitigation proposed by the operator to manage emissions to groundwater and consider them to represent the best available techniques and that they will adequately protect the groundwater.

Testing prior to deposit of waste.

Treated waste soils will be tested by an accredited laboratory prior to being deposited at the landfill. The analysis will determine the wastes contamination thresholds for comparison against standards for restoration materials.

The operator has outlined that all wastes will be treated to meet contamination thresholds in line with the requirements of the Inter Department Committee for the Redevelopment of Contaminated Land (ICRCL) trigger thresholds for parks playing field and open spaces (set out in ICRCL 59/83). These threshold figures will be used for each contaminant until the appropriate Contaminated Land Exposure Assessment (CLEA) soil guidance lines values have been published for each contaminant. Working to these thresholds will ensure that the soil going for restoration will have no significant impact on human health when deposited to land.

Additionally as this site is situated on a major aquifer in a source protection zone 2, the operator will be required to demonstrate the treated soil will not have a significant impact on groundwater. A pre-operational condition has been inserted into the permit which requires the operator, prior to sending any waste soils to landfill, to produce a

site specific risk assessment which is linked in to their hydrogeological risk assessment. This site specific risk assessment will demonstrate whether the treated waste soils produced by the soil treatment facility can be deposited to land without impacting significantly on the surrounding environment and groundwater. As required by the pre-operational condition, this assessment will be submitted to the Environment Agency for written approval prior to any waste being used as a restoration material.

Operator testing of surrounding environment

The operator will not undertake the testing of the surrounding environment as part of the soil treatment facility activity for the following reasons:

- 1) All waste soils are tested in line with relevant standards and appropriately risk assessed prior to deposit on the landfill which is itself subject to a strict testing regime for various media.
- 2) The operator has taken appropriate steps to contain all potential sources of pollution within the site. All treatment and storage of hazardous and non-hazardous waste will take place on an impermeable surface with sealed drainage as outlined above, which will be subject to regularly maintained checks. We consider these measures to represent the best available techniques to prevent groundwater pollution.

In the event there is a failure in the infrastructure the operator will be required to take appropriate action to manage the pollution incident and remediate any impact on the surrounding environment.

Advertising and Consultation on the Draft Decision

This section reports on the outcome of the public consultation on our draft decision carried out between 14/02/2013 and 26/02/2013. This consultation was not carried out for the full 20 working days as the variation notice was withdrawn for amendments as a result of the implementation of the Industrial Emissions Directive regulations and amendments to the conditions within the permit due to some of the waste types applied for as part of this variation not being suitable for recovery by the proposed treatment activities. Please refer to the issues section of this document for more information.

The issues were resolved and the variation notice amended to included appropriate conditions in compliance with the IED regulations and new operational requirements for the site. The application is to be re-consulted upon for an additional 20 working days in line with the requirements of our public participation statement.

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| Response received from |
| Mark Prisk MP |
| Brief summary of issues raised |
| Raised concerns over the operator’s current compliance with its permit. Highlighted that increased odour has been experience by residents. Concerns of operator’s compliance history and cooperation with the local residents. |
| Summary of actions taken or show how this has been covered |
| <u>Operator compliance</u> To demonstrate the operator can comply with the requirements of their permit they have specified in their application how they intend to operate the soil treatment facility within the requirements our guidance and the conditions of the permit. <u>What the Operator is doing to ensure compliance.</u> The operator has proposed rigorous mitigation techniques, monitoring and reporting regimes to ensure compliance with the condition of their permit. For each option they have demonstrated why they consider these options to represent best available |

techniques for managing the soil treatment facility. The operator's proposals are outlined in the key issues section of this document.

We have assessed the operator's proposals in line with the requirements of our guidance and we are satisfied that they represent Best available techniques for an operator of this type.

How the Environment Agency will ensure the operator implements the proposed operating techniques

To ensure the operator complies with the requirement of their permit and our guidance we have incorporated into the permit the operator's operating techniques and the relevant Environment Agency guidance.

The operator will therefore be required to demonstrate to the Environment Agency they have effectively implemented the operating techniques we are satisfied are BAT and they are in line with the requirements of our guidance. If the operator's activity does lead to a potential impact and the operator cannot demonstrate they have taken all appropriate action to prevent pollution and implemented the techniques incorporated into the application and in our guidance they will be subject to enforcement action.

In addition to this we have included pre-operational conditions in the variation to ensure the operator implements the proposals they have outlined in their application. These conditions require the operator after construction of the site but prior to beginning operation to submit to the Environment Agency a construction validation report reviewing the facilities construction and undertake a review of the site risk assessments and management techniques.

This will allow the operator to demonstrate that all infrastructure and operating techniques proposed in the permit application that are considered BAT have been implemented. It will also ensure that if there are any deviations from the original site design or operating techniques the operator will fully justify those changes and demonstrate they represent Best Available Techniques.

Odour

The operator has submitted their site management plans, operating techniques and a H1 environmental risk assessment as part of this application to demonstrate how they will take appropriate steps to manage odour emissions at the site. We have assessed the operator's odour management techniques and consider them to represent best available techniques in line with our guidance How to Comply with Your Environmental Permit and Sector guidance Note 5.06. Please refer to the Key issues section of this document.

Cooperation with the public

The operator has outlined in their application their official complaints procedure for the general public which will ensure that non-conformances reported are investigated by the site manager and rectified. The operator will keep written records of non conformances and complaints which will be maintained in a log book, recording the date, time and nature of the event together with the results of any investigations and remedial action taken. They have also taken steps to assist the public in the reporting of incidents maintaining a clearly visible display at the site entrance with the relevant contact information visible including site contacts, Environment Agency contacts and their permit numbers.

To maintain and improve environment performance the operator has identified key performance indicators and stated these will be reviewed at least annually. This will be covered in their management review which assesses the level of incidents and complaints and outlines objectives and targets for improvement. The operator has stated they will maintain a summary of their environmental performance which will be available to the public on their website as part of the Biffa Environmental Report.

To ensure the public are involved with developments at the site the Environment Agency has carried out extensive consultation with the public to demonstrate the changes proposed by the operator and have ensured the public have the ability to

provide their views and concerns regarding proposed operations.

Response received from

Public response

Brief summary of issues raised

Concerns raised regarding existing odour emissions from the landfill site and the soil facility's contribution to this odour.

Clarification regarding odour benchmarks the operator is required to operate within.

Concerns that the present odour management plan is not effective and adds a sickly sweet smell to the smell of landfill rubbish.

Questioned whether odorous emissions could be harmful to health.

Concerns regarding persisting odour emissions and query how the Environment Agency can act to correct them.

Summary of actions taken or show how this has been covered

Odour contribution to the landfill site emissions

To ensure the operator effectively manages emissions from the site and prevents in combination effects with the landfill they have proposed a number of site specific measures to manage odour emissions from the Soil treatment facility. We have reviewed the mitigation and management techniques proposed and consider the measures to reflect the best available techniques in line with our guidance. Please refer to the Key issues section of this document for further odour management information.

To further ensure odour management at the soil treatment facility is effectively implemented we have insert a pre-operational condition into the permit which requires the operator prior to commencing operator to produce a monitoring and management plan specific to the soil treatment facility.

This is to ensure the operator has a clear plan in place which consolidates all the odour management techniques they have proposed in their application supporting documents. The plan will ensure clear procedures are in place at the soil facility for the operator to implement and for the Environment Agency to review. This will ensure emissions management at the soil treatment facility is managed in isolation as well as in line with the emissions management at the landfill site in order to prevent emissions which could lead to in combination effective with potential emissions from the landfill.

In addition to their odour management and monitoring plans the operator has confirmed they will operate the soil facility in line with the requirements of our Sector Guidance Note 5.06 Guidance for the treatment and storage of hazardous and non-hazardous waste. This guidance requires the operator to carry out monitoring using techniques which are considered to be best practice including weekly monitoring of VOC's (a potential source of odour) which are subject to extraction and fugitive releases of VOC from biopiles under a representative range of operating conditions. The operator has outlined in their application how they intend to meet the requirements of this guidance and have listed the monitoring which will take place specifically at the soil treatment facility and how they will review emissions from the site, acts on significant emissions and follow up complaints. Please see the key issues section of this document for further information on site monitoring.

Odour benchmarks

The operator has outlined in their odour management plan and landfill odour impact assessment that their target benchmark for emissions from the landfill is less than the most stringent odour criterion of $1.5_{\text{OUE}}/\text{m}^3$. This odour benchmark covers general

emissions from the landfill and in the event this benchmark is breached the operator will be required to demonstrate that they have taken steps to identify the source and undertake remediation measures. This requirement will also apply in the unlikely event emissions from the soil facility contribute significantly to landfill odour emissions leading to a breach of the proposed odour criterion.

The operator also has confirmed they will operate the site within the requirements of our guidance Sector Guidance Note S5.06 for the storage and treatment of hazardous and non hazardous waste. This guidance outlines appropriate thresholds and benchmarks for VOC releases (the main potential risk of odour at the site) which the operator will be required to demonstrate they can maintain. These thresholds will be maintained through regular monitoring including boundary monitoring for VOC's in the ambient air and olfactory monitoring to ensure the odour level from the landfill and the soil facility are acceptable. Biofilter air emissions and biofilter process monitoring will also be undertaken at the soil treatment facility to ensure the biofilter operates at its optimum to mitigate VOC emissions.

The landfill mitigation effectiveness and sickly sweet smells

The mitigation in place to manage odour emissions from the soil treatment facility does not include the use of the odour masking or deodorisers. Therefore the addition of the soil facility will not influence the use of deodorisers.

Will the odour emissions be harmful to health?

In order to ensure the site is operating in line with the requirements of the site's management plan, Environment Agency guidance and to demonstrate there is insignificant chance of the operation impacting on the local health of the community the operator will undertake appropriate monitoring and management of the site's biofilter in line with the best available techniques outlined in our guidance.

VOC emissions released from the biofilter are considered to present the main risk to local health. The operator has therefore confirmed in their application that VOC emissions will be monitored on a monthly basis. This will be undertaken by a specialist laboratory using accredited analysis in order to ensure that the Biofilter is operating effectively. In addition daily monitoring will be in place to ensure the operating parameters for the biofilter remain within optimum levels for the biological filtration. This will ensure that appropriate minimisation of VOC emissions is consistently achieved in line with the requirements of best available techniques as outlined with our guidance.

To monitor VOC around the site a photo ionisation detector (PID) shall be used in specified locations (including near to the biofilter) in order to quantify gaseous emissions. If PID readings for the site record Benzene exceeding 1 ppm (based on EH40 guidance) then the source shall be identified and assessed by the operator and dealt with by cessation of soil movement. If wastes with a potentially high level of VOCs are identified, PID and benzene monitoring shall occur on a daily basis to ensure site mitigation is effectively preventing significant emissions. This approach of maintaining VOC at less than 1 ppm on site will ensure there is an insignificant risk of concentration being above 1 ppm beyond the boundary of the site.

As part of our permit determination we have also consulted with the relevant authorities including the Health Protection Agency (now Public Health England) and the Primary Care Trusts. They have not highlighted any concerns regarding air emissions and health. They have however highlighted concerns regarding odour impact. In order to address their concerns we have outlined in the key issues section of this document how the operator proposes to manage odour emissions from the site in line with best available techniques and the conditions of the permit.

Persisting odour emissions and how the Environment Agency can act to correct them

In the event there are substantiated claims of odour from the site the Environment Agency will notify the operator to undertake a review of the odour management plan to address odour emissions beyond the boundary. The operator must submit a revised version of the odour management plan to the Environment Agency to

demonstrate they can implement effective management and mitigation measures to control emissions from the site. Once the plan has been approved by the Environment Agency the operator will be required to implement the approved plan. In the event the operator cannot demonstrate they have implemented appropriate measures outlined in their application and management plans the Environment Agency may seek to carryout enforcement action.

In order to ensure the soil treatment facility does not work in combination with potential odour emissions from the landfill we have inserted a pre-operational condition which requires the operator to produce an odour monitoring and management plan. This will ensure site-specific BAT measures are in place to effectively prevent the contributing to the emissions from the landfill. Please refer to the key issues section of this document for more information on preventing odour at the site.

Response received from

Public response

Brief summary of issues raised

Concerns regarding dust emissions and that some of the proposed mitigation for dust emissions are already in place at the landfill site and there are still heavy dust emissions.

Concern that the operator has identified a number of emissions risk from the site outlined in the key issues of this document and there appears to be a high probability that there will be further emissions from the site.

Concerns that fugitive emissions do not have measured limits.

Request to demonstrate that adequate emissions safe guards to ensure appropriate levels are obtained.

Request clarification on potential for dust emissions to be produced by onsite crushing of aggregates (rock etc).

Concern that at the existing site water bowsers should be in place but were not all the time.

Summary of actions taken or show how this has been covered

Dust emissions and effectiveness of mitigation

The operator has proposed mitigation and management techniques to manage dust emissions from the site. We have assessed the proposed techniques and consider them to be in line with the requirement of our Sector Guidance Note S5.06 and represent the best available techniques for managing the risk of dust emission at this site. Please refer to the key issues section of this document for more information on the operators proposed dust management and mitigation techniques.

Emissions limits for dust

Dust emissions limits are not set for this activity as they are emissions which are unintended and not expected to be significant. Therefore benchmarks have not been inserted into the permit as we are not permitting an acceptable amount of dust which can be emitted from the site. Dust emissions are to be prevented using measures which have been demonstrated to be effective in controlling the risk of these emissions (best available techniques).

Condition 3.2 in the permit specifies that emissions not controlled by emissions limits shall not cause pollution. Therefore there is no a measurable emission limit in place but there is a control preventing dust causing pollution beyond the boundary of the site.

As the operator has proposed appropriate techniques in line with our sector guidance S5.06 which they will be required to implement at the site. There is no reason to suggest that the operator will be unable to effectively manage emission from the soil treatment facility therefore specific quantitative monitoring for dust is not justified.

Adequate emissions safe guards

We have assessed the operator’s emissions management and monitoring techniques and consider them to be in line with the best available techniques and our guidance Sector Guidance Note S5.06. This guidance outlines measures which are seen as the most effective and appropriate means of undertaking these activities to prevent significant emissions beyond the boundary of the site.

To ensure the site mitigation is effective the operator will use site monitoring to determine whether there is the potential for emissions to cause impact on receptor beyond the boundary of the site. The operator will regularly monitor emissions from the site in line with the permit and the requirements Sector Guidance Note S5.06.

This will ensure the site uses techniques considered best practise. Methods include the daily visual dust monitoring by the operator and independent dust measurements undertaken by an external laboratory or subcontractor at specific site locations. If sources of dust are identified, operations considered to be producing the emission will be ceased. The operator has stated that the time, date, location and details of the emissions will be logged and remedial measures will be implemented to prevent reoccurrence. Please refer to the key issue section of this document for further information on monitoring proposed by the operator.

Dust from the crushing of aggregates.

The operator will manage the dust from the site in line with the measures outlined above and in the key issue section of this document. As the operator has identified the crushing of aggregates as a potential high dust emission risk they have outlined additional appropriate measures to mitigate dust specifically from this activity We have assessed the techniques proposed by the operator to manage this activity and consider them to represent appropriate measures to mitigate dust. For further information on dust mitigation at the site please refer to the key issues section of this document.

Water bowsers

The operator has stated in their application that a water bowser will always be available on site to assist in dust suppression. In the unlikely event there are issues with the water bowser the operator has outlined measures to manage the sites water supply. These measures include utilising the sites surface water lagoon, bringing a secondary water bowsers on site and in unforeseen periods without water the site will review the operation of vehicles and site activities to prevent dust creation.

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| Response received from |
| Public response |
| Brief summary of issues raised |
| Queried end date for operation of landfill and soil facility. |
| Queried what will happen to soil facility once the landfill site is restored. |
| Summary of actions taken or show how this has been covered |
| <u>Extension to the operating life of the landfill</u> |
| We have to assess this application based on its merits. There is no reason to consider that it will extend the operational life of the landfill. |
| <u>Operation of the soil facility after the landfill closure</u> |
| If the operator deems it viable to continue operating the soil treatment facility in this area once the landfill reaches the end of its operational life and has been fully restored, it is the operator’s responsibility to ensure appropriate permissions are in |

place at that time. As this facility will only be permitted as an activity directly associated with the landfill and relies on the landfill infrastructure it will be unable to operate as a stand alone activity unless the permit is appropriately varied.

Response received from

Public response

Brief summary of issues raised

Is the use of tarpaulins to cover biopiles an effective measure for managing emissions.

Will the materials the biofilter is constructed from degrade as a result of continuous handling of gases such as VOC.

Clarifications on the procedures in place in the event equipment and management procedures fail.

Clarification on what happens if the operator causes pollution to air or groundwater.

Summary of actions taken or show how this has been covered

Use of tarpaulins

Our sector guidance note S5.06 guidance for treatment and storage of hazardous and non-hazardous waste outlines the avoidance of uncovered stockpiles as an appropriate technique for dust emissions management. Tarpaulins are plastic woven sheet considered water proof and are therefore consider suitable as an appropriate technique for covering biopiles to manage dust releases. In regards to VOC emissions this measures is not to contain emissions but to cover biopiles in order to assist in minimising the escape of VOC's through the top of the biopiles to allow maximum extraction through the base of the piles.

VOC degrade biofilter over time

The operator has stated in their application that they will carry out a programme of planned preventative maintenance. All plant and equipment will be regularly inspected and maintained in accordance with the manufacturer's specification and the operator's programme of plant maintenance.

The operator has confirmed that to reduce the time the operation would be without active mitigation a rapid technical response will be in place for maintenance and repair.

In the event the air extraction and biofilter system failed this would slow down the remediation process which would in turn reduce the release of emissions from the piles and the biofilter. The lack of extraction of air from the biopiles would reduce the air drawn into the biopiles which assists the remediation process. Therefore less organic pollutant would be broken down leading to lower emissions.

Procedures in place in the event equipment and management procedures fail

Our sector guidance note S5.06, which the operator has confirmed they will operate in accordance with and condition 1.1.1 of the permit both require the applicant to have an accident management plan. The accident management plan is required to describe how the operator will identify hazards, propose measures to reduce the risk of the incident and what outlined the action they will taken in event of an incident.

The operator has outlined in their application how they will manage the risk at the site and have confirmed they have developed their accident management procedures in line with our guidance. They have confirmed that they have a system in place to report any risks or incidents and have appropriate action plans which they can implement to manage site issues.

What happens if the operator causes air or groundwater pollution

In the event there is a failure in the infrastructure the operator will be required to take appropriate action to manage the pollution incident, limit the consequence of an

accident and remediate any impact on the surrounding environment. The operator has outlined in their application they how they will manage process and infrastructure failures. They have identified procedures for containing spills and leaks for example in the event a spill leaves the site the operator will notify the Environment Agency and if the operator cannot rectify the impact they have stated they will seek specialist assistance to manage the emission. In the event of an air emission release the operator has outlined in their application that they will carry out appropriate immediate remedial measures as outlined in their H1 environment risk assessment. The operator has confirmed they will carry out any action necessary to minimise the environmental consequences, find out the cause of the accident, take action to prevent reoccurrence and inform the Environment Agency of the accident.

Response received from

Public response

Brief summary of issues raised

Concerns regarding potential noise from the site.

Queried what level of noise is classed as acceptable.

Concern regarding noise from crushing activities and queried how this will be effectively mitigated.

Concerns than acoustically sealed shipping container will still have holes in to let air in and out during extraction leaving a route for noise to be emitted from the shipping container.

Queried whether site will undertake noise surveys.

Concern that constant repetition of vehicle reversing alarms will result in noise pollution.

Requested reassurance that noise emitted from the site is no more than what is currently experience from the site, especially during night time hours and weekends.

Summary of actions taken or show how this has been covered

General noise control

The operator has proposed a number of measures to mitigate noise at the site. For further information on noise mitigation please refer to the key issue section of this document. We have assessed the measures and consider them to be line with our guidance and represent best available techniques for managing noise emissions.

What level of noise is considered acceptable

The operator's permit contains conditions which require the operator to ensure noise from the site is managed to prevent pollution beyond the boundary of the site.

Therefore the acceptable level of noise is that which does not cause pollution. Our guidance states that noise should be should not give reasonable cause of annoyance in the view of the regulator, the regulator being the Environment Agency. Therefore if there are substantiated claims of noise confirmed unreasonable by the Environment Agency then the site will be notified and must undertake a noise management plan to demonstrate how they prevent impact on affected receptors. In the event appropriate measures are not implemented the Environment Agency may seek to take enforcement action against the operator.

In addition the operator has confirmed that they will operate within the requirement of our sector guidance note S5.06 which contains guidelines for determining appropriate noise levels.

Further more the operator has stated that they will manage noise operating in line

with the requirement of noise emissions levels as defined by the EC directive 86/662/EEC and subsequent amendments.

Monitoring

The operator has outlined in their application that they will undertake daily routine observations of noise from activities and site plant. Where noise or risk of noise is identified the operator will take remedial action to manage emissions. Site operatives will be trained to minimise the risk of noise and site operative will undertake daily routine observation of noise from activities and plant. Noisy activities and equipment will be reported to the site managed with equipment being stopped and sent to be serviced.

Biffa will display a sign at the site entrance containing all relevant contact information and will record records of complaints and take remedial measures to identify and resolve noise emission from the site. The operator will keep a record of noise complaints along with the time nature of the event and remedial action taken which can be used to review the effectiveness of noise mitigation and identify any potential additional noise sources.

Concrete Crushing

The operator has outlined site specific mitigation and management techniques to manage noise from this activity. The measures proposed by the operator are outlined in the key issued section of this document. We have assessed these measures and considered them to represent appropriate measures to manage noise emissions.

Shipping containers

The noise insulated shipping container is acoustically sealed therefore containing the noise from the extraction unit. Piping which feeds the extraction unit does penetrate the side of the unit through a primary entrance point for the pipe work linked to the air water separator and an exit point for the biofilter. A clip is used to fasten a sound proof guard around the external section of each pipe in side the container. This forms a continuous sound proofing seal between the pipe and the internal container wall.

Reversing alarms

The operator has stated that they will minimise the use of reversing alarm to a level which is reasonable practicable subject to maintaining site safety. The operator's site operating hours are outside the scope of the Environment Permitting Regulations and therefore will be specified in the operator's planning permission.

The operator has also confirmed that there maybe certain areas of the site which present a significant noise risk. To manage this risk the operator will fit specific vehicles with reversing alarms which incorporate broadband noise alarms which localise alarm noise.

Noise is no more than currently experienced

To ensure the soil facility does not contribute to existing noise emissions from the existing landfill activity the operator has implemented a number of noise mitigation measures specific to the soil treatment facility. We have assessed the measures proposed by the operator and consider them to represent the best available techniques to manage noise at the site. Please refer to the key issues section of this document for further information on noise mitigation methods.

No night time and weekend noise

The operating hours for the soil facility will be restricted within the planning permission.

Response received from

Public response

Brief summary of issues raised

Concerns regarding an incorrect reference to site location. One document references the site as being in the south east corner of the site where another references it as being in the south west corner of the site.

Summary of actions taken or show how this has been covered

The soil treatment facility is located in the southern corner of the landfill site in the area highlighted in red. The site entrance leads out onto Westmill road to the west corner of the site. Please refer to the site plan within the variation notice for a layout of the site and permitted boundaries of the site.

Response received from

Public response

Brief summary of issues raised

Queried site operational hours.

Concern regarding the location of the soil treatment facility as it is near to houses. Queried whether the site could be relocated.

Concerns regarding distance of the site from sensitive receptors and an increase risk in emissions having an impact.

Summary of actions taken or show how this has been covered

Operational hours

They will be specified in the operator's planning permission.

Relocation of the site

The proposed location of a site is a decision made by the operator who must then demonstrate to the relevant authorities that the activity is suitable for that area. The operator has demonstrated that they intend to implement the best available techniques to manage emissions from this facility. We have assessed the proposals and consider them to have satisfied the requirements of our guidance. The operator has therefore demonstrated from an Environment Permitting perspective that the activity can operate in this location.

The operator will however need to apply for and obtain planning permission before they are allowed to locate the activity in this area.

Emissions and the sites close proximity to sensitive receptors

We consider the emission management measures proposed by the operator to meet the requirements of our guidance and represent the best available techniques for managing emission from this type of site. We consider there is insignificant risk of emissions causing impact beyond the boundary of the site or working in combination with emissions from the landfill. Please refer to the key issues section of this document for further information on emission management techniques.

Response received from

Public response

Brief summary of issues raised

Concerns that mud and debris is presently an issue on roads on exiting and beyond the boundary of the site and that the road washing mitigation presently in place as part of the landfill activity is not effective. Concerned that the soil facility will add to this issue and that proposed mitigation is not effective.

Concerned that vehicles heading to the site are removing their sheeting when they reach the entrance to the Westmill site and driving to the deposit area un-sheeted releasing dust.

Concerned that the activity will result in increased levels of traffic in the surrounding area.

Summary of actions taken or show how this has been covered

Soil and debris

The operator has identified that there is a risk of soil and debris being tracked outside

the site onto external roads and has proposed appropriate measure to manage the risk and minimise potential emissions. Please refer to the key issues section of this document for further information on the mitigation measures proposed to prevent the spread of soil and debris outside the facility

Vehicle sheeting

The operator has stated that they require vehicles to be sheeted when carrying loads to, from and around the site. In the event significant dust emissions are reported beyond the boundary of the site the operator will be required by their permit to review their mitigation techniques. If un-sheeted vehicles are identified as the source, the operator will be required to demonstrate they are taking action to enforce this requirement or demonstrate equivalent mitigation to manage the source of emissions.

Increase in traffic

Additional traffic to and from the site is an issue for the planning application.

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| Response received from |
| Public response |
| Brief summary of issues raised |
| <p>Queried whether the site relies on extraction from local rivers</p> <p>Concerned that a large quantity of water is used in the process.</p> <p>Queried the action Biffa will take in the event they cannot get access to water</p> <p>Queried whether the water used in the process is recycled</p> <p>Query, how safe is recycling water used in the process.</p> |
| Summary of actions taken or show how this has been covered |
| <p><u>Where is the water obtained from</u></p> <p>The operator has stated that dampening down of the site in order to manage dust emissions will take place using water which will be sourced from mains supplies and stored on site in a water bowser. The operator has not stated that the water will be abstracted from local rivers and they do not have the appropriate permissions in place to do so. In the unlikely event the water bowser is unavailable the sites surface water lagoon will be utilised to supply water.</p> <p>In regards to water efficiency the operator is required by conditions within the permit to demonstrate that they use resources efficiently and to review their water management plans in order to efficiently reduce their water consumption.</p> <p><u>A lot of water is used in the process</u></p> <p>Condition 1.4 of the permit requires the operator to ensure that raw materials and water are used efficiently in the activities. They are required to maintain records of raw material and water usage and review their use to look towards improving the efficiency of water use.</p> <p><u>Where will they get water in times of drought or if Biffa run out of water?</u></p> <p>Our guidance note S5.06 which is incorporated into the operators permit states that the operator must outline in their accident management plan how they intend to</p> |

manage the site the event of loss of services e.g. water supply. The guidance requires the applicant to demonstrate they have a procedure in place to ensure in the event of failure of site equipment or failure of main services e.g. water supply and failure of containment. The operator will be required within the first weeks of operation to demonstrate the Environment Agency that an effective accident management plan is in place containing the accident management procedures outlined in their application.

In order to ensure the operator maintains sufficient water supplies at the site and effective mitigation the operator has proposed the following measures. The operator will undertake daily maintenance of the water bowser when it is in use. If a fault is found then a fitter will be arranged for the same day to repair the tank. If a replacement bowser is required, one will be procured with 24 hours during normal operating hours. In the event a water bowser is not available on site the operator has procedures in place to make sure other sources of water are available to ensure sources of dust are controlled. This includes using water from the sites surface water lagoon to supply water for dust suppression and utilisation of a secondary temporary bowser when conditions dictate. In the event there are no water sources available at the site vehicles movement and site operation will be reviewed to ensure insignificant amounts of dust are created.

Is the water recycled

Water used to manage the site processes and mitigate emission from the facility is collected by the sites contaminated water drainage system and stored in tanks. This water is tested to determine its level of contamination then depending on the level of contamination the water it will either be sent for treatment at the landfill leachate treatment facility, reused to keep the biopiles moist or if below surface water threshold requirements subjected to the landfill's surface water management plan.

How safe is the recycled water

Water which could have potential environmental effects is treated at the landfill's leachate treatment facility. Water which is lightly contaminated is used for reintroduction into the biopiles to maintain a level of moisture this water will not be used in the dust suppression system. Therefore the reutilisation of water will not result in contaminated water leaving the boundary of the site.

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| Response received from |
| Public response |
| Brief summary of issues raised |
| Queried where the treated soil will go once the landfill is restored. Concern that this may lead to increased lorry movements to and from the site. |
| Summary of actions taken or show how this has been covered |
| If the operator deems it viable to continue operating the soil treatment facility in this area once the landfill reaches the end of its operational life and has been fully restored, it is the operator's responsibility to ensure appropriate permissions are in place at that time. As this facility will only be permitted as an activity directly associated with the landfill and relies on the landfill infrastructure it will be unable to operate as a stand alone activity unless the permit is appropriately varied. As transporting soil offsite is not applied for under this application it will not be considered as a part of this application. |

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| Response received from |
| Public response |
| Brief summary of issues raised |
| Concern regarding the sites potential to pollute surrounding sensitive water and land receptors. |

Queried how the operator will ensure water used the site processes and stored in lagoons will not reach ground water sources.

Reassurance that water served to surrounding properties will not be affected by any emissions from waste taken onto the site.

Summary of actions taken or show how this has been covered

Potential to pollute surrounding water and land receptors

The operator has designed the site to ensure that all wastes are stored and treated on areas of impermeable surface with sealed drainage. All surface runoff from these areas will be captured in the sites contaminated runoff drainage system and stored in tanks prior to testing and appropriate treatment. Therefore there will be no contaminated emissions to groundwater or the surrounding land from this activity. Please refer to the key issues section in this document for more information on managing contaminated surface run off.

Water in lagoons should not reach groundwater or water supplies

The soil treatment facility does not have a contaminated water storage lagoon. Contaminated water is collated by the sites contaminated runoff drainage system and directed to onsite storage tanks with appropriate containment bunding. In the unlikely event surface water could have potentially become contaminated there is a cut off mechanism to prevent water entering the retention pond until the risk is appropriately managed. We have assessed the drainage plan proposed by the operator and consider it to demonstrate that the best available techniques are in place to prevent pollution of ground or surface water. Please refer to the key issues section of this document for information on the site operating techniques. We consider that water served to nearby properties will not be affected by any waste stored or treated at the soil treatment facility.

Response received from

Public response

Brief summary of issues raised

Queried who will regulate the checks carried out by Biffa regarding prevention of water and air pollution from the operation and elimination of odour.

Summary of actions taken or show how this has been covered

Who will regulate the mitigation and monitoring Biffa undertakes and ensure it is effective.

The Environment Agency will regulate the site. Site inspections and reviews of the operator's management plan will be undertaken by us to ensure the site is operating within the requirements of the permit and the management techniques outlined in the operator's application. The operator has identified that monitoring will take place and samples assessed in nominated accredited laboratory, therefore the testing will be done independently.

In the event there is substantiated pollution beyond the boundary of the site, the Environment Agency will notify the operator who will be required by conditions within their permit to demonstrate that appropriate measures were in place to manage the emissions, demonstrate they have taken appropriate steps to remediate the emissions and demonstrate how they will prevent the reoccurrence in the future.

Response received from

Public response

Brief summary of issues raised

Concerns that air in the locality of hazardous waste sites can contain higher levels of benzene, Toluene, Xylene.

Reassurance no waste will be brought onto site which will affect air quality in the local area.

Concerns regarding the Health effects of air emissions from the site

Summary of actions taken or show how this has been covered

How the operator will manage air emissions at a waste facility

There is the potential for air surrounding waste sites of this nature to contain higher levels of VOC emissions, this is if they are not managed effectively and appropriate mitigation is not in place.

The operator has outlined in their application how they intend to effectively manage air emissions from the site. We have assessed the measures proposed by the operator in their application and consider them to represent best available techniques to effectively manage air emissions at the site.

The operator has demonstrated that their techniques are in line with the requirements of our guidance Sector guidance note SGN 5.06. This guidance outlines appropriate measures to manage air emissions from a site of this nature. Measures include the implementation a biofilter at the site which is considered to be a best available technique for managing volatile organic compounds (VOC) air emissions from waste site of this nature. The biofilter is able to actively filter a range of organic compounds in the air including petroleum hydrocarbons (TPHs), polycyclic aromatic hydrocarbons (PAHs), benzene, toluene, ethyl benzene and Xylenes (BTEX). Therefore we consider the biofilter an appropriate technique to mitigate the range of air emissions which may be released during the bioremediation process. Please refer to the key issued section of this document for further information on air emissions mitigation. To ensure the biofilter is working effectively the operator will regularly monitor the presence of VOC emissions from the biofilter using ionisation detection applying thresholds based on EH40 guidance. In the event elevated levels of VOC's are measured the operator will undertake measures to reduce emissions (e.g. cessation of soil movements) and undertake monitoring to identify and assess the source, the Environment Agency will be notified.

How the operator will ensure air emissions to do impact on local air quality

The wastes brought onto the site do present a risk of air emissions including VOC, which have the potential to impact on local air quality. However as outlined above the operator has effectively demonstrated how they will mitigate potential emissions from the site to prevent them impacting on local air quality. We consider their proposals to represent the best available techniques in line with our guidance S5.06. This guidance outlines the techniques the operator must implement to effectively manage air emissions from a site. In addition it outlines benchmark thresholds for air emissions which the operator must be able to demonstrate their activity does not exceed to prevent significant impact of local air quality.

In order to effectively demonstrate there is no impact on local air quality and that the mitigation is effective the operator has outlined in their application that they will undertake monthly monitoring for benzene, toluene and xylenes which will be sent to an accredited laboratory for analysis.

In addition they will monitor the conditions within the biofilter such as temperature and humidity to ensure appropriate conditions are maintained to ensure the biofilter operates at an optimum to effectively mitigate emission from the activity.

Health effects

We have consulted with the Health protection authority (HPA) (now Public Health England) who stated in their response that public health should be protected via effective control of air emissions including VOC. We have assessed the operator's application and consider them to have proposed appropriate mitigation to effectively manage VOC emissions from the site which represents best available techniques in line with the requirements of our guidance. We there consider the site to satisfy the requirements of the HPA and present an insignificant risk to local air quality. Please

refer to page 21-22 of this document for further information on how the site has taken action to address concerns regarding local health.

Response received from

Public response

Brief summary of issues raised

Concern regarding how odour will be monitored by the operator and why this is reliable based in current odour issues at the site.

Insisted the sites proposals should involve extensive monitoring 100% of the time.

Summary of actions taken or show how this has been covered

How will the site monitor odour emissions and their methods can be considered to be reliable

The operator has submitted a H1 risk assessment with their application which identifies the risk associated with the proposed operation. They have outlined how they will effectively mitigate the risk and have outlined appropriate monitoring proposals to ensure mitigation is effectively managing emissions.

The operator has outlined that odour will be monitored in line with their existing landfill odour management plan and their working instruction (QP76) for managing odour at the landfill site. This document outlines the routine monitoring the whole site will be subject to. Please refer to the key issues section of this document for further information on the monitoring procedures covering the entire landfill as outlined in instruction QP76.

In addition to the landfill odour management plans the soil treatment facility will also be subject to its own facility specific monitoring regime which will be managed in line with the operator's soil facility operation manual. This operations manual outlines how the site will undertake monitoring and reporting of gases and vapours. Site specific monitoring will ensure that emissions can be easily identified from the soil treatment facility. It will allow the appropriate controls to be reviewed to manage odour emissions and prevent the soil facility contributing to general odour from the landfill site resulting in combination effects. In addition site specific monitoring will ensure any potential emissions that may be seen as low risk or insignificant by general monitoring of the landfill site are taking into account preventing any contribution to the overall odour emissions from the site. Please refer to the key issue section of this document which outlined the site specific measures to be implemented.

The operator also has confirmed that the management of the soil treatment facility will be in line with the requirements of sector guidance note S5.06. This guidance outlines monitoring requirements, appropriate emissions benchmarks specific to wastes site of this nature of which the operator must comply with. For information on site-specific monitoring for the site please refer to the key issue section of this document. The operator has also confirmed that sampling and analytical monitoring methods will comply with the Environment Agency's monitoring certification scheme MCERTS. General monitoring methods will be in accordance with British standards or other recognised technique accepted for measurement of as agreed by the Environment Agency

Due to the present issues at the site and the concerns raised regarding in combination effect of odour from the soil facility and landfill, we have included a pre-operational condition in the permit. This condition requires the operator prior to commencing operation to submit to the Environment Agency a site-specific odour monitoring and management plan. This document shall outline all the specific measures in place at the soil treatment facility to prevent in combination odour emissions. This plan will bring together all the proposed monitoring and mitigation in the operators application to allow it to be easily implemented, reviewed and updated to effectively management emissions from the site. This management plan will work

along side the Landfill Odour management plan which covers the general emissions from the site.

As a result of the points above we consider the operators proposals to be in line with the requirements of our guidance and that the site will be effectively and reliably managed to prevent odour from the soil treatment facility causing odour issue or working in combination with emissions from the landfill.

Why the site is not monitored 100% of the time

The operator has outlined that they will undertake regular monitoring of the site in line with the requirements of sector guidance note S5.06 and this has been incorporated into their permit. This guidance outlines appropriate monitoring frequencies considered sufficient to effectively demonstrate whether emissions from the site are emitted beyond the site in significant amounts and if they could result in an impact on nearby receptors. We consider the operators proposal to represent the best available techniques to monitor emissions while not being unreasonably onerous for the operator.

Response received from

Public response

Brief summary of issues raised

Queried how the permit will be enforced in the event residents continue to be effected by pollution

Summary of actions taken or show how this has been covered

The site will be regulated in accordance with our published enforcement and sanctions guidance. Any actions taken will be fact specific.

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| Response received from |
| Public response |
| Brief summary of issues raised |
| <p>Concerns regarding usefulness of wind rose data stating that Ware town and estates are downwind for a significant percentage of the time. Reviewing general weather forecasts the wind direction appear to be in the direction of receptors e.g. south east and north west</p> <p>Queried the direction of the prevailing wind and odour transmission in relation to the town of Ware and the Residential area 'The Hyde'. Stated that smell from the current workings on the site is most prevalent when there is a south-westerly wind. When the wind is from the North or North-east, there is no smell.</p> |
| Summary of actions taken or show how this has been covered |
| <p><u>Concerns regarding usefulness of wind rose data</u></p> <p>The operator's odour assessment includes data from 11 months of wind rose data which comes from the landfill site weather station. To support this data the operator has also provided wind rose data from Stansted airport from 2004–2008. The Stansted data generally reflects the trends of the wind rose data taken from the Westmill Landfill weather station. The operator has produced wind direction modelling using these two sets of results and the data demonstrates that the general wind direction is from a southwest to west south west direction. The data suggests that wind from the north east, east and south east direction are infrequent (<5% of the time). To make the Stansted data set more accurate the wind rose modelling takes into account locate terrain data. The operator has used Stansted airport meteorological data as it is the closest most up to date and comprehensive wind rose data within the vicinity of the site approximately 20 km (north east).</p> <p><u>Prevailing wind and odour transmission</u></p> <p>Wind direction is reported from the direction it originates. The operator's odour modelling shows that the prevailing wind at this location originates from the south west and west south west so will travel roughly in a north easterly direction. The town of ware is located to the south – south east of the Westmill site and the Hyde is located to the south west of the site. Therefore when the prevailing wind originates from the south west direction its blows over the town of ware and the Hyde then travels across the soil facility carrying potential emissions in a north easterly direction.</p> <p>As the Hyde and the town of Ware are located to the south – south east of the soil treatment facility site they are not considered downwind of the landfill in the main prevailing wind and therefore should not be subject to significant odours transported from the Soil Treatment Facility.</p> <p>The operator's odour modelling shows that wind originating from the north and north east is weak and infrequent. Therefore the Hyde and the town of Ware are only downwind of the soil treatment for an insignificant period of time with low wind strength minimising the period the potential odour emissions may impact on nearby receptors.</p> |

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| Response received from |
| Public response |
| Brief summary of issues raised |
| Concern that operation will result in increase seagull numbers |
| Concern that present mitigation methods to control pests appear ineffective. |
| Summary of actions taken or show how this has been covered |
| The wastes the operator intends to accept at the soil treatment facility are not considered to be attractants for pest as they are mainly composed of soils and do not include municipal waste. The only potential source of putrescible waste is the green wastes used to drive the remediation process. Green waste will be added straight to biopiles therefore storage on site will be minimal prior to use. As a result we do not consider this activity to present a significant risk in regards to attracting or providing food and shelter for pests. Therefore the site will not work in combination with the landfill in regards to attracting pest. In the unlikely event there are issue with pests on the site a specialist contractor will be employed. |

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| Response received from |
| Public response |
| Brief summary of issues raised |
| Concerns regarding the sites current compliance and that presently emissions have not been effectively remediated. Query how the soil facility will not cause pollution and contribute to existing emissions |
| Concerns regarding relying on the operator to report breaches in emissions |
| Summary of actions taken or show how this has been covered |
| <u>Ensuring compliance</u> To demonstrate the operator can comply with the requirements of their permit they have appropriately outlined in their application how they intend to operate the soil treatment facility within the requirements our guidance and the conditions of the permit. The operator has also expanded on the mitigation already in place at the site proposing site-specific appropriate techniques to ensure the soil treatment facility does not contribute landfill emissions. Please refer to the key issue section of this document for more information. We have assessed the operator's proposed operating techniques and consider them to be in line with the requirement of our sector guidance note S5.06 and represent the best available techniques (BAT) for managing the site. The proposed operating techniques have been incorporated into the permit, therefore the operator will be required to demonstrate they have implemented the operating techniques we consider BAT at the site. As previous stated we have also inserted two pre-operational conditions into the permit which require the operator after construction of the site but prior to beginning operation to demonstrate to the Environment Agency that the facility construction and its operating techniques are in line with the BAT proposals outlined in the permit application. In the event the techniques proposed by the operator are unable to manage emissions to an acceptable level, there are conditions within in the permit that require the operator to update their management plans to ensure emissions form the site are within acceptable levels. Condition 2.3.1 (b) of the permit requires the operator if notified by the Environment Agency that their activity is giving rise to pollution to submit to the Environment Agency for approval a revised management plan. This plan will seek to appropriately manage the issues highlighted by the Environment |

Agency and if the proposal satisfies our guidance and we consider the measure appropriate the plan must be implemented at the site.

In the event the operator cannot demonstrate they have implemented the BAT techniques outlined in their application and management plans or they have not worked to improve their management plan as required by the conditions of the permit, giving rise to pollution beyond the boundary of the site, the Environment Agency will take enforcement action against the operator.

Reliance of operator to report emissions and non compliance

The operator is required by the conditions of this permit to appropriately monitor the emissions from soil treatment activity and to report the results and any non compliance with the permit to the Environment Agency. To ensure the operator is operating the site within the requirements of the permit we will undertake regular announced and unannounced inspections of the site. These inspections will check the operator is providing reliable data, is using the appropriate monitoring methods and is implementing effective operating techniques. In addition to these inspections we will also review the data reported by the operator to determine whether it is reasonable and accurate.

Complaints received by us will be investigated to determine the source. If there is reason to suggest the soil treatment facility is causing the complaints we will undertake inspections of the site to determine the emission source. If it is evident the operator's activity has resulted in emissions and they fail to report them or they have not implemented appropriate measures, the Environment Agency will seek to take enforcement action against the operator.

Response received from

Public response

Brief summary of issues raised

Concerns regarding the wording of this document using terms such as insignificant, minimal and mitigation. These terms do not suggest pollution will be completely eliminated by the mitigation and management in place at the site and allows the operator leeway in their compliance and suggests that the potential emissions from the site are unknown.

Summary of actions taken or show how this has been covered

The IED regulations require the prevention or where that is not practicable the reduction of emissions to provide a high level of protection for the environment as a whole. The wording used reflects that. An insignificant emission or impact that it is not practicable to prevent will not compromise a high level of protection.

Our guidance acknowledges that every waste management activity comes with a risk of producing emissions. It therefore requires an operator to demonstrate that they have taken all reasonable steps to reduce the risk of an emission occurring and in the event emissions do occur to reduce them to a level which will not cause pollution or adversely impact on sensitive receptors.

This is done by determining the significance of the risk (how likely it is to happen) and the significance of the emissions (how likely it is to be at a level which could cause a negative impact). The operator must demonstrate they can manage these risks to ensure an activity does not have a negative impact by implementing mitigation measures to reduce/minimise the likelihood of an emission occurring and the level at which they occur.

This terminology therefore does not offer the operator a 'leeway' in regards to compliance and production of emissions and does not suggest emissions are unknown.

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| Response received from |
| Public response |
| Brief summary of issues raised |
| Queried what happens in the event the operator identifies and reports an increase in emissions. Will they have to shut down the plant until the biofilter is working efficiently again? What steps will the Environment Agency take to control this |
| Summary of actions taken or show how this has been covered |
| In the event significant level of emissions are detected from the biofilter or process monitoring shows the biofilter is not operating at an optimum the operator will investigate the occurrence. They will report the occurrence to the Environment Agency and take remedial measures to prevent reoccurrence. These include adjusting the conditions within the biofilter to restore optimum treatment conditions or replacing the biofilter. Only if the operator is unable to demonstrate they can effectively manage emission via the use of the biofilter will the site be required to cease operations until effective mitigation is in place. |

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