

15.7.03.
SCANNED



ASiantaeth Yr
Amgylchedd Cymru
Environment
Agency Wales

**ENVIRONMENTAL PROTECTION ACT 1990.
SECTION 37**

**WASTE MANAGEMENT LICENCE
NOTICE OF MODIFICATION**

LICENCE REF No:- Resolution dated 3 June 1987 (EAWML30058)	FACILITY TYPE:- Waste deposit, keeping & treatment
LICENCE HOLDER: Newport City Council Civic Centre Newport Gwent NP9 4UR	LICENSED FACILITY: Docks Way Landfill Docks Way Maesglas Newport Gwent NP9 2NS

WHEREAS on the 3rd June 1987 the Borough of Newport issued a resolution (subsequently treated as a waste disposal licence and now to be treated as a waste management licence) in pursuance of its powers under Part 1 of the Control of Pollution Act 1974 for the above named facility to you.

AND WHEREAS on the 1st April 1996 the powers and duties of all waste regulation authorities in England and Wales transferred to the Environment Agency ("the Agency") by virtue of section 2 of the Environment Act 1995

AND WHEREAS on the 20th June 1997 the Agency modified the conditions of the said licence in pursuance of Section 37 of the Environmental Protection Act 1990

AND WHEREAS on the 26th July 2002 the Agency issued a licence informative to be treated as supplemental to the said licence

NOTICE IS HEREBY GIVEN that the Agency modifies the conditions of the said licence in accordance with Section 37(1)(a) of the Environmental Protection Act 1990 and as set out in the Schedule attached to this notice.

Signed 
DAVID WALTERS
Team Leader Environment Management

Dated 30/6/03

This modification shall take effect on 30 June 2003 at 00.01 hours

YOUR ATTENTION IS DRAWN TO THE RIGHTS OF APPEAL AT THE END OF THIS NOTICE.

Environment Agency Wales
Rivers House,
St. Mellons Business Park,
St. Mellons,
Cardiff,
CF3 0EY



SCHEDULE - CONDITIONS RELATING TO THIS MODIFICATION

For the purposes of modification of conditions in this schedule references to Area 1 and Area 2 shall refer to Phase 1 and Phase 2 respectively defined on drawing entitled WDS Docksway 1, dated July 2002.

Modification of conditions under section 37(1)(a) as follows:

Section 1 - General Considerations

Condition 9 deleted and replaced, Conditions 27 and 30 are deleted and Conditions 40, 41 42, 43 and 44 added as follows:

9. Staffing and understanding of requirements of licence conditions

Minimum staffing and supervision

- 9.1 Whenever the site is open to receive or despatch waste, or is carrying out any of the specified waste management treatment or disposal operations, it shall be supervised by at least one member of staff who is suitably trained and fully conversant with the requirements of the licence regarding:

- a) waste acceptance and control procedures;
- b) operational controls and environmental monitoring;
- c) maintenance;
- d) record-keeping;
- e) emergency action plans;
- f) notifications to the Agency.

Availability of licence

- 9.2 A copy of this licence shall be kept available on site for reference when required by all site staff carrying out work under the requirements of the licence.

Understanding of licence

- 9.3 All site staff shall be, or shall work under the direct supervision of a member of staff who is, fully conversant with those aspects of the licence conditions which are relevant to their specific duties.

40. Changes in technically competent persons

- 40.1 Any changes in the technically competent management of the site and the name of any incoming person together with evidence that such person has the required technical competence shall be submitted to the Agency in writing within 5 working days of the change in management. Technically competent management and technical competence shall be as defined under section 74 of the Environmental Protection Act 1990 and Regulations 4 and 5 of the 1994 Regulations.

41. Relevant convictions

Notification of relevant convictions

- 41.1 In the event of the Licence Holder and/or any relevant person being convicted of any relevant

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Modification Number: 02
Date of issue: 30 June 2003

offence and which is in addition to any already notified to the Agency, then full details shall be provided to the Agency within 14 days following sentencing, whether or not the conviction or sentence is subsequently appealed. Such details shall include, in respect of each relevant person (as defined in section 74(7) of the Environmental Protection Act 1990 or any subsequent amendments to that section), the nature of the offence, the place and date of conviction, and any fine or other penalty imposed.

Notifications of appeals against convictions

- 41.2 In the event that the Licence Holder and/or any relevant person lodges an appeal against any such conviction or sentence, the Licence Holder shall notify the Agency of this within 14 days of the lodging. The Licence Holder shall notify the Agency of the results of that appeal, within 14 days of the appeal being decided.

42. **Notification of preparatory works**

- 42.1 No preparatory works shall be undertaken until at least 7 days prior notice in writing has been given to the Agency of the intention to do so. The notification shall include details of what work is being done and when.

43. **Notification of commencement, cessation and recommencement of waste handling operations**

Cessation and recommencement of receiving wastes

- 43.1 In the event that the site ceases receiving wastes for longer than 14 days then within 7 days following the elapse of that time, the Licence Holder shall inform the Agency in writing of the date of cessation and of the planned date of recommencement. In the event that the site recommences receiving wastes sooner than the notified date then the Licence Holder shall give the Agency not less than 7 days prior notice in writing.

44. **Notifications and submissions to Agency**

- 44.1 Except where otherwise specified, all notifications and submissions to the Agency under the requirements of these licence conditions:

- a) shall be made in writing to the address specified by the Agency in writing at the time of issue of this licence, or as subsequently specified by written notification to the Licence Holder;
- b) shall quote the licence reference number and the name of the Licence Holder.

Section 2 – Site engineering for pollution prevention and control

Conditions 45, 46, 47, 48, 49, 50, 51, 52 and 53 are added as follows:

45. Engineering surveys

- 45.1 A network of stable, permanent survey control stations minimum four shall be established and maintained for the control of all survey work around the site within two months of the issue of this modification. The stations shall be referenced to Ordnance Survey National Grid co-ordinates, the grid alignment to be within +/-1 metre and Levels referenced to Ordnance Datum. The accuracy of horizontal control shall not be less than 1:20 000. The level values of adjacent stations shall agree to less than or equal to 0.005 metres. A schedule of descriptions, co-ordinates and level values of all control stations, together with details of Bench Marks used, shall be submitted in writing to the Agency within two months of the issue of this modification.
- 45.2 Within four months of the date of issue of this modification a topographical survey shall be carried out and submitted to the Agency, at annual intervals thereafter (unless otherwise agreed in writing by the Agency), and at the completion of restoration. The scale shall adequately show surveyed features and be at least 1:1250. The surveys shall be sufficient to produce plans that include all roads, structures, boundaries, monitoring points and all other relevant site features. The results of the survey shall be presented as a plan, including the immediate neighbouring landform or an indication of that landform. Plan positions of ground features to be shown to within 1 metre. Spot levels to 0.01m shall be shown at significant landform changes to a density to adequately indicate the true landform, no greater than 50 metre interval in open areas of even gradient, closer when indicating embankments, stockpiles, etc. A calculation of void space in cubic metres, taking account of settlement, shall be carried out at start and at each annual survey. The results of the survey and the calculation shall be submitted to the Environment Agency within one month of the survey being carried out.

46. Engineered landfill containment system for solid and liquid wastes (leachate and gas generating)

Provision of engineered landfill containment

- 46.1 Waste shall only be deposited in Area 2 when the design of an engineered landfill containment system has been agreed in writing with the Agency and constructed, completed, documented and recorded in accordance with condition 46.2 below.

Construction quality assurance of engineered landfill containment

46.2 No wastes shall be deposited in Area 2 unless:

- a) prior to construction, a Construction Quality Assurance Plan covering all elements of the engineered landfill containment system for that cell has been submitted in writing to the Agency and the Agency has given its written consent to it;
- b) prior to construction, details of the identities, relevant experience and relevant qualifications of the personnel who will be providing independent Quality Assurance of the construction have been submitted in writing to the Agency and acknowledged in writing by the Agency.
- c) the engineered containment system for that phase has been constructed and recorded in accordance with the Construction Quality Assurance Plan;

- d) all changes to the Construction Quality Assurance Plan, independent quality assurance, and detailed method statements have been notified in writing to the Agency, and the Agency has given its written consent to those changes;
- e) the Validation Report on the construction of the engineered containment system for that cell has been submitted in writing to the Agency and has been acknowledged in writing by the Agency.

47. Leachate management systems

- 47.1 Waste shall only be deposited in phases of Area 2, when the design of an engineered leachate management system for Area 2, with the capacity to manage leachate from other areas of the site, has been agreed in writing with the Agency and constructed, documented and recorded in accordance with conditions 47.2, 47.3 and 47.4 below.

Construction quality assurance of leachate management systems

- 47.2 No wastes shall be deposited in any phase of Area 2 unless:

- a) prior to construction, a Construction Quality Assurance Plan covering all elements of the engineered leachate management system for that cell has been submitted in writing to the Agency and the Agency has given its written consent to it;
- b) prior to construction, details of the identities, relevant experience and relevant qualifications of the personnel who will be providing independent Quality Assurance of the construction have been submitted in writing to the Agency and acknowledged in writing by the Agency.

- 47.3 Changes to the Construction Quality Assurance Plan, independent quality assurance, and detailed method statements shall not be implemented unless they have been notified in writing to the Agency, and the Agency has given its written consent to those changes.

- 47.4 Within one calendar month following completion of the specified engineering for a phase, the Validation Report on the construction of the engineered leachate collection and extraction system for that phase shall be submitted in writing to the Agency.

48. Groundwater protection

- 48.1 By 30 September 2003, and prior to disposal activities commencing in Area 2 the licence holder shall submit a written investigation and risk assessment for the whole site in accordance with conditions 48.3 and 48.4.

- 48.2 Waste shall only be deposited in Area 2 when the written investigation and risk assessment in accordance with condition 48.1 has been agreed in writing with the Agency.

Investigation and risk assessment under Regulation 15

- 48.3 The licence holder shall undertake an investigation to assess the actual and potential impact of discharges from the site in respect of Regulation 15 of the 1994 Regulations. The investigation shall include the following:

- a) any relevant site investigation and monitoring data already available and interpretation of that data;
- b) an examination of the hydrogeological conditions of the area in and around the site;
- c) an examination of the possible purifying powers of the soil and subsoil;

- d) an assessment of the risk of pollution and alteration of the quality of groundwater including

the risk of harm to other aquatic systems and ecosystems and the likelihood of impeding exploitation of groundwater resources from any discharge, whether direct or indirect, of list I or list II substances.

48.4 The results of the investigation shall be submitted in a written report to the Agency. The report shall include the following:

- a) recommendations of the essential technical precautions which must be taken, paying particular attention to the nature and concentration of the substances present in the matter being disposed of or tipped, the characteristics of the receiving environment and the proximity of the water catchment areas, in particular those for drinking, thermal and mineral water;
- b) recommendations of the technical precautions necessary:
 - i. In the case where groundwater is considered to be permanently unsuitable for other uses, to ensure that no substance in list I can reach other aquatic ecosystems or harm other ecosystems, to ensure that the presence of any list I substance once discharged into the groundwater will not impede exploitation of ground resources and to prevent pollution of groundwater by list II substances; and
 - ii. in the case where groundwater is not considered to be permanently unsuitable for other uses, to prevent any discharges into groundwater of substances in list I and to prevent any pollution of groundwater by substances in list II.

49. Site stability and settlement

Investigation and risk assessment

49.1 The licence holder shall undertake an investigation to establish the stability of Area 2 and those parts of Area 1 that influence the engineering design of Area 2 using as guidance Environment Agency Research and Development Technical Report P1/305. The investigation shall include the following:

- a) the conditions in which slippage of the waste mass and final landform, the containment bunds and slopes, or lining system may occur and the risk of such conditions occurring;
- b) the stresses, and hence deformations and strains, that that will be experienced in the ground beneath the landfill, in the mineral and geosynthetic lining materials and the leachate drainage system to demonstrate that the landfill design will not develop differential flow paths;
- c) Placement of waste to ensure that the overall structure remains stable and uncompromised by slippages.

49.2 The licence holder shall undertake an investigation to establish the stability of the waste mass and final landform of those parts of Area 1 falling outside the terms of condition 49.1.

49.3 The results of the investigations shall be submitted in a written report to the Agency. The report shall include recommendations of the essential technical precautions which must be taken to ensure stability of the existing landfill, engineered containment, waste and surrounding ground, in particular, the river bank during the engineering, filling and aftercare phases of the site.

49.4 The activities of disposal, or tipping for the purpose of disposal, of waste which are authorised

by this licence shall not commence in Area 2 unless the reports required in conditions 49.1 and 49.2 shows that there is no risk of slippage of the waste mass and final landform, the containment bunds and slopes, or the lining system occurring, and this has been accepted in writing by the Agency.

50. Landfill gas risk assessment

50.1 Within six months of the date of issue of this modification, and prior to disposal activities commencing in Area 2 the licence holder shall submit to the Agency a written landfill gas risk assessment for the entire site, to the satisfaction of the Agency. The risk assessment shall include:

- a) a detailed desktop study and preliminary identification of landfill gas sources, pathways and receptors;
- b) a site investigation with factual and interpretative reports, incorporating a qualitative and quantitative landfill gas risk assessment;
- c) a geological investigation shall be undertaken to establish the nature of the surrounding geology, and in particular, the presence of any permeable strata;
- d) recommendations of the essential technical precautions which must be taken.

51. Landfill gas management systems: landfill gas collection, extraction and disposal or use

Provision of landfill gas management system

51.1 Within ten months of the date of issue of this modification a landfill gas management system shall be provided for each existing phase and subsequently for all new phases. The objective of which shall be to collect, extract and dispose of or utilise landfill gas arising from the site in such a way that it does not cause pollution to the environment, harm to human health or serious detriment to the amenities of the locality.

Design and operational standards for landfill gas management system

51.2 The landfill gas management system for each phase shall be designed, constructed, operated, maintained and monitored to meet the design and operational standards specified in table 51A below.

Table 51A Design and operational standards for landfill gas management system

a) Landfill gas management system capacity and extent	The landfill gas management system shall have sufficient capacity and extent to enable the collection, extraction and disposal or use of the landfill gas which is generated at its maximum rate in that phase.
b) Landfill gas collection and extraction system	The landfill gas collection and extraction system shall be designed, constructed and maintained to: - withstand physical damage from the loading imposed by the waste, and any compaction operations working over the system; - be resistant to chemical attack in the landfill internal environment; - avoid damage to the engineered containment which may be caused through the installation or loading of the landfill gas management system; - control and manage landfill gas condensate.
c) Landfill gas treatment, disposal and utilisation	Except where a landfill gas utilisation system or alternative system of disposal has been implemented and is being operated and maintained in accordance with the other conditions of this modification, landfill gas collected and extracted from each phase shall be treated and disposed of through a landfill gas flaring system.
d) Operation, maintenance and review of landfill gas management system	- The landfill gas management system shall be operated and maintained to meet the standards specified in the other conditions of this modification for: - balancing the extraction system; and - limiting emissions from the site, landfill gas flaring system and any landfill gas utilisation system provided. - Telemetry shall be provided measuring temperature of the flare, and oxygen and methane in the input gas - Telemetry shall be maintained between the specified nominated person and any part of permanent landfill gas system and any landfill gas utilisation system provided, and shall be managed to provide immediate notification to specified nominated person, so as to ensure that failure of the system at any time is notified immediately to the site management. - A review of all component parts of the gas management system shall be carried out on an annual basis, to ensure that the system is continuing to meet its design and performance standards. The first review shall be carried out not more than one year following the date of its commissioning, and subsequent reviews shall be carried out not more than one year following the previous review. - A written report of each review and its results shall be submitted in writing to the Agency within one calendar month of the review being completed.
e) Action plan for failure of, or damage to components of, the landfill gas flare and any landfill gas utilisation scheme provided	In the event of detection of a failure of a landfill gas flare or any landfill gas utilisation system provided, or of damage to their components: - the Agency shall be notified immediately; and - the flare or utilisation system shall be repaired or replaced within 6 hours, unless otherwise agreed in writing by the Agency.

Design report on landfill gas management system

- 51.3 Within seven months of the issue of this modification the licence holder shall submit to the Agency a written design report for the existing landfill gas management system, which shall include the information set out in table 51B below.
- 51.4 Prior to the installation of a landfill gas management system in a phase, the licence holder shall submit to the Agency a written design report detailing the proposed engineered landfill gas management system, which shall include the information set out in table 51B below. Following written agreement by the Agency of the design report, it shall be incorporated into the working plan. No waste shall be deposited in any new phase unless the design report for that phase has been submitted.

Table 51B Details to be included in report on landfill gas management system

a) Landfill gas management system infrastructure	Description, including design specification and scale drawings and plans, for: i. any additional landfill gas barriers which are to be provided, other than those specified in the existing engineered landfill containment system for that phase; ii. landfill gas collection and extraction pipes; iii. protection systems for landfill gas collection pipes; iv. pumping systems for landfill gas, including any storage systems prior to treatment and disposal or use.
b) Operation of the system	Description of how the landfill gas management system will be: i) operated; ii) maintained in accordance with the manufacturers' or designers' recommendations/ specifications - this shall include a maintenance programme giving frequencies and subjects of inspection, with procedures, responsibilities, actions and deadlines for routine replacement and repair in the event of failed, defective or damaged components.
c) Treatment and disposal or utilisation systems for landfill gas	Description, including design specification and scale drawings and plans, for: i) landfill gas flaring systems; ii) landfill gas power units, where these are to be provided; iii) alternative treatment or disposal systems, where these are to be provided.

Construction quality assurance of landfill gas management system

- 51.5 Prior to construction of the landfill gas management system for each phase a Construction Quality Assurance Plan covering all elements of the engineered landfill gas management system for that phase shall be submitted in writing to the Agency. No waste shall be deposited in any new phase unless the CQA Plan for that phase has been submitted to the Agency and agreed in writing by the Agency.

- 51.6 Prior to the construction of the landfill gas management system for each phase, details of the identities and relevant qualifications of the personnel who will be providing Quality Assurance of the construction shall be submitted to the Agency.
- 51.7 The engineered landfill gas management system for each phase shall be constructed and recorded in accordance with the Construction Quality Assurance Plan.
- 51.8 Changes to the Construction Quality Assurance Plan and quality assurance personnel, shall not be implemented unless they have been agreed in writing by the Agency.
- 51.9 Within one month following completion of the landfill gas management system for each phase, the Validation Report on the construction of the engineered landfill gas collection and extraction system for that phase shall be submitted in writing to the Agency.

52. Engineered surface water management systems

Provision of engineered surface water management systems

- 52.1 Within four months of the date of issue of this modification, the licence holder shall submit to the Agency for approval a design for the engineered surface water management for Area 1 in accordance with the standards specified in table 52A below.
- 52.2 Waste shall only be deposited in Area 2 when the design of the engineered surface water management system for Area 2 has been agreed in writing with the Agency and constructed, completed, documented and recorded in accordance with standards specified in table 52A and condition 52.5, 52.6, 52.7 and 52.8 below.
- 52.3 Engineered surface water management systems for each phase shall be provided, which shall have been constructed, completed, documented and recorded in accordance with the standards specified in table 52A and conditions 52.5, 52.6, 52.7 and 52.8 below.
- 52.4 The engineered surface water management system provided for each phase shall be operated and maintained, and fully documented and recorded in accordance with the standards specified in table 52A below.

Table 52A Surface water management system standards

Surface water management system	Specified standards
Design of surface water containment system	The surface water management system shall be designed to: - segregate surface water runoff which is uncontaminated from surface water runoff which is potentially contaminated by operational activities, - control egress of surface water from the site and prevent surface water ingress to the site, and - prevent surface water damage to final landforms on the site.
Construction and installation of surface water management systems	The surface water management system shall be constructed in accordance with a construction quality assurance plan to achieve the design standards above.
Operation of surface water management systems	The surface water management system shall be installed within three months of the design being approved by the Agency in writing.
Inspection and maintenance of surface water management systems	The surface water management system shall be inspected on a daily basis for blockages, defects or damage. Blockages shall be remedied the same working day they are detected, damage and other defects shall be remedied as soon as practicable.
Location of surface water monitoring points	A surface water monitoring point shall be established at the point of discharge of surface water from the site. The location shall be clearly identified on a site plan and provided with a permanent marker on site. The monitoring point shall be visually inspected on a daily basis for evidence of suspended solids. In the event of any discharge of solids immediate measures shall be taken to trace the source of solids and to minimise the effects of the discharge.
Records	A record shall be made in the site diary of all inspections of the surface water management system together with details of any blockages damages or defects, and of the remedial action taken.

Construction quality assurance of engineered surface water management systems

52.5 Prior to construction of the surface water management system:

- a) A Construction Quality Assurance Plan covering all elements of the engineered surface water management system for that phase shall be submitted in writing to the Agency and the Agency shall have given its written consent to it;
- b) Details of the identities, relevant experience and relevant qualifications of the personnel who will be providing Quality Assurance of the construction shall have been submitted in writing to the Agency and acknowledged in writing by the Agency.

52.6 Prior to commissioning of the engineered surface water management system a Validation Report on the construction of the engineered surface water management system for that phase has been submitted in writing to the Agency, and the Agency has confirmed in writing that it has no objection to the deposit of waste in that phase.

52.7 The engineered surface water management system for that phase shall be constructed and recorded in accordance with the Construction Quality Assurance Plan,

52.8 Changes to the Construction Quality Assurance Plan, and to the quality assurance procedures and detailed method statements shall not be implemented unless they have been notified in writing by the Agency, and the Agency has given its written consent to those changes.

53. Installation, maintenance and protection of final capping

53.1 By 30 September 2003 the licence holder shall submit a report to the Agency providing the following information:

- a) a site plan, drawn to scale indicating the areas of the site where a final cap has been installed;
- b) the final cap design specification for areas identified condition 53.1(a) above;
- c) a maintenance schedule.

Provision of final cap

53.2 Within 3 months of the Agency approving the Regulation 15 Assessment in accordance conditions 48.3 and 48.4 the licence holder shall submit in writing to the Agency, for approval, the design of an engineered cap for uncapped phases of Area 1, identified by the report required by condition 53.1.

53.3 No phase shall be left without a final cap for longer than six months or such longer period as may be agreed in writing by the Agency after the final level of waste has been attained.

Construction quality assurance of final cap

53.4 Within three months of the Agency approving the investigation and risk assessment under Regulation 15 in accordance with conditions 48.3 and 48.4 a Construction Quality Assurance Plan covering the final cap for that phase has been submitted in writing to the Agency for approval.

53.5 At least one month prior to the commencement of capping, details of the identities, relevant experience and relevant qualifications of the personnel who will be providing Quality Assurance of the construction have been submitted in writing to the Agency and acknowledged in writing by the Agency.

53.6 The engineered final cap for that phase shall be constructed and recorded in accordance with the Construction Quality Assurance Plan, approved by the Agency.

53.7 Changes to the Construction Quality Assurance Plan, and to the quality assurance procedures and detailed method statements shall not be implemented unless they have been notified in writing to the Agency, and the Agency has given its written consent to those changes.

53.8 Within one calendar month following completion of the final cap for each phase, the Validation Report on the Construction of the final cap for that phase shall be submitted in writing to the Agency.

Section 3 – Site infrastructure

Conditions 3 and 5 are deleted and replaced as follows:

3. Provision of site identification board

- 3.1 A site identification board shall be provided at or near the site entrance.
- 3.2 The site identification board shall be inspected at least once per week. In the event of damage or defect, the board shall be repaired or replaced within 3 working days.
- 3.3 The board shall be easily readable from outside the site entrance in daylight hours, and shall display the following information:
- a) Site name and address;
 - b) Licence Holder name (company name, not individual name unless justified as necessary);
 - c) Operator name (company name, not individual name unless justified as necessary);
 - d) Licence number;
 - e) Emergency contact name and telephone number (for security reasons, personal names and home phone numbers should not be used except where no alternative is practicable);
 - f) Statement that the site is licensed by the Environment Agency;
 - g) Agency national numbers: 0845 9333111 and 0800 807060;
 - h) Days and hours site is open to receive waste.

The location of the identification board should be such that it is clear that it does not designate areas outside the licensed site and does not encourage illegal tipping.

5. Site security

- 5.1 Site security systems shall be provided at all times during the subsistence of this licence, the objective of which shall be to prevent access by humans and livestock which is not authorised either by the licence holder or under legal powers of entry. These shall be installed, operated and maintained, and shall be fully documented and recorded, in accordance with the standards specified in Table 5A:

Table 5A Site security system standards

Site security system	Specified standards
Design standards	Unless otherwise agreed in writing by the Agency this shall consist of a chainlink security fence at least 1.8 metres high around the perimeter of the site, excluding the side bounded by the River Ebbw, and with a lockable gate at the site access, to prevent unauthorised vehicular or pedestrian access.
Operational standards	The site shall be kept closed and secure at all times when unattended.
Maintenance standards	The site security shall be fully inspected at the commencement of each working day. Any defects or damage shall be made secure by temporary repair by the end of the working day, and shall be repaired within 7 working days of the damage being detected. All inspections, defects, damage and repairs shall be recorded in the site diary.

Section 4 – Site operations

Condition 16 is deleted and replaced, Conditions 54, 55 and 56 are added as follows:

16. Waste discharge and emplacement

Methods and procedures of waste discharge and emplacement

- 16.1 No wastes shall be deposited in any part of the landfill other than in accordance with the methods, procedures and standards specified in table 16A below.

Table 16A Waste discharge and emplacement system standards

Waste discharge and emplacement	Specified standards
Methods	i) Waste shall be deposited in a progression of phases. ii) Waste shall be spread into a layer immediately following deposit and levelled using suitable compaction equipment. iii) Waste shall be laid to a fall such that surface water is conducted to the engineered surface water drainage system.
Working areas	Tipping faces and flanks shall not exceed 2 metres in height.

54. Fires on the site

Prohibition of unauthorised fires on site

- 54.1 No wastes shall be burned on the site.

Actions to be taken in the event of a fire

- 54.2 In the event of a fire on the site, notwithstanding any actions taken to suppress or extinguish the fire, the following actions shall be taken immediately and recorded in the site diary:

- a) the Agency shall be informed of the fire;
- b) so far as practicable contaminated site drainage shall be prevented from entering the site surface water management system, drains, watercourses or unsurfaced ground.

55. Use of daily and intermediate cover

Daily cover

- 55.1 The working surface of phases of the site use for the deposit of biodegradable wastes shall be treated so that by the end of the working day all parts of such wastes deposited are covered to prevent windblown litter, odours and to deter scavengers, birds and vermin.

Intermediate cover

- 55.2 In the event that no wastes are deposited in a phase within 7 days of the previous deposit, the surface of the site shall be provided and maintained with an intermediate cover of sufficient thickness and durability that no waste is exposed, that no uncontrolled aerial releases occur, and to a suitable gradient to ensure that excess rainfall is shed from the surface of the site into the surface water management system.

55.3 No wastes shall be deposited on the intermediate cover, other than those required to form part of the engineered final cap and its protection.

56. **Removal of residual wastes from site**

56.1 In the event that the specified waste management operations on the site cease and the Agency has reasonable grounds to believe that they will not be resumed within 2 months, then, notwithstanding the operational limits on storage times of wastes specified in the other conditions of this licence, the licence holder shall ensure that all wastes remaining on the site shall be removed by the date specified by the Agency in writing. This shall not apply to any wastes which have been disposed of on the site in accordance with the other conditions of this licence or prior to the issue of this licence.

Section 5 – Pollution control, monitoring and reporting

Conditions 57, 58, 59, 60 61, 62 and 63 are added as follows:

57. Monitoring and balancing of landfill gas extraction

Provision of monitoring system for the landfill gas extraction system

- 57.1 Within eight months of the date of issue of this modification for each phase, and for all new phases, an extraction landfill gas monitoring system shall be provided in accordance with the following requirements of this condition. The objective of the landfill gas extraction monitoring system shall be to monitor the landfill gas being extracted from that phase, and to enable the operation of the landfill gas collection and extraction system to be balanced against the landfill gas generated from that phase.

Design and operational standards for monitoring landfill gas extraction system

- 57.2 The extraction landfill gas monitoring system provided for each phase shall be designed, constructed, inspected, maintained, documented and recorded to meet the standards specified in table 57A below, unless otherwise agreed in writing by the Agency.

Table 57A Standards for monitoring landfill gas extraction system

a) Design of monitoring points for landfill gas extraction	i.	At least one monitoring point shall be installed on the well side of the valve for each extraction well or manifold.
	ii.	Each monitoring point shall permit a representative sample of landfill gas to be taken at any time.
b) Construction and installation of monitoring points		Each monitoring point shall be secure and protected from damage or vandalism.
c) Inspection and maintenance of monitoring points	i.	Monitoring points shall be inspected for defects and damage during each routine monitoring exercise.
	ii.	Defects and damage shall be noted in the site diary, remedial measures shall be undertaken as soon as possible and in any case within 1 month.
d) Records		A record shall be kept in the site diary of all remedial actions undertaken.

Design report on monitoring system for landfill gas extraction system

- 57.3 Within seven months of the date of issue of this modification for each phase, and for all new phases, the licence holder shall submit to the Agency a written design report detailing the proposed system, which shall include the information set out in table 57B. Following written agreement by the Agency of the submission of the design report, it shall be incorporated into the working plan.

Table 57B Details to be included in design report on monitoring system for the landfill gas extraction system

a) Extraction landfill gas monitoring points design	Description, including design specification, scale drawings and location plans.
b) Operation of the monitoring points	Description of how the monitoring points will be: i) operated; and ii) maintained in accordance with the manufacturers' or designers' recommendations/ specifications - this shall include a maintenance programme giving frequencies and subjects of inspection, with procedures, responsibilities, actions and deadlines for repair and replacement in the event of failed, defective or damaged components.

Construction quality assurance of monitoring points for landfill gas extraction system

- 57.4 Within seven months of issue of this modification the licence holder shall submit in writing to the Agency for approval, in accordance with condition 51.5, a report providing the following details covering all elements of the existing monitoring points for the landfill gas management system:
- a) a Construction Quality Assurance Plan;
 - b) identities, relevant experience and relevant qualifications of the personnel who provided Quality Assurance of the construction;
 - c) a Validation Report for the construction.
- 57.5 Prior to installation of the extraction landfill gas monitoring points for a phase, a Construction Quality Assurance Plan covering those monitoring points shall be submitted in writing to the Agency and agreed in writing by the Agency.
- 57.6 Prior to installation of the extraction landfill gas monitoring points for a phase, details of the identities, relevant qualifications of the personnel who will be providing Quality Assurance of the installation shall be submitted to the Agency.
- 57.7 The extraction landfill gas monitoring points for each phase shall be installed and recorded in accordance with the Construction Quality Assurance Plan.
- 57.8 Changes to the Construction Quality Assurance Plan, quality assurance personnel, and detailed method statement shall not be implemented unless they have been agreed in writing by the Agency.
- 57.9 Within one month following completion of the any extraction landfill gas monitoring points for each phase, the Validation Report on the construction for that phase shall be submitted in writing to the Agency.

Quality assurance plan for monitoring of landfill gas extraction

- 57.10 Within eight months of the date of issue of this modification the licence holder shall submit in writing to the Agency a quality assurance plan for the monitoring of landfill gas extraction, which shall meet the standards specified in table 57C below

Table 57C Standards for quality assurance plan for monitoring of the Landfill gas extraction system

Landfill gas monitoring and sampling records	Specified standards
a) Quality assurance of monitoring and sampling	i) Monitoring shall only be carried out by suitably competent/qualified staff. ii) Validation of results shall be carried out by a designated quality assurer adequately experienced in landfill gas engineering. iii) Monitoring equipment shall be calibrated and serviced in accordance with the manufacturer's recommendations.
b) Making of records	Records shall include the following: i) Determinands monitored/sampled; ii) Specified details of measurements/samples to support analytical and QA requirements; including dates, times, locations, personnel undertaking monitoring; iii) Results of measurements/sample analyses, with error limits; iv) Interpretation and review of results; v) Validation of accuracy and validity of results, by designated quality assurer.
c) Submission of records	A copy of the quality assured records of each monitoring and sampling result shall be submitted to the Agency within 1 month of its being carried out.

Monitoring programme for landfill gas extraction system

- 57.11 Monitoring of landfill gas within the extraction system for each phase shall be carried out and recorded in accordance with the standards specified in table 57D below. Variation of monitoring frequencies and / or trigger levels can be dependent on stabilisation and performance profiling of wells and phases. Any proposed changes to the frequencies and / or trigger levels require prior agreement with the Agency and incorporation into the Working Plan.

Table 57D Standards for balancing and monitoring of extraction system

Landfill gas monitoring determinands at each well or manifold (unless stated)	Monitoring frequencies	Units and accuracies	Trigger levels for the complete landfill gas extraction system
Methane	Fortnightly from commissioning the extraction system	% $\pm$ 0.3%	<20% increase or decrease based on site specific conditions
Carbon dioxide	Fortnightly from commissioning the extraction system	% $\pm$ 0.3%	No trigger level – information enabling balancing of landfill gas extraction
Oxygen	Fortnightly from commissioning the extraction system	% $\pm$ 0.1%	>5% at each well
Flow rate or suction	Fortnightly from commissioning the extraction system	m ³ /h or ($\pm$) mbar	No trigger level – information enabling balancing of landfill gas extraction
Openness of valve aperture (for use on manifold systems)	Fortnightly from commissioning the extraction system	% open	No trigger level – information enabling balancing of landfill gas extraction
Composition [including trace components] of raw landfill gas from the extraction line, prior to the disposal system	6 monthly	μ g/m ³	No trigger level – information supporting analysis of landfill gas generation and emissions from the site
Temperature (at each well head) [delete if design of well head does not allow it]	Fortnightly	°C $\pm$ 0.5°C	No trigger level – information enabling monitoring of landfill gas extraction

Landfill gas extraction balancing

- 57.12 In the event that any of the results of the landfill gas extraction monitoring exceed the relevant trigger levels specified in table 57D above, immediate action shall be taken to balance the system to ensure that the measured values are maintained in accordance with the specified trigger levels.

58. **Monitoring and reporting of emissions from landfill gas flares**

Quality assurance plan for monitoring of flare emissions

- 58.1 Within eight months of the date of issue of this modification for the existing landfill gas flare, the licence holder shall submit in writing to the Agency a quality assurance plan for the monitoring of emissions from the flare, which shall meet the standards specified in table 58A below.

Table 58A Specified standards for quality assurance plan for monitoring of emissions from landfill gas flares

Monitoring and sampling records	Specified details
a) Quality assurance of monitoring and sampling	i) Monitoring shall only be carried out by suitably competent / qualified staff. ii) Monitoring equipment shall be calibrated and serviced in accordance with the manufacturer's recommendations. iii) A sample of emission gases shall be collected from each flare at least once per year and shall be subjected to laboratory analysis using gas chromatography or an alternative methodology agreed in writing by the Agency.
b) Making of records	Records shall include the following: i) Determinands monitored/sampled; ii) Specified details of measurements/samples to support analytical and QA requirements; including, dates, times, locations and personnel undertaking monitoring; iii) Results of measurements/sample analyses, with error limits; iv) Interpretation and review of results; v) Validation of accuracy and validity of results, by designated quality assurer.
c) Submission of records	A copy of the quality assured records of each monitoring and sampling result shall be submitted to the Agency within 1 month of its being carried out. If any of the monitoring points have not been sampled or any analysis not included, an explanation of this omission shall be included in the submission.

- 58.2 Prior to the commissioning and operation of the landfill gas flare for a phase, the licence holder shall submit in writing to the Agency a quality assurance plan for the monitoring of emissions from the flare, which shall meet the standards specified in table 58A above.

Emission monitoring and sampling programme

- 58.3 Upon commissioning of the landfill gas flare for a phase, and from then on, monitoring of emissions from the flare shall be carried out to measure and record the determinands specified in table 58B in accordance with the specified standards, and the measurements shall be made and recorded in accordance with the agreed quality assurance plan.

Table 58B Landfill gas flare monitoring programme – determinands and standards

Monitoring determinand	Monitoring frequencies	Units and accuracies	Trigger levels at NTP and 3% O ₂ , unless otherwise agreed in writing by the Agency
Unburned hydrocarbons	6 monthly from commissioning of flare system	mg/Nm ³ ± 1 mg/Nm ³	≥10 mg/Nm ³
Oxides of nitrogen (NO _x)	6 monthly from commissioning of flare system	mg/Nm ³ ± 1 mg/Nm ³	≥150 mg/Nm ³
Carbon monoxide (CO)	6 monthly from commissioning of flare system	mg/Nm ³ ± 1 mg/Nm ³	≥50 mg/Nm ³
Temperature	6 monthly from commissioning of flare system	°C ± 1%	≤1000°C.*
Retention time	6 monthly from commissioning of flare system	seconds ± 0.01 seconds	≤ 0.3 seconds*
Gas Flow Rate	6 monthly from commissioning of flare system	Cubic metres of landfill gas per hour ±1%	Minimum level recommended in the relevant design specification
Sulphur Dioxide (SO ₂)	Annually from commissioning of flare system	mg/Nm ³ ± 1 mg/Nm ³	No trigger level – information supporting analyses of results
Hydrogen Chloride (HCl)	Annually from commissioning of flare system	mg/Nm ³ ± 1 mg/Nm ³	No trigger level – information supporting analyses of results
Hydrogen Fluoride (HF)	Annually from commissioning of flare system	mg/Nm ³ ± 1 mg/Nm ³	No trigger level – information supporting analyses of results
Trace compounds & Furans / Dioxins	Annually from commissioning of flare system	µg/Nm ³ ± 1 µg/Nm ³	No trigger level – information supporting analyses of results

Note: NTP = Normal Temperature and Pressure at 0°C and 1013 mbar.

* Unless alternative performance criteria demonstrated to meet desired emission standards above.

Emissions monitoring action plan

58.4 Within eight months of the date of issue of this modification for the existing landfill gas flare and prior to the commissioning of each subsequent landfill gas flare, an emissions action plan shall be submitted to the Agency in writing which shall specify actions to be taken in the event that trigger levels are exceeded, or analysis indicates trend against background that is likely to exceed trigger levels.

58.5 In the event that any results exceed the relevant trigger levels specified in table 58B above:

- the results shall be notified to the Agency immediately; and
- the action plan shall be implemented immediately, and its implementation recorded in the site diary.

59. **Monitoring and control of landfill gas utilisation systems and alternative systems of disposal**

- 59.1 Within eight months of the date of issue of this modification, the licence holder shall submit in writing to the Agency a quality assurance plan and programme to maintain, monitor and control the emissions of the landfill gas utilisation systems and alternative systems of disposal to landfill gas flaring, in accordance with the emission standards specified in table 59A. Following written agreement by the Agency of the quality assurance plan and programme, it shall be incorporated into the working plan.

Table 59A Emission standards for utilisation plant.

Parameter	Monitoring frequencies	Emission standard referenced to NTP at 0°C + 1013mbar + 5%O ₂ (dry gas)
Nitrogen Oxides (NO _x)	First quarter annually	650 mg/m ³
Carbon Monoxide (CO)	First quarter annually	1500 mg/m ³
Total Volatile Organic Compounds (VOCs)	First quarter annually	1750 mg/m ³
Total Non-Methane Volatile Organic Compounds (NMVOCs)	First quarter annually	150 mg/m ³

Note: NTP = Normal Temperature and Pressure at 0°C and 1013 mbar
These standards are based on normal operating conditions and load.

- 59.2 Monitoring, maintenance and control of emissions from the utilisation system or alternative disposal system shall be carried out in accordance with table 59A unless an alternative has been agreed in writing with the Agency.

60. **Landfill gas monitoring and reporting external to the waste**

Provision of external landfill gas monitoring system

- 60.1 Within eight months of the date of this modification, for each existing phase an external landfill gas monitoring system and background gas monitoring system shall be provided in accordance with the following requirements of this condition. The objective of the external landfill gas monitoring system shall be to enable monitoring of the gases in the ground outside the waste body, so as to determine whether landfill gas is migrating from the site.

Design report on the external landfill gas monitoring system

- 60.2 Within six months of the date of this modification, the licence holder shall submit to the Agency a written report detailing both the external landfill gas monitoring system and the background gas monitoring system, which shall include the information set out in table 60A. Following written agreement by the Agency of the design report, it shall be incorporated into the working plan.

Table 60A Details to be included in report on external landfill gas monitoring system

a) Landfill gas monitoring system infrastructure	Description, including design specification, scale drawings and location plans, for any landfill gas monitoring boreholes which are to be provided outside the waste body.
b) Operation of the system	Description of how the external landfill gas management monitoring system will be: i) operated; ii) maintained in accordance with the manufacturers' or designers' recommendations/ specifications - this shall include a maintenance programme giving frequencies and subjects of inspection, with procedures, responsibilities, actions and deadlines for repair and replacement in the event of failed, defective or damaged components.

Design and operational standards for external landfill gas monitoring system

- 60.3 The engineered external landfill gas monitoring system provided for each phase shall be designed, constructed, inspected, maintained, documented and recorded to meet the standards specified in table 60B below.

Table 60B Standards for external landfill gas monitoring system

a) Design of external landfill gas monitoring system	The location, spacing and depth of boreholes shall be as specified in the agreed design report.
b) Construction and installation	Unless otherwise agreed in writing by the Agency: i) the installations shall consist of boreholes of a minimum diameter of 150mm, containing a rigid HDPE casing of minimum internal diameter of 50mm; ii) the annulus of the borehole shall be packed with non-calcareous pea gravel and completed at the surface with a gas tight seal; iii) the borehole casing shall consist of plain pipe through the gas tight seal and manufactured perforated pipe within the response zone of the borehole; iv) the borehole casing shall be completed at the surface with a removable gas tap, suitable for gas sampling, and these headworks shall be secure and protected from damage or vandalism v) each borehole shall be permanently labelled with a unique identification number vi) during construction of the boreholes a record shall be made of the subsurface geology encountered during drilling; and the geology shall be described by an appropriately qualified geotechnical engineer or similar person, who shall also provide a record of the 'as-built' dimensions of the monitoring installation.
c) Inspection and maintenance	i) Monitoring installations shall be inspected for defects and damage during each routine monitoring exercise. ii) Defects and damage shall be noted in the site diary, remedial measures shall be undertaken as soon as possible and in any case within 1 month. iii) A record shall be kept in the site diary of all remedial actions undertaken. iv) A review of the system shall be carried out on an annual basis, to ensure that the system is continuing to meet its design and performance standards. The first review shall be carried out not more than one year following the date of its installation, and subsequent reviews shall be carried out not more than one year following the previous review. v) A written report of each review and its results shall be submitted in writing to the Agency within one calendar month of the review being completed.

Construction quality assurance of external landfill gas monitoring systems

- 60.4 Within six months of issue of this modification the licence holder shall submit in writing to the Agency for approval, a report providing the following details covering all elements of the existing external landfill gas monitoring system:
- a) a Construction Quality Assurance Plan;
 - b) identities, relevant experience and relevant qualifications of the personnel who provided Quality Assurance of the construction;
 - c) a Validation Report for the construction.
- 60.5 Prior to construction of any fixed engineered components of the external landfill gas monitoring system associated with a phase, a Construction Quality Assurance Plan covering those elements of the external landfill gas monitoring system associated with that phase shall be submitted in writing to the Agency and agreed in writing by the Agency.
- 60.6 Prior to construction of the fixed engineered components of the external landfill gas monitoring system, details of the identities, relevant qualifications of the personnel who will be providing Quality Assurance of the construction shall be submitted to the Agency.
- 60.7 The fixed engineered components of the external landfill gas monitoring system for each phase shall be constructed and recorded in accordance with the Construction Quality Assurance Plan.
- 60.8 Changes to the Construction Quality Assurance Plan, quality assurance personnel, and detailed method statement shall not be implemented unless they have been agreed in writing by the Agency.
- 60.9 Within one month following completion of any fixed engineered components of the external landfill gas monitoring system for each phase, the Validation Report on the construction for that phase shall be submitted in writing to the Agency.

External landfill gas monitoring and sampling programme

- 60.10 Monitoring and sampling of landfill gas external to the waste body of each phase shall be carried out and recorded in accordance with the standards specified in table 60C below or otherwise agreed in writing with the Agency.

Table 60C Standards for external landfill gas monitoring and sampling programme			
Landfill gas monitoring determinands	Monitoring frequencies	Units and accuracies	Trigger levels
Methane	Monthly	% v/v and 0.3%	>1%
Carbon dioxide	Monthly, with methane monitoring	% v/v and 0.3 %	>1.5%
Oxygen	Monthly, with methane monitoring	% v/v and 0.3%	<18%
Atmospheric pressure	Monthly, with methane monitoring	mbar and to 1mbar	Not applicable
Differential pressure	Monthly, with methane monitoring	mbar and to 1mbar	Not applicable
Water level in the borehole	Monthly, with methane monitoring	Metres AOD	Not applicable

Monitoring and sampling records

- 60.11 A record of the external landfill gas monitoring and sampling results shall be made and submitted to the Agency in accordance with the standards specified in table 60D below.

Table 60D Standards for external landfill gas monitoring and sampling records

Landfill gas monitoring and sampling records	Specified standards
Quality assurance of monitoring and sampling	i) Monitoring shall only be carried out by suitably competent / qualified staff. ii) Monitoring equipment shall be calibrated and serviced in accordance with the manufacturers recommendations. iii) A sample of gas shall be collected during routine monitoring from at least one monitoring point annually and subjected to laboratory analysis using gas chromatography to confirm the accuracy of field measurements.
Making of records	Records shall include the following: i) Determinands monitored/sampled; ii) Specified details of measurements/samples to support analytical and QA requirements; including. dates, times, locations, personnel undertaking monitoring; iii) Results of measurements/sample analyses, with error limits; iv) Interpretation and review of results against trigger levels; v) Validation of accuracy and validity of results, by designated quality assurer.
Submission of records	A copy of the quality assured records of each monitoring and sampling result shall be submitted to the Agency within 1 month of its being carried out.

Emissions monitoring action plan

- 60.12 Within six months of issue of this modification an emissions action plan shall be submitted to the Agency. This action plan shall specify the actions to be taken in the event that trigger levels are exceeded or analysis indicates trend against background that is likely to exceed trigger levels, specified in table 60C above or such other levels as may be agreed in writing by the Agency following external background monitoring.
- 60.13 In the event that any results are not in accordance with the relevant trigger levels specified in table 60C above:
- a) the results shall be notified to the Agency immediately and
 - b) the action plan shall be implemented immediately, and its implementation recorded in the site diary.

61. Groundwater monitoring and reporting systems

Provision of groundwater monitoring system

- 61.1 Within one month of issue of this modification engineered groundwater monitoring systems shall be provided to enable monitoring of the groundwater outside the waste body or engineered containment system, in accordance with this condition.

61.2 The engineered external groundwater monitoring system provided for each phase shall be:

- a) designed, constructed, completed, and shall be fully documented and recorded; and
- b) inspected and maintained, and fully documented and recorded;

in accordance with the standards specified in table 61A below.

Table 61A Standards for groundwater monitoring and sampling system

Groundwater monitoring systems	Specified standards
Design of groundwater monitoring systems	A written design report shall be submitted to the Agency for approval prior to construction and installation providing details of the location, spacing and depth of boreholes.
Construction and installation of groundwater monitoring systems	Unless otherwise approved in writing by the Agency: a) the installations shall consist of boreholes of a minimum diameter of 100mm, containing a rigid HDPE casing of minimum internal diameter of 50mm; b) the annulus of the borehole shall be packed with non-calcareous pea gravel and completed at the surface with a gas tight seal; c) the borehole casing shall consist of manufactured slotted pipe within the response zone of the borehole and plain pipe through the gas tight seal; d) the borehole casing shall be completed at the surface with a removable lid, suitable for groundwater sampling, and these headworks shall be protected from damage with a lockable steel cover set in concrete; e) during construction of the boreholes a record shall be made of the subsurface geology encountered during drilling; and f) the geology shall be described by an appropriately qualified geotechnical engineer or similar person, who shall also provide a record of the 'as built' dimensions of the monitoring installation.
Inspection and maintenance of groundwater monitoring systems	a) Monitoring installations shall be inspected for defects and damage during each routine monitoring exercise. b) Defects and damage shall be noted in the site diary, remedial measures shall be undertaken as soon as possible and in any case within 1 month. c) A record shall be kept in the site diary of all remedial actions undertaken.

Construction quality assurance of groundwater management systems

61.3 Within one month of issue of this modification the licence holder shall submit in writing to the Agency for approval, a report providing the following details covering all elements of the existing groundwater monitoring system:

- a) a Construction Quality Assurance Plan;
- b) identities, relevant experience and relevant qualifications of the personnel who provided Quality Assurance of the construction;
- c) a Validation Report for the construction.

61.4 Prior to use of new engineered groundwater monitoring systems:

- a) a Construction Quality Assurance Plan covering all elements of the engineered groundwater monitoring system for the site shall be submitted in writing to the Agency, and the Agency shall give its written consent to it;
- b) details of the identities, relevant experience and relevant qualifications of the personnel who will be providing Quality Assurance of the construction shall be submitted in writing to the Agency and acknowledged in writing by the Agency;
- c) the engineered external groundwater monitoring system has been constructed and recorded in accordance with the Construction Quality Assurance Plan;
- d) changes to the Construction Quality Assurance Plan, quality assurance, and detailed method statements working plan shall be notified in writing to the Agency, and the Agency shall give its written consent to those changes prior to their implementation;
- e) the Validation Report on the construction of the engineered groundwater monitoring system shall be submitted in writing to the Agency within 1 calendar month following completion of the specified works and acknowledged in writing by the Agency.

Groundwater monitoring and sampling programme

- 61.5 Monitoring and sampling of groundwater external to the waste body or engineered containment system of each phase shall be carried out and recorded in accordance with the standards specified in table 61B below.

Table 61B Standards for groundwater monitoring and sampling programme

Determinands	Monitoring frequencies	Units
Water level	Monthly	mAOD
pH	Monthly	pH units
Temperature	Monthly	°C
Electrical conductivity	Monthly	µS/cm
Dissolved oxygen	Monthly	mg/l
Ammoniacal nitrogen	Monthly	mg/l
Chlorides	Monthly	mg/l
Sulphates	Quarterly	mg/l
Total alkalinity (as CaCO ₃ at pH 4.5)	Quarterly	mg/l
Total oxidised nitrogen	Quarterly	mg/l
Total organic carbon	Quarterly	mg/l
Total petroleum hydrocarbons (TPH)	Quarterly	µg/l
Organotin compounds	Quarterly	µg/l
Volatile organic compounds	Quarterly	µg/l
Na	Quarterly	mg/l
K	Quarterly	mg/l
Ca	Quarterly	mg/l
Mg	Quarterly	mg/l
Fe	Quarterly	µg/l
Mn	Quarterly	µg/l
Cd	Quarterly	µg/l
Cr	Quarterly	µg/l
Cu	Quarterly	µg/l
Ni	Quarterly	µg/l
Pb	Quarterly	µg/l
Zn	Quarterly	µg/l

Groundwater monitoring and sampling records

- 61.6 A record of the groundwater monitoring and sampling results shall be made and submitted to the Agency in accordance with the standards specified in table 61C below.

Table 61C Standards for groundwater monitoring and sampling records

Groundwater Monitoring and Sampling Records	Specified Standards
Quality assurance of monitoring and sampling	a) Monitoring shall only be carried out by suitably competent / qualified staff. b) Monitoring equipment shall be calibrated and serviced in accordance with the manufacturer's recommendations. The Groundwater monitoring report shall include: a) Groundwater monitoring and sampling quality assurance plan; b) Monitoring and sampling methodologies (including chain/audit trail of sample custody); c) Analytical methodologies and laboratory competence or accreditation, including units and accuracy of measurement; d) Training and competence of monitoring/sampling personnel.
Making of records	Details shall include the following: a) Determinands monitored and sampled; b) Specified details of measurements/samples to support analytical and QA requirements; e.g. dates, times, locations, other relevant parameters; c) Results of measurements/samples analyses, with error limits; d) Interpretation and review of results against trigger levels; e) Validations of accuracy and validity of results, by designated quality assurer.
Submission of records	A copy of the quality assured records of each monitoring and sampling result, with an interpretation of the results against background and trigger levels, shall be submitted to the Agency on a monthly basis, within 1 month of its being carried out, in the format specified below: a) In an electronic format to be agreed with the Agency; or b) In a format as detailed in the working plan.

Reference elevations for groundwater monitoring points

- 61.7 On installation of each groundwater level monitoring point, a reference elevation mark shall be permanently inscribed on the groundwater level monitoring point and levelled-in to Ordnance Datum.
- 61.8 If the value of the reference elevation mark is changed as a result of damage, alteration, extension or movement to a monitoring point, the mark shall be re-levelled. Re-levelling shall take place before the next monitoring round or within 2 weeks, whichever is the sooner.

62. Surface water quality monitoring and reporting systems

Provision of surface water monitoring system

- 62.1 Within four months of the date of issue of this modification the licence holder shall submit to the Agency for approval a scale plan indicating the locations of surface water quality monitoring points for Area 1.
- 62.2 Waste shall only be deposited in Area 2 when the design of the surface water monitoring system for Area 2 has been agreed in writing with the Agency.
- 62.3 Surface water samples shall only be taken at locations that are both physically marked and shown on a scale plan/drawing approved in writing by the Agency, to ensure that periodic measurements of water quality and level are taken at the same position.

Surface water monitoring and sampling programme

- 62.4 Monitoring and sampling of surface water in the vicinity of the site shall be carried out and recorded in accordance with the standards specified in Table 62A below.

Table 62A Standards for surface water monitoring and sampling programme

Determinands	Monitoring frequencies	Units
pH	Monthly	pH units
Temperature	Monthly	°C
Electrical conductivity	Monthly	µS/cm
Dissolved oxygen	Monthly	mg/l
Ammoniacal nitrogen	Monthly	mg/l
Chlorides	Monthly	mg/l
Chemical oxygen demand	Monthly	mg/l

Monitoring and sampling records

- 62.5 A record of the surface water monitoring and sampling results shall be made and submitted to the Agency in accordance with the standards specified in table 62B below.

Table 62B Standards for surface water monitoring and sampling records

Surface water monitoring and Sampling Records	Specified standards
Quality assurance of monitoring and sampling	The surface water monitoring report shall include: a) Surface water monitoring and sampling quality assurance plan; b) Monitoring and sampling methodologies (including chain/audit trail of sample custody); c) Analytical methodologies and laboratory competence or accreditation, including units and accuracy of measurement; d) Training and competence of monitoring/sampling personnel.
Making of records	Details shall include the following: a) Determinands monitored and sampled; b) Specified details of measurements/samples to support analytical and QA requirements; e.g. dates, times, locations, other relevant parameters; c) Results of measurements/samples analyses, with error limits; d) Interpretation and review of results against trigger levels; e) Validations of accuracy and validity of results, by designated quality assurer.
Submission of records	A copy of the quality assured records of each monitoring and sampling result, with an interpretation of the results against background and trigger levels, shall be submitted to the Agency on a monthly basis, within 1 month of its being carried out, in the format specified below: a) In an electronic format to be agreed with the Agency; or b) In a format as detailed in the working plan.

63. Monitoring and reporting of meteorological conditions

Provision of meteorological conditions monitoring system

- 63.1 From the date of issue of this modification meteorological monitoring shall be carried out in the vicinity of the site, in accordance with this condition and table 63A below.

Table 63A Standards for meteorological monitoring system

Meteorological condition to be monitored	Location of monitoring point	Monitoring frequency
Windspeed and direction	Site office	Recorded continuously
Maximum and minimum temperature, recorded at a specified time	Site office	Recorded daily
Rainfall	Site office	Recorded daily
Atmospheric pressure	Site office	Recorded daily

Meteorological monitoring records

- 63.2 A record of the meteorological conditions monitoring results shall be made in accordance with the standards specified in table 63B below.

Table 63B Standards for meteorological monitoring records

Meteorological monitoring Records	Specified Standards
Making of records	A copy of the monitoring results shall be made available for inspection by an authorised officer of the Agency at any reasonable time on request in the format specified below: a) In an electronic format agreed in writing by the Agency. b) In a paper copy format agreed in writing by the Agency.

Section 6 - Amenity management and reporting

Conditions 14, 17 and 26 are deleted and replaced and Condition 64 added as follows:

14. **Control, monitoring and reporting of dusts, fibres and particulates**

- 14.1 From the date of issue of this modification measures to control and minimise aerial emissions of dusts, fibres and particulates from the site shall be carried out throughout the operational life of the site and in accordance with the standards specified in table 14A below. Such measures shall be prevent releases in such quantities or concentrations that are likely to cause pollution of the environment or harm to human health or serious detriment to the amenity of the locality.

Table 14A Standards for monitoring and control of aerial emissions of dusts, fibres and particulates

Specified standards	
a) Monitoring	Visual monitoring of aerial emissions shall be carried out by site staff supervising waste handling operations.
b) Control: aerial emissions action plan	i) On detection or notification of visible aerial emissions that are or are likely to be transported beyond the site boundary, immediate action is to be taken to stop the waste handling operations giving rise to the emission and to suppress any aerial emission from deposited waste. ii) The incident and the remedial action shall be recorded in the site diary.

- 14.2 All emissions to air from the specified waste management operations on the site shall be free from visible concentrations of dusts, fibres or particulates as are likely to cause pollution of the environment or harm to human health or serious detriment to the amenity of the locality outside the site boundary, as perceived by an authorised officer of the Agency.

17. **Control of litter**

- 17.1 From the date of issue of this modification measures shall be implemented and maintained throughout the operational life of the site to prevent the escape of litter from the confines of the site.
- 17.2 In the event that litter does escape from the site, it shall be retrieved as soon as practicable and no later than the end of the following day.

26. **Control of pest infestations**

- 26.1 From the date of issue of this modification measures to control and minimise pests on the site, shall be carried out throughout the operational life of the site and in accordance with the standards specified in table 26A below. Such measures shall prevent pest infestations that are likely to cause pollution of the environment or harm to human health or serious detriment to the amenity of the locality.

Table 26A Standards for monitoring and control of pest infestations

Specified standards	
a) Monitoring for pest infestations	An inspection of the site for pest infestations shall be carried out at monthly intervals by the site supervisor, and shall be recorded in the site diary.
b) Control: pest control action plan	i) On detection or notification of pest infestations immediate action to be taken to secure the attendance of a professional pest control contractor to eliminate the pest infestation. ii) The incident and the remedial action shall be recorded in the site diary.

64. Control of scavenging birds and other scavengers

64.1 From the date of issue of this modification measures shall be implemented and maintained throughout the operational life of the site to control and monitor the presence of scavenging birds and other scavengers on the site, in accordance with the standards specified in table 64A below. The objective of these measures shall be to prevent scavenging birds and other scavengers from gathering on operational areas or scavenging wastes in such numbers that are likely to cause harm to human health or serious detriment to the amenity of the locality.

Table 64A Standards for monitoring and control of scavenging birds and other scavengers

Specified standards	
a) Monitoring of scavengers	Deposited and stored wastes which are likely to attract scavengers shall be routinely monitored for the presence of scavenging animals or flocks of scavenging birds, throughout the working day by the site supervisor and recorded in the site diary.
b) Control: scavengers action plan	i) On detection or notification of scavenging animals or flocks of scavenging birds, immediate action shall be taken to: • remove or deter them from the site, and • isolate and secure the wastes attracting the scavengers against further scavenging. ii) The incident and the remedial action shall be recorded in the site diary.

Section 7 – Site records

Conditions 65, 66, 67 and 68 are added and Conditions 33, 34, 35, 36 & 37 are deleted as

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follows:

65. Security and availability of records

Security of records

- 65.1 All records which are required to be made under the other conditions of this licence shall be maintained and kept secure from loss, damage or deterioration, and shall be kept in accordance with the requirements specified in table 65A below.

Availability of records

- 65.2 All records which are required to be made under the other conditions of this licence shall be made available for inspection at the place where they are kept immediately when required by an authorised officer of the Agency.

Table 65A Standards for keeping of site records

Site records	Specified standards
Wastes accepted at the site; Wastes rejected. And/or despatched from the site; Environmental monitoring records; Site diaries.	1. All records shall be stored either: a) on paper in a secure cabinet or cupboard; or b) on computer disc with a back up copy. 2. Records shall be kept for a minimum of two years.

66. Records of waste movements

Recording of wastes accepted and removed

- 66.1 A record shall be kept of all wastes received other than those wastes delivered by private householders and of all materials (wastes and recovered materials) removed from the site. The records shall include the following for each vehicle load of waste/material:

for waste received:

- a) origin of waste
- b) date received
- c) quantities in tonnes received and waste type
- d) nature of the waste (solid, liquid or sludge)

for waste/material removed:

- a) date removed
- b) quantities in tonnes removed and waste and/or material type
- c) destination of waste and/or materials removed
- d) nature of the waste and/or materials (solid, liquid or sludge)

Summary records of wastes accepted and removed

- 66.2 A summary record of the waste types and quantities accepted and removed from the site shall be made for each quarter of the financial year and shall be submitted to the Agency within one
- | | | |
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month of the end of that quarter. The summary record shall be in the format detailed in Appendix 1 or otherwise subsequently agreed with the Agency in writing.

67. Site diary

67.1 A site diary shall be kept secure and shall be available for inspection at the site when required by an authorised officer of the Agency. This shall include a record of the following events:

- a) start and finish of site preparatory works;
- b) start and finish of daily waste management activities on site;
- c) plant maintenance and breakdown;
- d) emergencies and actions taken;
- e) problems with wastes received and actions taken;
- f) site inspections including environmental monitoring by the operator, their findings and remedial responses;
- g) despatch of records to the Agency;
- h) severe weather conditions;
- i) technically competent management attendance on site; time onto site and time left site;
- j) complaints about site operations and actions taken;
- k) environmental problems and remedial actions;
- l) any other events indicated in the licence.

67.2 Each record shall be completed within 24 hours of the relevant event.

68. Periodic reporting of environmental performance

68.1 The Licence Holder shall provide the Agency on an annual basis by the anniversary of the issue of this modification each year, or such other time as is agreed in writing with the Agency, a report on the environmental performance of the site, which shall include the following information:

- a) an analysis and review of the results of environmental monitoring required under these conditions, with an interpretation of the trend of the results against background and trigger levels;
- b) a review of the risk assessment for the site, taking account of the findings under 'a)' above;
- c) where changes to the risk assessment are identified under b) above, a review of the risk management systems provided at the site.

Section 8 – Appendix to conditions

Appendix A Format for summary records of waste accepted and removed (Condition

68.1)

WML Number: Resolution dated 3 June 1987 (EAWML30058)
Modification Number: 02
Date of issue: 30 June 2003

Interpretation

In these conditions and their interpretation, unless the context otherwise requires, the following terms have the specified meanings:

“accepted”

for waste being delivered to the site, shall mean accepted as waste input to the site for storage and/or processing and/or disposal under the specified waste management operations;

“authorised officer of the Agency”

means any person(s) authorised in writing by the Agency pursuant to section 108(1) of the 1995 Act to exercise any of the powers specified in subsection (4) of that section;

“clinical waste”

has the meaning as defined in regulation 1(2) of the Controlled Waste Regulations 1992 or any statutory provisions amending or replacing them;

“consequences”

for **risk assessments** carried out within these conditions, means the adverse effects of harm as a result of realising a **hazard** which cause the quality of human health (other than health and safety of site staff or visitors to the site covered under the Health and Safety at Work Act 1974) or the environment to be impaired in the short or longer term;

“engineer”

for engineering works specified in these conditions, means a person who works in the relevant branch of engineering, as a qualified professional;

“engineered”

for works specified in these conditions, means carried out and completed using the relevant engineering process specified in these conditions;

“engineered landfill containment system”

means all elements (other than leachate and landfill gas management systems, and intermediate and final caps), relating to engineered liners for final disposal to land, and incorporating liners for individual cells and the site as a whole, and including methods of liner protection and leakage detection;

“engineered site containment and drainage system”

means all elements relating to engineered containment of activities on the site, other than final disposal to land, and incorporating site surfacing, bunding and drainage systems, buildings and fixed tanks;

“engineering”

for engineering works specified in these conditions, means the relevant process of design, construction or installation, quality assurance or validation or commissioning specified in these conditions;

“engineering survey”

means a survey carried out in accordance with recognised or approved standards by a suitably qualified competent person;

“environmental targets or receptors”

for **risk assessments** carried out within these conditions, shall mean identified human and environmental populations or components, as specified in these conditions or otherwise agreed by the Agency within these conditions;

“groundwater”

means any water contained in underground strata;

“hazard”

means a property or situation that in particular circumstances could lead to harm;

"immediately"

for carrying out of actions under the conditions, shall mean without delay and within a reasonable time, taking into account any more immediate direct action necessary to prevent or minimise risk to human health and the environment. For carrying out notifications to the Agency, shall also mean by the fastest effective means available (for example, telephone) and confirmed in writing within 1 working day (or such other time as may be agreed by the Agency within the conditions);

"inert waste"

means waste which when disposed of in or on land does not undergo any significant physical, chemical or biological transformation;

"landfill gas management system"

means all elements relating to landfill gas extraction from individual landfill cells and the landfill mass as a whole, and incorporating methods of landfill gas drainage, containment and the subsequent disposal system, whether it be a methane oxidation system, landfill gas flare, landfill gas engine(s) or otherwise, either on or off the site;

"leachate management system"

means all elements relating to leachate extraction from individual landfill cells and the landfill mass as a whole, and incorporating methods of leachate drainage, containment and the subsequent treatment and/or disposal system, either on or off the site;

"maintenance"

for engineering maintenance specified in these conditions, means the process of inspection, testing, repair of the relevant engineering works specified in these conditions;

"preparatory works"

means engineering works required prior to the carrying out of the activities authorised by this licence;

"probability"

means the quantified expression of chance, denoted either as:
the ratio or percentage of the occurrence of a particular event as one among a number of possible events;
or as the frequency of occurrence of a particular event in a given period of time;

"received"

for waste being delivered to the site, shall mean delivered to the site and undergoing the waste acceptance procedures specified in the working plan, including storage of those wastes during those procedures prior to acceptance of the waste;

"release pathways"

for **risk assessments** carried out within these conditions, shall mean the routes by which defined **hazards** may potentially realise their **consequences**, defined in terms of releases or emissions from the site that go beyond the site containment or boundary via one or more of the following routes, either directly or indirectly: **Land; Groundwater; Surface water; Atmosphere;**

"relevant offences"

are offences within the meaning of regulation 3 of the Waste Management Licensing Regulations 1994 or any statutory provisions or regulations amending or replacing them;

"risk"

means a combination of the **probability** and **consequences** of occurrence of a defined **hazard**;

"risk assessment"

means the systematic identification, analysis, estimation and evaluation within a defined **scope** of the defined **risks** of a particular activity, operation, process or design, carried out and reported by suitably qualified or competent persons, using recognised quantified or semi-quantified methods and techniques.

Unless otherwise agreed by the Agency within these conditions, a risk assessment shall include and record the following:
definition of the **hazards** associated with an activity, operation, process or design;
assessment of the **probability** of those **hazards** occurring;
determination of the potential **consequences** of those hazards for defined **environmental targets** or **receptors**, taking into account defined **release pathways** and defined protective measures;
evaluation of the potential **magnitude** of those consequences and the **probability** of their occurrence;

"scope of risk assessment"

means the boundaries of the **risk assessment** and the **risks** to be assessed within those boundaries, as defined in the conditions or otherwise agreed by the Agency within the conditions;

"special waste"

has the meaning as defined by regulation 2 of the Special Waste Regulations 1996 or any statutory provisions or regulations amending or replacing them;

"specified waste management operations"

means the waste management operations authorised by condition 1.1 of this licence;

"surface water management system"

means all elements relating to collection of rain water or surface water from individual landfill phases and the landfill site as a whole, and incorporating methods of water collection, containment and the subsequent treatment and/or disposal system, either on or off the site;

"surface water"

means any lake, pond, river or watercourse whether natural or artificial;

"the 1994 Regulations"

means the Waste Management Licensing Regulations 1994 and any statutory provisions or regulations amending or replacing them.

"the 2002 Landfill Regulations"

means the Landfill (England and Wales) Regulations 2002 and any statutory provisions or regulations amending or replacing them.

"the Agency"

means the Environment Agency;

"the Licence Holder"

means the Licence Holder specified in this licence or other person to whom the licence has been transferred in accordance with section 40 of the Environmental Protection Act 1990;

"the operator"

means a person who is in occupation of the site and has responsibility for carrying out day to day activities at the site;

"the site"

means the land, structures, plant and equipment to which this licence relates;

"time periods, e.g. annually, quarterly, monthly, per year, etc. "

Where periods are referred to in conditions, they shall be calculated in the following way:

annually or per year: 1 April to 31 March;

quarterly: 1 April to 30 June, 1 July to 30 September, 1 October to 31 December, 1 January to 31 March;

monthly: calendar month;

weekly: Monday to Sunday.

Where the issue of the licence does not coincide with the start of any of these periods, then any relevant limits for the first period shall apply pro rata;

"waste"

means controlled waste as defined in section 75(4) of the 1990 Act and the Controlled Waste Regulations 1992 or any statutory provisions or regulations amending or replacing them;

"working plan"

means the working plan identified in writing by the Agency at the time of issue of this licence and any subsequent amendments to it made in accordance

RIGHTS OF APPEAL

Section 43(1) of the Environmental Protection Act 1990 provides that:

Where, except in pursuance of a direction given by the National Assembly for Wales

- (a) an application for a licence or a modification of the conditions to the licence is rejected;
- (b) a licence is granted subject to conditions;
- (c) the conditions of a licence are modified;

the applicant may appeal about the decision to the National Assembly for Wales

Therefore if you feel aggrieved by the decision or any of the conditions to the licence as granted you may obtain the appropriate form on which to give written notice of an appeal from:-

The Planning Inspectorate
Crown Buildings
Cathays Park
CARDIFF
CF10 3NQ

TEL 029 20 823859
FAX 029 20 825150

This notice of appeal should be accompanied by the following information: A copy of the licence; a copy of any correspondence relevant to the appeal; a copy of any other document relevant to the appeal including, in particular, any relevant consent, determination, notice, planning permission, established use certificate or certificate of lawful use or development; and a statement indicating whether you wish the appeal to be in the form of a hearing or on the basis of written representations. You are also required to serve a copy of your notice of appeal, together with copies of any of the above documents that have accompanied your notice of appeal, on the Environment Agency (at the address below.) You should appeal within 6 months of the date that this notice takes effect but the National Assembly for Wales may allow notice of appeal to be given after the expiry of this time period.

Environment Agency Wales
Rivers House
St Mellons Business Park
St Mellons
Cardiff
CF3 0EY