BERKSWELL RECYCLING FACILITY

ENVIRONMENTAL MANAGEMENT SYSTEM

(Environment Permit No. EPR DB3508MA / BB3709CC)

BY

Berkswell Recycling Limited
Cornets End Lane
Meriden
Coventry
CV7 7LH

REVISION	DATE	DETAILS
D		
01	September 2014	Revision following EA review
02	September 2018	Updated
03	June 2020	Updated, extended permit area for wood yard
04	December 2021	Personnel changes & fuel tank volume

05	October 2023	Updated Change of ownership
06	July 2025	Change to Compost Oversize Arrangements

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1 Site Description and Characteristics

1.1 Site Description and Waste Management Operations

1.1.1 This document forms a site management system for Berkswell Recycling Facility.

1.1.2 The Berkswell Recycling Facility site management system aims to fulfil the conditions of a standard permit and has been prepared in accordance with the Environment Agency's document titled 'Develop a management system: Environmental Permits February 2016 (updated April 2018). The information in the following sections provides details of: site plans and drawings; technical descriptions of the composting process and other processes on site; operational procedures to minimise the risks associated with composting operations and other processes; and established recording systems for document and information control. In addition, a generic risk assessment has been included that sets out actions and management procedures to minimise and mitigate potential impacts on the environment and harm to human health. The Company has an
Environmental Policy (See Statement Appendix I), as well as being accredited with ISO 9001, ISO 14001 and ISO 45001 (See Appendix J). This allows the Company to be audited externally to ensure that the systems and procedures in place provide the level of compliance required for environmental protection and permit compliance as well as working towards improvement plans for Environmental objectives and compliance.

1.1.3 The site is now regulated under an Environmental Permit No. EPR/DB3508MA with an associated Site Management System.

1.1.4 Berkswell Recycling facility is situated at Berkswell Quarry, Cornets End Lane, Meriden, CV7 7LH. Berkswell Quarry is a working sand and gravel quarry and Berkswell

Recycling Limited's site is a permitted wood and composting facility for the processing of wood and green waste. The facility is situated on an area of the quarry that was formerly used for silt ponds. The site at present lies broadly level with the surrounding land which has an elevation between 96 & 99m AOD. The site location is shown on Figure 1, in a rural & partly residential setting.

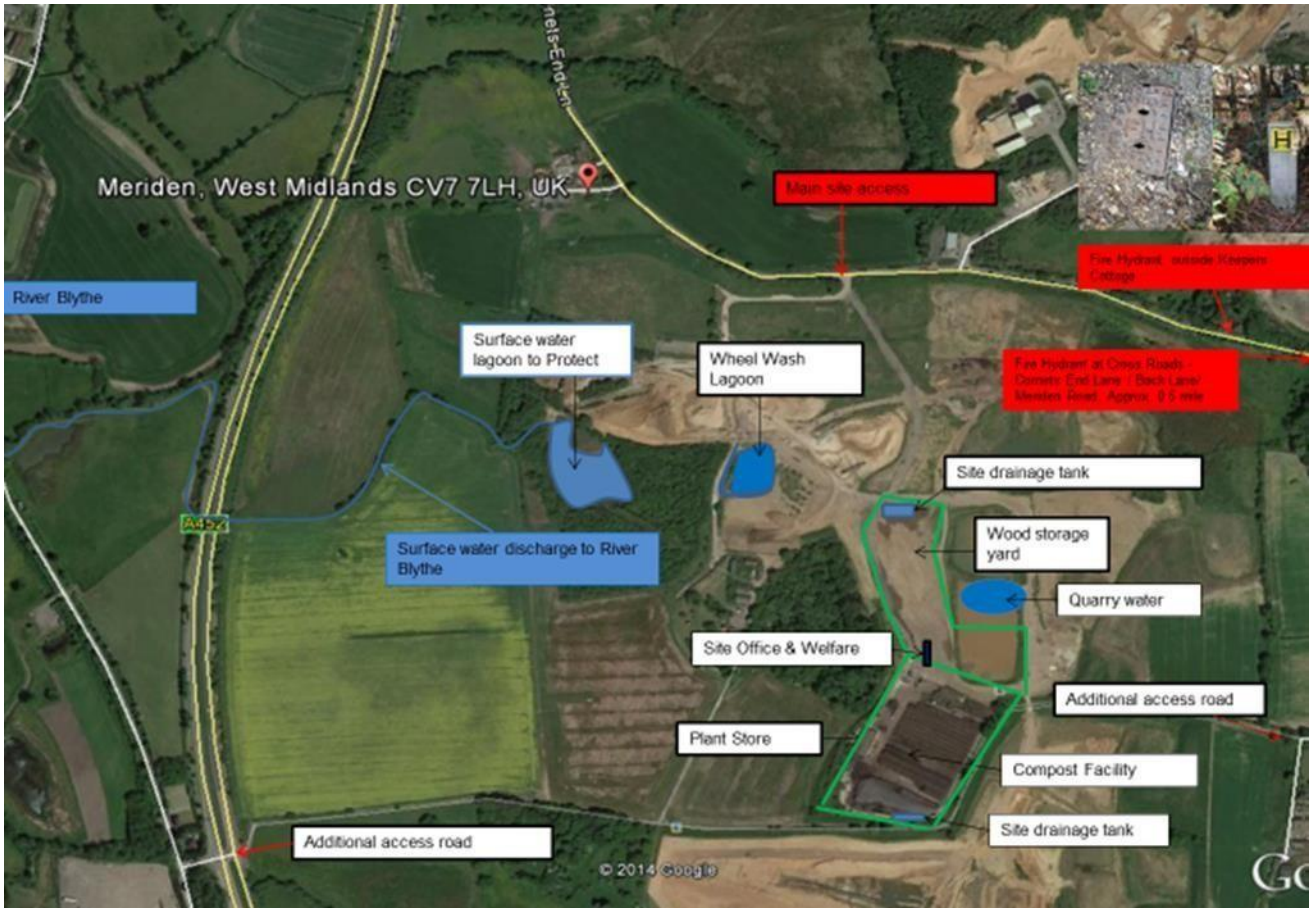

Figure 1 – Site location

1.1.5 The facility infrastructure includes: landscaped perimeter bunds (providing visual screening and noise attenuation); clear delineation of operational areas; concrete and asphalt hard standing areas for composting, storage and site access; approved site drainage system for all site operations; and provision of a weighbridge and welfare room.

1.2 Permitted Wastes

1.2.1 The input of wastes to the composting and wood facility has been set out in Environmental Permit and sections 5.20(A)1 of the Site Management System.

1.3 Hours of Operation

1.3.1 In accordance with the site's Planning Permission, operating hours for reception and processing of waste, are set out in Condition (2).

1.4 Staffing and Requirements of Permit Conditions and Site Management System

1.4.1 The recycling facility will be directly manned by at least one operative in addition to a suitably qualified site manager/supervisor with the relevant WAMITAB qualification. Wayne Westwood is a technically competent manager and WAMITAB qualified based at the Facility. Other key operatives are training for technical competence to assist and learn from site operations. Those trained will be conversant with the requirements of the Environment Permit and Site Management System, with particular regard to:

- Waste acceptance/rejection procedures
- Operational controls
- Maintenance procedures
- Health and safety
- Quality of products
- Record keeping
- Emergency Action Plan
- Notification to the Environment Agency and other regulatory authorities

1.4.2 A copy of the Environmental Permit and Site Management System will be kept at the site office available for reference by all site staff, other company staff, Environment Agency and other regulatory authorities.

1.4.3 The person designated as the site manager will be technically competent. The technically competent site staff includes the following:

Wayne Westwood (Site Manager) – WAMITAB cert No. 601/8528/4

1.4.4 The normal staffing level of the site will be and has been set out in more detail in section 8.1.4.:

- 1 No. Site Manager/Supervisor with appropriate qualifications and experience (with relevant WAMITAB qualification)
- 1 No. Weighbridge/DOC Operator
- 3 No. Machine Operators with appropriate training and experience

1.4.5 The minimum site staffing level for operational purposes will be:

- 1 No. Site Supervisor
- 1 No. Weighbridge Operator (when materials are brought onto site) • 1 No. Machine Operator

1.4.6 Details summarising the staff structure of the Company are detailed in Appendix K

2 Site Engineering for Pollution Prevention and Control

2.1 Engineering Site Containment and Drainage

2.1.1 The site has been designed to be operated in a clearly delineated area (see Figure 1. Waste will be stored, processed and screened within the delineated area.

2.2 Engineering Surface Water Management

2.2.1 Surface water runoff from the access roads and areas that are not used for the reception, processing and storage of waste will be collected in the perimeter site drainage system. A series of gullies will be located along the vehicle access roads (and turning areas) to collect the surface runoff. The collected runoff will drain to a collection chamber and be re-used where possible in the compost operations. All hard standing and engineering works will be carried out in accordance with Table S1.1 of the Environmental Permit.

The site will incorporate an impermeable pavement with drainage via underground tanks. The tanks have no outlets to prevent contaminated water entering surface water (e.g. following a fire). All waste storage areas will drain to the tanks. Waters from the tanks is to be treated through an RO Plant, to assist with re-using site waters on site.

The sealed drainage system, concrete pavements, storage tanks, bunds and waste storage and processing areas will be inspected weekly. Any repairs will be made as soon as practicable and, subject to the availability of replacement materials. Mitigation measures will be undertaken immediately, if there is a risk of pollution or harm.

2.2.2 There are no outlets from the site drainage pipes, the storage tanks are adequate to allow containment of rainfall events and potentially contaminated firewater on site.

The sealed storage tank system is used for site drainage from the impermeable surface. The water from the tank will be removed daily for use on site and tankered off site when required.

2.2.3 Alternatively, the runoff may be discharged to surface water with a discharge consent from the Environment Agency.

3 Site Infrastructure

3.1 Site Identification Board

3.1.1 An identification board made from a durable material will be erected at the site entrance. Should the damage occur to the board, it will be repaired or replaced within 7 days. This board will display the following information:

- Site name and address;
- Licence/Permit reference number;
- Berkswell Recycling Limited address and telephone number;
- Site opening times;
- Out of hours contact telephone number;
- Environment Agency's daytime and out of hours telephone numbers.

3.2 Site Access and Security

3.2.1 Berkswell Recycling facility has a single access point via the site access off Cornets End Lane.

3.2.2 The main entrance is secured with a pair of steel palisade gates across the full width of the entrance/exit lane.

3.2.3 The site security and fencing (at a height of 2m) will be sufficient for the current operations. The perimeter of the site will be secured with steel palisade fencing to a minimum height of 2m. In addition to this security, cameras and CCTV will be employed on 24-hour monitoring station basis.

3.2.4 The site office and weighbridge will be secured with 5 lever mortis lock.

3.2.5 All visitors will be required to sign in at the site office when arriving and leaving the site.

3.2.6 The condition of the fencing, gates and site office will be inspected on a daily basis as part of site management practices and recorded in a site register. Any damage will be reported to the site manager and where practicable, repairs will be carried out before the end of the working day. In the event of additional required work, it will be completed within 14 days.

4 Site Operations – Green Waste Composting

4.1 Operating Procedures

4.1.1 The composting facility will compost green wastes using open-air windrow process. All input materials (green waste and other organic wastes) received on site will be recorded in the site information system (weighbridge system).

4.1.2 Compost feedstock materials will be stockpiled in the compost reception area (for 72 hours maximum, it is normal practice to shred before the end of the working day), shredded and formed into windrows (approximate dimensions 4m high, 7m wide and 100m long with a separation of approximately 0.5m between each windrow). The windrows will be turned on a regular basis (typically once a week) throughout a minimum 4-6 week processing timescale. The turning frequency will be influenced by input quantities, moisture content, temperature, available processing area, oxygen content, weather conditions, seasonal variation of waste types and incorporation of woody material to build structure into the windrows. These conditions are assessed by the site manager on a daily basis.

4.1.3 Following the processing stage, the sanitised and stabilised compost will be screened to produce in two principal compost grades; 0-12mm, 12-40mm and oversize. Any oversize fraction will be stored on site in 3000m3 stockpiles with 6m fire breaks. prior to screening, windsifting, separating plastic, wood & stones. Plastic arising from the screening of the windrows will be Windsifted into the shed area covered building then stored until we have a full articulated load for disposal at a permitted facility. Wood fractions arising from the treatment of oversize will go into the front end of our green waste process & the stone will be used for haulroad maintenance. Stone fractions arising from the treatment of oversize will be used for haulroad maintenance. Throughout the storage of compost products, further maturation may occur (e.g. nitrification) and monitoring of temperature and moisture will be carried out on a weekly basis. Routine weekly monitoring of final products is carried out for quality assurance purposes.

4.2 Waste Acceptance and Control

4.2.1 Compostable wastes are sourced mainly from local and borough councils in the West Midlands area and typically comprise kerbside collection green waste and household waste recycling green waste. There is a small amount of commercial green waste from small landscapers and grounds maintenance companies. All wastes are assessed for their suitability with composting and the compliance with the PAS100 protocol for accepted waste types. All compostable waste arriving on site will be directed to the weighbridge situated adjacent to the site office. The description, nature and source of wastes, details of the waste carrier, waste type, source and quantity (tonnes) of waste will be recorded on the weighbridge computer system. The driver will be directed to the waste reception area, where a site operative will check the waste and ensure the carrier tips in the appropriate area. The waste will be further inspected prior to processing and the weighbridge notified of any relevant information (e.g. contamination of the waste).

4.2.2 The load will be rejected if, by subjective assessment, it contains more than a fixed quantity of contaminant (e.g. 5% by volume) of domestic waste or other contrary materials (e.g. glass, metal, paper, plastics and building rubble). Odorous waste will be assessed by the operators and site manager for their suitability and odour generating potential prior to acceptance on site. This will be verified by other site

staff that are not directly in contact with the compost (i.e. not desensitised). Any loads deemed to be excessively odorous will be rejected and details recorded in the site diary. The customer will be notified of such action (see Odour Management Plan Appendix B).

4.2.3 If the load is relatively free from contamination, any large items deemed non compostable or inappropriate for shredding will be removed and placed into a rejects container for disposal to landfill or recycling. Typically the contaminants will remain on site until a suitable quantity of waste for a load has been generated.

4.2.4 Any rejected load will be separated from the feedstock materials, photographed for records and the customer advised of the rejected load. Arrangements will be made for the collection of the waste or disposal to a suitably licensed facility, or additional processing. The rejected load will be recorded in the site diary and the Environment Agency notified of the rejected load and the rejects procedure on site.

4.2.5 The feedstock material will be evaluated to determine the specific processing requirements. Generally, shredded green waste feedstock materials provide a balance substrate for composting, with a carbon to nitrogen ratio greater than 15:1. However, at specific times of the year (i.e. summer), some adjustment or blending of the feedstock material with woody material (i.e. carbon to nitrogen ratio 100:1) may be required (e.g. excessive moisture, high grass content etc.).

4.2.6 The site will operate an information management system that will record the types, quantities, sources of waste received at the site. Shredding, processing data (temperature, oxygen, moisture and turning frequency records) and final end product screening and characterisation will be recorded.

4.2.7 Waste is tracked through the site so accurate records of the tonnages in processing and storage can be kept. This will allow good management of waste ensuring it is moved through the process and transferred off site in a timely manner. Waste will not be accepted where there is no capacity within the waste reception area.

4.3 Waste Processing (Shredding)

4.3.1 Green waste feedstock is stockpiled prior to shredding which will be carried out on a daily basis, unless otherwise agreed with the Environment Agency (i.e. machine failure, etc.). The potential failure of the equipment is effectively managed at Berkswell Recycling Facility through standard repair and maintenance contract with equipment suppliers. These contracts include regular servicing, routine repairs and emergency call with vehicle replacement where required. Contingency plans include hire of shredding and screening equipment during period of prolonged breakdown.

4.3.2 Shredding will be carried out with a specialist green waste shredder and will be carried out on a daily basis. The site manager will determine weather conditions and where adverse conditions prevail may temporarily restrict shredding operations. The most effective and efficient operation for this machinery is long uninterrupted

periods, and to reflect this operational characteristic, the shredder will process waste once sufficient quantities have accumulated.

4.3.3 Shredding and mixing of feedstock materials, where appropriate, will be carried out immediately to reduce the potential for any malodours.

4.3.4 Large objects and oversize material (e.g. tree trunks, root stock) will be removed from the green waste stream, if appropriate, and stored for separate or subsequent processing.

4.3.5 The shredded material will be formed into windrows and processed for a minimum period of 4-6 weeks. Moisture assessment of the windrows is set out in section 4.5 below.

4.4 Waste Processing (Mixing)

4.4.1 All loads of green waste are tipped off in the reception area. The operator of the shredder assesses the waste from each load to determine the suitability of the mixed green waste. This varies from seasonal fluctuations through Spring to Autumn. If the load possesses a high grass content – shredded oversize is selected from the storage pile and this mixed in at the ratios highlighted above i.e. 2 buckets of oversize to one bucket of high grass containing material – this is mixed together and then put through the shredder to add to the windrow.

4.4.2 The feedstock material will be evaluated to determine the specific processing requirements. Generally, shredded green waste feedstock materials provide a balance substrate for composting, with a carbon to nitrogen ratio approximately 30:1. However, at specific times of the year (i.e. summer), some adjustment or blending of the feedstock material with woody material (i.e. carbon to nitrogen ratio 40:1) may be required (e.g. excessive moisture, high grass content etc.). Where appropriate or deemed necessary by the site manager or other technically competent managers/operator, compost feedstock material may be mixed with other organic material (e.g. oversize material) to improve feedstock quality, physical characteristics and recycle screened products back through the process. The target carbon to nitrogen ratio of the green waste shredded mix will be in approx. 40:1. The C:N is limited by controlling the amount of the high nitrogen waste in the composting mix. In practice, this involves blending smaller amounts high nitrogen wastes (such as grass cuttings during summer months) with high amounts of woody green waste material and oversize material to produce a balanced feedstock material. Feedstock material will have a range of C:N ratios that will be blended and shredded to achieve the required mix. For example, grass cuttings (C:N ratio of 20:1) will typically be blended with wood green waste (C:N ratio 60) So 1 part grass cuttings to 2/3 parts green waste to produces a C:N ratio approximately 40:1

4.5 Waste Processing (Moisture Addition)

4.5.1 The moisture content of the composting feedstock material is a critical parameter for the sanitisation and stabilisation of the organic matter. The typical moisture content range for green waste is 40-50% (depending on seasonal fluctuations); yet shredded green waste is capable of holding considerably greater amounts of moisture. Moisture content checks of the shredded green waste will be carried out as part of the overall monitoring of the windrows.

4.5.2 Moisture content of the composting material in each windrow will be assessed daily during sanitisation and weekly during stabilisation by grasping and clenching the sample in a gloved hand for approximately ten seconds, then opening and assessing moisture content using Table 4.1 below.

Table 4.1. Moisture assessment index

Index number	Sample moisture behaviour	Interpretation
1	Water seeps out	Wet
2	Free water appears	Wet
3	One droplet appears	OK
4	Compost particles remain packed together and no droplets appear	OK
5	Compost particles fall away from each other	Dry

4.5.3 Water used for compost moisture adjustment will include surface runoff from the access roads and runoff/leachate from the waste reception and processing areas.

4.5.4 Traceability of the composting materials will be ensured through linking the data recorded on the weighbridge system with manual compost data sheets. Record sheets will hold additional information including feedstock assessment (in particular any feedstock rejections), moisture content, quality and characteristics of compost.

4.6 Waste Processing (Sanitisation and Stabilisation)

4.6.1 The processing (sanitisation and stabilisation) of the composting material will be processed for a minimum period of 4-6 weeks. Sanitisation is the virtual elimination of pathogenic organisms (i.e. salmonella and E.coli) and will be achieved under guidance set out in PAS100 (55-65°C for 7 days at 51% moisture). Windrow turning provides aeration of the compost, redistribution of substrate and thorough mixing of

the outside and internal material. Turning will be carried out sympathetically as to minimise the effects on sensitive receptors, with the use of the weather station providing guidance on the turning regime (see Odour Management Plan). If adverse conditions prevail, turning, shredding and screening may be temporarily suspended until weather conditions improve.

4.6.2 These conditions for windrow turning and achieving sanitisation have been used as part of the risk management approach adopted through the principles of Hazard Analysis and Critical Control Point (HACCP, Appendix D).

4.6.3 Monitoring of compost windrows temperatures during the sanitisation phase will be carried out on a daily basis with moisture being carried out on a weekly basis (Table 5a, Standard Operating Procedures, PAS100). The material, once sanitised, will be monitoring for temperature and moisture on a weekly basis during stabilisation and product maturation (Table 5b, Standard Operating Procedures, PAS100).

4.7 Waste Processing (Windrow Management)

4.7.1 The general conditions of the windrow will be assessed on a daily basis. Where any action is taken, routine or corrective, to adjust moisture content (see Table 4.1) or to resize the windrow, it will be recorded for monitoring records. Where low rainfall is encountered for protracted timescales, water from the site leachate lagoon or pumping chamber may be applied to the composting wastes.

4.7.2 Compost screening will take place at end of the windrow composting pad after a minimum period of 4-6 weeks. Screened product will be stored in the product storage area and the oversize material will be stockpiled for recycling back through the system. The storage height of these materials will be 4m, with a separation of approximately 0.5m between windrows and will be routinely monitored for temperature and oxygen.

4.7.3 The screened product will be inspected at the time of production, and any oversize wood (resulting from the screening operation) will be recycled back through the composting process after being segregated from our plastic, wood & stone segregation plant operations. The introduction of oversize wood to freshly shredded green waste, where appropriate, will be carried out at a typical blending ratio to achieve a target carbon to nitrogen ratio of 25 – 40:1

4.7.4 The compost products will be stored in the product storage area. Each production batch will be allocated a site reference point to assist product handling and management. Monitoring of the compost products will be carried out on a weekly basis for temperature, oxygen and moisture.

4.7.5 The compost products will also have to go through PAS100 compliance test which forms part of the standard operating procedures (SOP), see Appendix C. Any sampled and tested compost batch(es) or part-batch(es) that have failed to comply with any of the quality criteria shall be subject to one of the following options:

- composting again with or without addition of further input material as appropriate, then be sampled and tested in terms of the parameter(s) relevant for evaluating efficacy of the corrective action; or
- may be mixed with soil and used for landscaping activities

4.7.6 The quality procedure for any failed batches is set out below:

- investigation of why the failure happened;
- decision whether the QMS needs to be changed and if 'yes', the nature of the change;
- the nature of the corrective action undertaken if the QMS is not changed;
- sampling and testing of extra batch(es) produced according to the changed QMS or corrective action taken;
- checking the efficacy of the change to the QMS or corrective action taken by evaluating the laboratory test results of the extra batch(es);
- determining the outcome of the investigation; and
- recording the investigation period (in addition to the above) • Additional de-stoning with further plastics removal (air knife).

4.8 Weather Monitoring

4.8.1 Weather conditions will be monitored and recorded on a daily basis using an onsite weather station located at the site office. The weather station will record temperature; precipitation (drizzle, rain, sleet, hail, snow); and wind direction. The weather data will be downloaded on a regular basis for site records and an assessment can be made regarding site activity.

4.9 Quality Control and Product Assurance

4.9.1 Sampling and maintenance of results from monitoring compost is detailed herein and consistent with the Environmental Permit. Analysis of compost quality will be carried out to determine the effectiveness of the windrow composting operations and final product quality. Sampling will be carried out by trained staff and in a manner consistent with the procedure for samples published by The Composting Association.

4.9.2 A number of discrete samples (min 5 No.) will be taken from a single batch of compost mixed together to produce a composite sample. This sample is reduced in size through cone and quartering to produce a final product sample of 2-3kg.

4.9.3 One sample will be sent off to an approved laboratory for analysis, the other sample will be stored in a cooling fridge. The characteristics of the final compost product will depend, in part, on end use and market requirements and may not necessarily be consistent with all conditions set out in PAS100. All compost products will be sanitised to PAS100 but may vary in certain stability criteria. For example, the use

of compost in land reclamation or brown field sites to improve soil conditions, nutrient concentrations or environmental control may require youthful composts that are not fully matured.

4.9.4 Operatives carrying out monitoring and manual handling of the compost will be issued with the appropriate protective equipment including high visibility vest and/ or jacket, safety boots, gloves and personal respiratory protective equipment (where appropriate).

4.9.5 The sampling frequency of compost products will be consistent with the requirements of PAS100. Compost samples will be taken on a regular basis set out by our production calendar in line with site operations and treatment capacity.

4.9.6 The sampling frequency will depend on the quality of the compost and end use requirements. Compost samples will be taken on a regular basis consistent with site operations and treatment capacity.

4.9.7 The cleanliness of the mobile plant in contact with the product will be inspected by a site operator to minimise the potential for any product contamination. Prior to handling the product, the mobile plant will be cleaned and free from extraneous material.

4.9.8 All monitoring equipment will be maintained in a functional state and calibrated to manufacturers' instructions. Maintenance and calibration records (e.g. suitable for use or defective and will be repaired or replaced) will be compiled and held on file.

4.9.9 Any material to be found out of specification for its intended use will be re-tested and where certain parameters are out of specification, a corrective action plan will be implemented and the material reprocessed through the facility. Particular attention will be given to batch which are reprocessed including material blending, processing and final maturation.

4.10 Plant and equipment

4.10.1 The plant utilised for the composting operations may include;

- Specialist green waste shredders;
- Wheeled loading shovels;
- Tracked or wheeled excavators; • Specialist compost screening equipment;
- Tractor and water bowser.

4.10.2 It is recognised the importance of ensuring that critical plant and equipment are maintained using preventative maintenance. All plant and equipment will be maintained in accordance with manufacturers' recommendations, preventative work will be carried out as a part of routine checks. Suitable facilities for the maintenance and storage of plant and equipment will be provided.

4.10.3 In the event of a breakdown of plant or machinery, replacement equipment will be utilised while satisfactory repairs are being made.

4.11 Control of Mud and Debris

4.11.1 The vehicles using the site will travel on tarmac chipping and concrete site access roads to the concrete pad and reception area. It is not envisaged that there will be any significant accumulation of mud or debris that will be carried from the site to the public highway. Preventative control measures for mud and debris will include: ensuring concrete surfaced site roads are kept in good condition and clear of mud or debris; in the event that mud or other debris should be carried on to the highway, the site manager will arrange for remedial action to be implemented immediately.

4.11.2 This action may involve hiring, without delay, a road sweeper vehicle to provide additional cleaning of the site roads and the public highway in the vicinity of the site entrance. The road sweeper will be kept on hire until the site manager has confirmed that the highway is in a satisfactory condition.

4.11.3 Site roads, weighbridge and waste reception areas will be monitored frequently during the working day to check that they are clear of mud, debris and other waste materials. Any actions taken will be recorded in the site diary.

4.12 Potentially Polluting Leaks and Spillage of Waste

4.12.1 The liquids on site that have been identified with significant pollution potential are diesel fuel and leachate/runoff water. The fuel storage vessel will be designed in accordance with the Environment Agency and the Oil Storage Regulations 2004 and Control of Pollution (Oil Storage)(England) Regulations 2001. Bunded storage will provide containment of sound structural integrity for 110% of the maximum storage volume. Diesel will only be administered on an impermeable handling area to minimise the potential risks to groundwater.

4.12.2 Leachate/runoff water will be stored in an on-site drainage tanks. The tanks were constructed using dense concrete blockwork, coated (internally) with a waterproof bituminous paint and constructed on an impermeable concrete foundation slab. The tanks are checked weekly basis by site staff and leachate and runoff levels; amount of debris and structural integrity are recorded in the site diary.

4.12.3 When the tanks are full, the leachate the pumped onto the windrows in the early phase of sanitisation (not the stabilised and maturing compost) or where appropriate tankered off site for disposal at a licensed facility. A system is also being developed to process the liquor through a Reverse Osmosis treatment plant, thereby allowing re-use of the water.

4.12.4 Recirculation of leachate/runoff water back onto compost will be carried out using pumping and surface irrigation equipment. Should a leak occur during the recycling activity (in the pipework, etc.), the spillage would be contained within the concrete pad and perimeter drainage system.

4.13 Fires on Site

4.13.1 No material will be burned within the boundaries of the site. Site security will be maintained to prevent fires being started by unauthorised persons entering the premises. It is considered very unlikely that a fire will occur (based on previous experience) but should this happen, then any outbreak of fire will be regarded as an emergency, immediate action will be taken to extinguish the fire and the Environment Agency will be notified immediately.

4.13.2 Fires occurring within the stockpiles would be smothered using soils and water/leachate and the materials would be excavated and spread out on the concrete pad to ensure that the fire had been completely extinguished. The site operators have been trained in fire safety awareness and in the use of the site's firefighting equipment.

4.13.3 In the event of a fire occurring on site, The Environment Agency will be notified immediately.

4.13.4 All incidents of fire and actions taken will be recorded in the Site Diary and have been clearly set out in our Fire Management Plan (Appendix F).

4.13.5 Scenario.

If a fire was to start in the early hours of the morning (i.e. 3.00am) or intruders were on site, how, what, would be the action plan to deal with such an incident.

Action.
If a fire was to start The smarTprobe system will send the fire alert.
The procedure from here is the monitoring station has a list of 5 senior managers including the site manager and the assistant manager in order of priority response. The site manager lives 10minutes from site the assistant manager lives 25 minutes from site and so on. Once the alarm is raised the site manager is notified of intruders or an event on site via the CCTV alarm system. The CCTV is known as XIQ CMS.

Once the site has been actioned and response has been made we expect staff to be on site within 15-20minutes of the first alarm call. Following this the site manager or other senior manager will decide on the best course of action:-

- To notify relevant authorities
- To start work and reduce pile size if a fire is in progress using on site machinery, pumps and excavators etc.

- To raise the alarm with other members of staff and colleagues who can assist in the event if needed.
- In the case of a major incident to implement our incident management plan, call EA, FRS, Police. Liaise with the emergency services as to the best approach to minimise any impact to environment, people, and infrastructure.
- To mobilise all available resources in dealing with the incident.

4.14 Waste Quantity Measurement Systems

4.14.1 The quantities of green waste inputs and outgoing compost products will be recorded electronically on the site weighbridge computer system. Electronic records will be made of the loaded and unloaded weight of each vehicle (in tonnes), together with the nature and composition of each load.

4.14.2 In the event of failure of the weighbridge, an average estimated net weight of the relevant loads will be used and manual tickets issued.

5 Pollution Control, Monitoring and Reporting Systems

5.1 Landfill Gas Monitoring and Reporting

5.1.1 The composting of organic wastes (under aerobic conditions) typically results in the generation of carbon dioxide and water. Using open windrow composting, these gases naturally vent to the atmosphere under convection currents and during turning. An uncovered storage and processing area further encourages aeration of the compost and feedstock material. All waste reception, processing and product storage areas are designated no smoking areas.

5.2 Waste Types

5.2.1 The waste types set out in Tables S2.1, S2.2, S2.3 of Schedule of the Environmental Permit.

5.3 Leachate Monitoring and Reporting

5.3.1 The site will be engineered such that all rainwater falling on the operational area will be re-used within the site or removed from site.

5.3.2 Water quality from the land has been assessed from borehole samples taken during the site investigation and assessment phase. It is anticipated that site operations will not affect the groundwater regime in the vicinity.

5.3.3 The monitoring of leachate levels in the tank will be carried out on a weekly basis by the site manager or site operative and any abnormal conditions (e.g. malodours etc.) will be recorded in the site diary.

5.3.4 Leachate will be recycled back onto the compost and a typical leachate quality, shown in Table 6.1 indicates that no specific monitoring will be required.

Table 6.1. Typical leachate composition from compost generated at Berkswell

Parameter	Leachate 1	Leachate 2
pH	7.5	7.5
Conductivity	1450	1450
Ammonia-N	11	12
Phosphorus	3	3
Calcium	142	151
Magnesium	18	19
Sodium	46	50
Chloride	169	165
Zinc	<0.01	<0.01
Copper	<0.01	<0.01

5.4 Groundwater and Surface Water Monitoring and Reporting

5.4.1 All composting activities will be carried out on an impermeable compost pad and reception area to prevent the risk of groundwater contamination. Any leachate or runoff that is generated from the compost will be recycled back through the composting process.

5.5 Monitoring and Recording of Meteorological Conditions

5.5.1 Meteorological conditions will be monitored at the site office. The weather station provides continuous monitoring and data acquisition (see section 4.8).

5.5.2 Meteorological data will assist the day to day operational activities at the composting site, indicating the most beneficial turning sequence or the likely leachate recycling requirements for that period. Furthermore, the data may be used to indicate the likelihood of dust and bioaerosols generation from the site and hence implement the appropriate control measures.

5.6 Final Product Monitoring

5.6.1 The composted products generated from Berkswell Composting facility range from youthful biologically active compost for the bioremediation industry to a mature finely graded product for the horticultural and landscaping market.

5.6.2 A more detailed description of the processing conditions and characteristics of the composted products is shown in Table 6.1.

Table 6.1. Risk Analysis for use of composted products (all PAS100 compliant)

Compost Grade	Maturity & Stability Rating	Control measures during processing stage	Product Characteristics	Potential Risk	Indicative age of compost
Surface dressing	1	(1) Minimise storage period of unprocessed green waste; (2) Minimum weekly turning of shredded green waste; (3) Minimum active processing period of 5 wks.; (4) Regular monitoring of moisture content	Heat generation potential: low Colour: dark brown peaty colour; Grading: 0-8mm; Moisture content: 40% (w/w) Bulk density: less than 500kg/m^3 Odour characteristic: musty and earthy	LOW (no odour, no leachate generation, very low heat generation)	4-6 months
Growing media	1	(1) Minimise storage period of unprocessed green waste; (2) Minimum weekly turning of shredded green waste; (3) Minimum active processing period of 5 wks.; (4) Regular monitoring of moisture content	Heat generation potential: low Colour: dark brown peaty colour; Grading: 0-15mm; Moisture content: 40% (w/w) Bulk density: less than 600kg/m^3 Odour characteristic: musty and earthy	LOW (no odour, no leachate generation, very low heat generation)	4-6 months
Soil Improver & Conditioner	2	(1) Minimise storage period of unprocessed green waste; (2) Minimum weekly turning of shredded green waste; (3) Minimum active processing period of 5 wks.; (4) Regular monitoring of moisture content	Heat generation potential: low to medium Colour: brown colour; Grading: 0-20mm; Moisture content: 40-50% (w/w) Bulk density: less than 700kg/m^3 Odour characteristic: musty and earthy	MEDIUM (potential for heat generation in large stockpiles e.g. 10,000m^3)	3-4 months

Soil Ameliorant for use in contaminated and, soil blending, surface mulch and bioremediation	3	(1) Minimise storage period of unprocessed green waste; (2) Minimum weekly turning of shredded green waste; (3) Minimum active processing period of 5 wks.; (4) Regular monitoring of moisture content	Heat generation potential: medium Colour: light brown colour; Grading: 060mm; Moisture content: 40-55% (w/w) Bulk density: range from 400-900kg/m^3 Odour characteristic: earthy with sweet notes	MEDIUM (potential for heat generation in large stockpiles e.g. 10,000m^3)	2-3 months

Table 6.1 (continued). Risk Analysis for use of composted products

Compost Grade	Maturity & Stability Rating	Control measures during processing stage	Product Characteristics	Potential Risk	Indicative age of compost
Agriculture					
Arable	3	(1) Minimise storage period of unprocessed green waste; (2) Minimum weekly turning of shredded green waste; (3) Minimum active processing period of 5 wks.; (4) Regular monitoring of moisture content	Heat generation potential: medium Colour: light brown colour; Grading: 050mm; Moisture content: 40-55% (w/w) Bulk density: range from 600-800kg/m^3 Odour characteristic: earthy with sweet notes	MEDIUM (potential for heat generation in large stockpiles e.g. 10,000m^3)	2-3 months

Grassland	1	(1) Minimise storage period of unprocessed green waste; (2) Minimum weekly turning of shredded green waste; (3) Minimum active processing period of 5 wks.; (4) Regular monitoring of moisture content	Heat generation potential: low to medium Colour: brown colour; Grading: 0-20mm; Moisture content: 40-50% (w/w) Bulk density: less than 700kg/m^3 Odour characteristic: musty and earthy	LOW (no odour, no leachate generation, very low heat generation)	4-6 months
Dressing	1	(1) Minimise storage period of unprocessed green waste; (2) Minimum weekly turning of shredded green waste; (3) Minimum active processing period of 5 wks.; (4) Regular monitoring of moisture content	Heat generation potential: low Colour: dark brown peaty colour; Grading: 0-8mm; Moisture content: 40% (w/w) Bulk density: less than 500kg/m^3 Odour characteristic: musty and earthy	LOW (no odour, no leachate generation, very low heat generation)	4-6 months

6 Wood Waste Processing – Biomass Fuels

6.1 General Statement

6.1.1 This section describes the systems and procedures that will be used for the production of biomass fuels from wood waste and oversize material from PAS100 composting sites.

6.2 Feedstock Materials

6.2.1 The woodchip biomass facility uses oversize material sourced exclusively from PAS100 compliant composting facilities. Oversize material is derived from green waste composting sites, produced as a by-product/reject from the screening process that is carried out at the end of the actively managed composting stage to separate the fine material (typically 0-12mm), the compost, from the larger woody materials. Any large contrary material such as plastic film, rigid plastic, ferrous metals, large stones tend to be removed with the oversize material.

6.2.2 It is anticipated that the total amount of wood waste and oversize material to be processed will not exceed 100,000 tonnes per annum. The storage requirements for this material will be 10,000 tonnes to provide sufficient buffer during the winter periods when the demand for supply is expected to increase.

6.3 Material Processing

6.3.1 The oversize fraction typically comprises material greater than 40mm up to a maximum of approximately 400mm. It usually contains a high percentage of any contrary material (e.g. plastics, stones and metals) and is stockpiled (post screening) and gradually recycled back through the process. There is a limit to the amount of oversize that can be recycled and ultimately it requires removal from site for further processing (to remove the contrary material) or disposal of at a licenced facility.

6.3.2 The material tends to be relatively consistent because of the two principal control mechanisms. Firstly, the source-segregated green waste tends to generate a relatively consistent input material and secondly, the combination of the shredding stage at the front end that limits the maximum size of the material and the screening stage at the back end to remove the fines material tends to produce fairly uniform fraction of oversize material (40 – 400mm). The material is relatively free from fine particulate matter, for example where other wastes may be combined with the green waste during composting (e.g. gully waste, road sweepings).

6.4 Product Quality

6.4.1 The composition of the oversize material is controlled by waste inputs under PAS100 and the Compost Quality Protocol. These product standards restrict the type of feedstock material to source-segregated green waste and organic material as set out in standard permit conditions for green waste. PAS100 also places strict limits on the trace metals, contrary material and stability of the final product. The oversize fraction of the green waste is subject to exactly the same input controls and restrictions and this ensures a consistent good quality oversize material for the manufacture of waste derived wood fuel. Any minor fluctuations in oversize quality (e.g. amount of plastics or large stones etc.) can be managed and removed through the production process of the waste derived fuel.

6.4.2 Wood grades A, B & C will also be processed at Berkswell to generate a biomass product for wood fuelled power stations. The wood waste processing facility will be separated from the biomass woodchip facility to prevent contamination of the two waste streams.

6.4.3 Wood waste will be sourced mainly from local authority contracts in the West Midlands area. All wastes are assessed for their suitability to be received on site with the accepted waste types. All waste arriving on site will be directed to the weighbridge situated adjacent to the site office. The description, nature and source of wastes, details of the waste carrier, waste type, source and quantity (tonnes) of waste will be recorded on the weighbridge computer system. The driver will be directed to the wood waste reception area, where a site operative will check the waste load to ensure the carrier discharges the load in the appropriate area. The waste will be further inspected prior to processing and the weighbridge notified of any relevant information (e.g. contamination of the waste).

6.4.4 The load will be rejected if, by subjective assessment, it contains more than a fixed quantity of contaminant (e.g. agreed under contract with the supplier) of domestic waste or other contrary materials (e.g. glass, metal, paper, plastics and building rubble). Odorous waste will be assessed by the operators and site manager for their suitability for processing. Any loads deemed to be excessively odorous will be rejected and details recorded in the site diary. The customer will be notified of such action (see Odour Management Plan).

6.4.5 If the load is relatively free from contamination, any large items will be removed and placed into a rejects container for disposal to landfill or recycling. Typically the contaminants will remain on site until a suitable quantity of waste for a load has been generated.

6.4.6 Any rejected load will be separated from the feedstock materials, photographed for records and the customer advised of the rejected load. Arrangements will be made for the collection of the waste or disposal to a suitably licensed facility, or additional

processing. The rejected load will be recorded in the site diary and the Environment Agency notified of the rejected load and the rejects procedure on site.

6.4.7 The feedstock material will be evaluated and stockpiled prior to shredding. The material will be handled on FIFO principles, e.g. first in, first out. The site will operate an information management system that will record the types, quantities, sources of waste received at the site. Shredding, processing data (temperature, oxygen, and moisture records) and final end product screening and characterisation will be recorded. Once the material has been shredded and graded, it will be stockpiled temporarily before being loaded into articulated HGVs for delivery to a number of selected power stations.

7 Amenity Management and Monitoring

7.1 General Statement

7.1.1 This section describes the systems and procedures which will be provided to control or prevent any nuisances arising from composting activities which potentially could cause harm to human health and/or detriment to the local environment (consistent with Sections 3.2, 3.3, 3.4, 3.5 of the Environmental Permit). The section has been prepared with reference to an Environmental Risk Assessment shown in Appendix A, which indicates that the potential pollution/amenity risk to receptors from the proposed composting activities would be very low.

7.2 Control Monitoring and Reporting of Dust, Fibres and Particulates

7.2.1 Composting operational activities (waste reception, shredding, turning and screening) will have the greatest potential to generate dust, airborne particles or bioaerosols. However, the management of operations on site and its situation with natural vegetative screening will reduce the impact of these emissions on the surroundings.

7.2.2 Dust arising from site operations will be suppressed by the use of water application to the site roads and operational areas using a tractor and water bowser. However, should a dust problem be perceived or arise during the course of composting operations, a sampling and monitoring regime will be agreed with the Environment Agency and, if deemed necessary, additional measures will be implemented.

7.2.3 The monitoring of bioaerosols will be carried out at a minimum frequency of 2 samples per year. If elevated levels of bioaerosols are identified, the monitoring frequency may be reviewed by the operator and the Environment Agency.

7.2.4 Good site operations and practice will aim to control the production of dust and bioaerosols. Composting materials in the windrows and stockpiles will be maintained, wherever possible, under moist conditions to reduce bioaerosol emissions during shredding and waste handling operations. When windrow turning

is being carried out, water sprays will be employed using a tractor and bowser to prevent excessive amounts of dust and/or bioaerosols.

7.2.5 The compost will be managed to prevent excessive drying to limit the dust and bioaerosol generation during on-site screening operations.

7.3 Control of Odours

7.3.1 Berkswell Recycling Limited has considerable experience in operating composting facilities. An odour management plan (Appendix B) has been prepared and identified potential sources and causes of odour, potential sensitive receptors and describes the operations which will be undertaken to prevent or mitigate odour emissions.

7.3.2 Odour may arise from the waste reception area where incoming waste has been stored for long periods before delivery (e.g. fortnightly kerbside collections). Odour may also be generated during the composting process if feedstock quality and characteristics are not properly controlled or regulated. Odour can be generated if the windrows are allowed to become anaerobic. A full description of how odour will be assessed, controlled and managed has been set out in detail in the Odour Management Plans for Green Waste composting, see Appendix B.

7.3.3 There are a number of potential receptors that have been identified, please see Table 7.1 below (consistent with the Odour Management Plan).

Table 7.1. Potential receptors at Berkswell Quarry Composting Facility

Ref	Name	Direction	Distance (m)
01	CEMEX	West	500
02	Ready mix concrete facility	North	650
03	Residential property (off Cornets End Lane)	Northeast	650
04	Residential property (off Cornets End Lane)	East	400
05	Residential property (off Mercote Hall Lane)	Southeast	450
06	Farm and out buildings off Kenilworth Road	Southwest	600
07	Farm and out buildings (Mercote Farm	West	280

7.3.4 The most effective method of odour control, advocated by the Environment Agency and by the Composting Association, is to adopt good working practices to ensure that odour is not generated. Odour emission is generally associated with poor processing conditions leading to low quality products. In the event that odour is generated from site a number of actions are to be implemented:

- Addition of liquid additives and inoculants during shredding and turning;
- Covering of windrows with mulch to act as biofilters;
- Use site boundary atomising sprays;
- Ensuring the structure of the windrow and C:N ratio is appropriate.

7.3.5 When feedstock is delivered, it will be inspected. Excessively malodorous waste materials will be rejected or if manageable under specific site operations (as set

out in the Odour Management Plan (Appendix B). Waste will be shredded within 24 hours of waste received on site. Feedstock from kerbside collections may be mixed with woody materials to provide better physical and chemical characteristics for composting.

7.3.6 Temperature and moisture content will be monitored at a frequency set out in section 4.3.6.

7.3.7 Turning a windrow is carried out to provide aeration for the composting process, to improve the distribution of the structural material and to redistribute any moisture variation throughout the windrow. Turning requires physical displacement of the composting material and it is because of this action, that it can be associated with the short-term release of odour. It should be noted that odour release from compost may be offensive (foul) or hedonic (delicious) as described in Appendix 3 of the Environment Agency Technical Guidance Note H4 – Odour Management How to Comply with your permit. Not all compost odours are offensive.

7.3.8 The turning frequency of the windrows is determined by the Site Manager/Site Supervisor in response to a number of site factors including screening activities, waste inputs, climatic conditions, composting quality, processing conditions, regulatory requirements and site operations. Berkswell Recycling Limited will ensure a minimum turning frequency of at least once a week, for all material being processed.

7.3.9 The temperature of the compost is governed by a number of factors including feedstock composition, moisture content, nutrient balance, material size etc. In windrow systems, temperatures will typically rise to above 60°C during the initial phase of composting and then gradually fall to 50-55°C as the readily degradable material is consumed by the microorganisms. Controlling excessive temperature is a key consideration in the management of windrow composting and may be effectively controlled by the size and shape of the windrows. Too small and there

will not be sufficient heat generation to raise the temperatures to achieve sanitisation. Too large windrows and high temperatures may development that may eventually limit the composting process.

7.3.10 The site will be cleaned regularly to prevent any accumulation of mud detritus consistent with section 4.11.

7.4 Control and Monitoring of Noise

7.4.1 The site is located in a semi-rural setting and care will be taken to minimise the potential for noise pollution from site operations to affect adjacent properties. Primary measures will include the use of machinery fitted with appropriate silencers and maintained in accordance with manufacturer's recommendations. All operations

taking place within the licensed site area will be shielded by a bund 4m in height. This landscaped and planted bund will provide attenuation for any noise generated by site operations.

7.5 Control and Monitoring of Pests

7.5.1 Regular windrowing of the compost material will minimise the potential for infestation by flies or rodents. The operation will be checked weekly for signs of pests or any related problems. Should any pests be found on site, a specialist Pest Control Contractor will be employed to deal with the matter within 3 working days and recorded in the site diary (consistent with our Pest Control Policy, Appendix G and in-line with the Environment Agency's - Developing a Management System 2016 and Controlling & Monitoring your emissions for an Environmental Permit 2016 (last updated October 2020).

7.5.2 **Control and Monitoring of Litter**

7.5.3 The material entering the site will be primarily green waste and it is anticipated that there will be no wind-blown litter during composting operations. However, litter pickers will be used if necessary. Should any problems arise with feed quality, portable screens or netting will be used during shredding and other material handling operations.

7.6 Complaints procedure

7.6.1 Berkswell Recycling Facility has set up a complaints procedure for any issues that may arise with the site. These may include odour, dust, noise etc. All complaints will be investigated promptly and where remedial action is required, it shall be carried out without delay. A complaints procedure has been included in Appendix L and shall be used anytime a complaint is raised. It should be noted that residents or individuals can be wrong about odour, its source and its intensity. It is not always

the case but it does highlight the need to carefully investigate every complaint to determine whether the composting site is to cause of the odour.

8 Site Records

8.1 Security and Availability of Records

8.1.1 The technically competent management will be led by George Longmuir. The overall management structure for the operation will initially be, as follows:

- George Longmuir - Managing Director
- Wayne Westwood – Site Manager

8.1.2 The main site office at Berkswell Recycling Limited will be used to store all records, weighbridge tickets, etc.

8.1.3 Records will be transferred to the main office at the end of each working day for storage.

8.1.4 The following people (with associated telephone numbers) forming part of the Berkswell Recycling Limited's management structure should be contacted in case of emergencies, in the following order:

Name	Telephone Number
• George Longmuir	(mob) 07887 568292 (office) 01676522744
• Wayne Westwood	(mob) 07442 640813 (24 Hrs) (office) 01676 522744

Please see attached appendices

Appendix A
Site Risk Assessment (Generic Risk Assessment Environment Agency, August 2014, SR2008No16 v6.0)

Appendix B
Odour Management Plan – Green Waste Composting

Appendix C
PAS100 Standard Operating Procedures – Green Waste Composting

Appendix D
PAS100 HACCP – Green Waste Composting

Appendix E
Drawings

Appendix F
Emergency Action In The Event Of Fire

Appendix G
Pest Control Policy

Appendix H
Disaster Recovery Business Continuity and Risk Management Plan

Appendix I
Environmental Quality Health & Safety Policy

Appendix J
EMS Accreditations ISO 9001, ISO 14001, ISO 45001

Appendix K
Company Organisation Chart

Appendix L
Odour Complaints form

Appendix M
Dust Management Plan


Berkswell
RECYCLING LIMITED