MS 2E - Environment and Sustainability

1. Part 1 - Environmental management and Environmental Monitoring Plan

In accordance with paragraph 2.2.15 of Schedule 2 (Output Specification) of the Contract the Contractor shall implement and maintain an Integrated Management System (IMS) during all stages of the Contract.

As an integral part of the Contractor's ability to monitor and manage the environmental performance of the Facility throughout the Contract Period, the Contractor shall implement an Environmental Management System (EMS) certified to ISO 14001 standard for the Facility. The EMS will form an integral part of the Site's IMS that will draw together all the policies and procedures for the Site, in accordance with MS 5ABC (Contract Management and Management Information System). The IMS will form part of the overall Management Information System (MIS).

The Operating Sub-Contractor, on behalf of the Contractor, will ensure that the IMS implemented during the Services Period will obtain certification within twelve (12) months of Services Commencement.

The certification of the IMS will be by a United Kingdom Accreditation Service (UKAS) accredited body, or equivalent.

In accordance with paragraph 9.2 of Schedule 2 (Output Specification) of the Contract, the Contractor shall deliver the Services in such a way as to minimise pollution of the environment, harm to human health and to have a positive impact on climate change. In order to achieve this, the Facility will perform in accordance with the key performance targets specified in paragraph 2.1.4 of Schedule 2 (Output Specification) of the Contract, which include:

- optimising recycling and continually maximise recovery of Contract Waste through:
    - a guaranteed ferrous recycling efficiency rate (vs. ferrous metals into the Facility);
    - a guaranteed non-ferrous recycling efficiency rate (vs. non-ferrous metals into the Facility);
    - a guaranteed aggregates recycling efficiency rate (vs. total Incinerator Bottom Ash (IBA) into the IBA treatment plant); and
    - guaranteed net power production; and
- maximising diversion of Contract Waste from Landfill through:
    - a Guaranteed Diversion Rate;
    - GUL_P, Guaranteed Unprocessed Landfill Performance;
    - $GAPC_P$ Guaranteed APC Residue Landfill Performance (as a percentage of Contract Waste Treated); and
    - $GIBA_P$ Guaranteed IBA Landfill Performance (as a percentage of Contract Waste Treated); and

- maximising diversion of BMW in Contract Waste from Landfill through:
  - a BMW diversion rate (as a percentage of Contract Waste Treated); and
- contributing to the Authority's climate change agenda (including carbon reduction and energy efficiency).

The Contractor's contribution to the Authority's climate change agenda shall be agreed with the Authority on an annual basis.

In accordance with paragraph 9.7.1 of Schedule 2 (Output Specification) of the Contract and as part of the EMS, the Contractor shall develop the environmental aspects and impacts register identifying the likely operational environmental impacts of the Site in relation to its location within Gloucestershire.

The policy and procedures developed for the Site as part of the IMS will be utilised by the health, safety, environmental and quality (HSEQ) manager to ensure that emissions to air, land and water are minimised, encourage carbon and energy efficiency and minimise the impact on the local community, in accordance with paragraph 9.3 of Schedule 2 (Output Specification) of the Contract.

The Contractor shall comply with the control measures and procedures in Table MS2E.1 below, which sets out the environmental aspects and impacts register. The Contractor will update the environmental aspects and impacts register as and when required throughout the Contract Period.

Environmental aspect/impact	Control measures
Stack emissions	The Contractor has developed an assessment of stack emissions from the Facility using an atmospheric dispersion modelling system (ADMS) which has determined the minimum stack height required to provide adequate dispersal of the stack emissions to meet the Waste Incineration Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 (WID) on the incineration of waste. Ground level and stack monitoring will be undertaken regularly to ensure stack emission limits are maintained. The parameters set out below will be monitored and all the data will be shown at the measuring station, as well as transmitted to the control and monitoring system (CMS) continuously. • Atmospheric pressure • Flue gas flow (m^3/s and Nm^3/h) • Flue gas temperature (°C) • Flue gas pressure (kPa abs) • H_2O content (% vol.) • O_2 content (% vol.) • Dust content (mg/ Nm^3)

Environmental aspect/impact	Control measures
	• HCl content (mg/m³ or mg/ Nm³) • SO_2 content (mg/m³ or mg/ Nm³) • NOx (NO + NO_2) content (mg/m³ or mg/ Nm³) - expressed as NO_2 • NH_3 content (mg/m³ or mg/ Nm³) • CO content (mg/ Nm³) • Total organic content (TOC) (mg/Nm³) Heavy metals and dioxins will be measured four (4) times each year. During the first twelve (12) months, these parameters will be measured every two (2) months. Measurement of heavy metals can be reduced to once a year, and the measurement of dioxins can be reduced to twice a year, if agreed with the Environment Agency and is in accordance with the requirements of the Environmental Permit. Annual and Monthly Schedules of Planned Maintenance will be drawn up to ensure minimal statutory nuisance and environmental impact occurs. The Contractor will guarantee the emissions levels and comply with emissions standards through: • **an advanced selective non-catalytic reduction (SNCR) NO_x system with multiple layer reagent injection** - this will enable the Contractor to reduce NO_x emissions to below the WID standard; • **an advanced flue gas treatment (FGT) system –** this will enable the Contractor to reduce flue gas emissions below the WID standard; and • **a Vølund air cooled grate/furnace –** this will deliver burn out levels of <2% TOC in slag and <2% in boiler ash. The Contractor has provided sufficient space to allow the installation of a selective catalytic reduction system to further reduce NO_x and dioxin emissions and comply with more stringent emissions standards if required in the future.
Odour emissions	Odour emissions from the delivery of Waste and Site operations will be controlled by best practice operating methods such as: • containment of odours within the Facility by designing the tipping hall to exert negative pressure locally; • limited storage of Waste on Site; • good management of Waste delivery schedules; • minimal feedstock handling operations; and • regular visual inspections and odour surveys. Odour surveys will be undertaken if any complaint from neighbours in relation to odours is received.

Environmental aspect/impact	Control measures
	Any vehicle which is not suitably covered can be refused entry to the Site. All Waste will be stored within the Waste bunker which is located in a covered building area. The operators will be trained to operate a first in first out (FIFO) system, so that Waste will not be routinely kept in the tipping hall for longer than three (3) days. The activated carbon filter unit will be used to ensure odour control in the Waste bunker during any shutdown period.
Bio-aerosols and dust	The tipping hall will operate under negative pressure in order to avoid emissions of bio-aerosols. Air drawn from the tipping hall will be drawn into the combustion chamber, where any such bio-aerosols will be combusted. During maintenance periods when the energy from waste (EfW) process is not operational, air in the tipping hall will be extracted and discharged via a carbon filter system. The carbon filters will be annually inspected prior to planned plant shutdown. It will be changed when required to prevent them from becoming blocked or moisture laden. During maintenance periods the tipping hall doors will be kept closed when Waste deliveries are not being made. On-Site vehicle movement controls shall include hard landscaping of the Site and wetting down the Site when dust generating conditions exist.
Dust created from IBA processing activities	IBA will be treated on Site, but will be kept within an enclosed building with its own extraction ventilation system with particulate control. Air will be captured at different locations in the IBA building and transported by means of a fan to dust removal Equipment (cyclone or bag filter). Filtered air will be released to the atmosphere).
Dust created from use of "big bags" for the collection and transport of air pollution control (APC) residues	In instances where normal operational procedures cannot be followed, a procedure will be developed for the use of "big bags".
Exhaust emissions from operational vehicles	All Site vehicle emissions will conform to the Road Vehicles (Construction and Use) Regulations 1986 and the Motor Vehicles (Type Approval) (Great Britain) Regulations 1984 and amendments to these Regulations (collectively known as the Euro standards). On-Site vehicle movement controls will include keeping vehicle movements to a minimum, switching off engines for idling vehicles, limiting vehicle speeds and ensuring regular vehicle services are carried out on Contractor's vehicles.
Operational energy consumption from the grid	The Facility will generate all of the electrical energy required in order for it to function (except during planned or unplanned shutdown periods).

Environmental aspect/impact	Control measures
	The Contractor will adopt the following measures in order to monitor energy consumption at the Facility and will adopt its internal energy policy to optimise energy efficiency based on the following principles: • to achieve a high level of energy efficiency by means of the continuous improvement of the energy management system, through establishing specific and quantifiable goals where possible, along with the undertaking of internal audits to evaluate suitability and effectiveness; • to comply with the Legislation in force on energy matters, along with other requirements which the Contractor subscribes to; • to control the use of energy and improve energy efficiency; • to prevent actions that could cause significant energy impacts on the activities carried out at the Facility; • to guarantee the participation, information and communication of Personnel on energy matters in order to obtain continuous improvement in energy performance; • to plan and instruct suitable training by means of the provision of the necessary resources that make it possible to comply with the energy policy; • to supply the necessary means to involve partner companies in the understanding and acceptance of the energy policy; and • to ensure suitable provision of the Services requested by customers, maintaining a high level of energy performance at all times.
Water use within the Facility	The Contractor shall ensure that all water effluents or discharges (including Site drainage) will be in accordance with the limits set by the Environment Agency and the local sewerage undertakers. Discharge consents shall be in place prior to any drainage features becoming active on-Site. Rainwater will be harvested via a tank to supply the facility with water (for example, within the Visitor Centre and administrative block as flushing water for toilets, and/or within the process to supplement mains demand for IBA quenching). Very limited mains demand will be required for the process due to the fact that internal process water (such as boiler blow down water) will be reused where possible..
Contamination of surface water runoff	Pollution prevention guidelines provided by the Environment Agency (including but not limited to PPG1, PPG2, PPG3, PPG5 and PPG6) shall be followed in order to prevent pollution of watercourses by silt or chemicals. Any water that has come into contact with contaminated materials shall be disposed of in accordance with the Water Resources Act 1991 and the Water Industry Act 1991 (if disposed to the public sewer) to the satisfaction of the Environment Agency and local sewerage undertakers.

Environmental aspect/impact	Control measures
	Discharge from oil interceptors shall not contain visible oil or grease. Adequate oil interceptor inspection and maintenance facilities shall be provided and the interceptors will be regularly emptied and de-sludged in order to ensure efficient operation. An appropriately licensed contractor will dispose of the sludge off-Site. The interceptors will be inspected three (3) times per year. Spill cleanup kits shall be provided and maintained on Site at all times and Personnel shall be trained in their use and awareness of where these kits are located. Any water coming into contact with the IBA maturation area shall be intercepted and disposed of in accordance with the Water Resources Act 1991 and the Water Industry Act 1991 (if disposed to the public sewer) to the satisfaction of the Environment Agency and local sewerage undertakers. Any leachate generated during the daily operation of the IBA treatment process will be collected by the drainage system and temporarily stored in the deposit area designed for that purpose. The Contractor may use this water as process water if the waste water tank has enough space available and it is required as part of the water balance. Otherwise, the Contractor will ensure that it is disposed of in accordance with the Water Resources Act 1991 and the Water Industry Act 1991 (if disposed to the public sewer), to the satisfaction of the Environment Agency and local sewerage undertakers.
Surface water drainage impacts	Prior to being discharged into any watercourse, surface water sewer or soak away system, all surface water drainage from impermeable parking areas, roads and hard standings for vehicles shall pass through an oil interceptor or Sustainable Urban Drainage Systems (SUDS). Provision to reduce sediment entering the drainage system will be included and regular maintenance of the system will be carried out.
Increased localised flood risk	The drainage system shall be designed and sized in accordance with current best practice in order to ensure that no flooding out of manholes results from storms of a 1 in 30 year return period. In addition, the new drainage system shall be simulated under a 1 in 100 year design storm to determine which parts of the drainage system are likely to flood in such a storm event.
Groundwater resource impacts	In order to mitigate potential impacts on groundwater quality and quantity on Site, SUDS will be installed where possible to manage ground (and surface) water regimes sustainably by controlling rainwater at source. If SUDS is not suitable for the Site, other natural vegetative treatments may be employed where necessary, such as swales, wetlands and infiltration trenches.
Flooding	The design shall take into account peak flows (1 in 30 year storm event) in the Site drainage and SUDS. Flood risk events will be avoided by means of: • a sealed basement design;

Environmental aspect/impact	Control measures
	• Site attenuation pond; • use of green area Site soak aways and landscaping features to channel rainwater; • maintenance and management of the stream; and • an on-Site pump and hose will be available to transfer capacity in the event of flooding.
Noise nuisance	Noise limits and other specified parameters for the operation of the Facility as part of the Planning Permission shall be complied with in relation to the method and time of working, type of Equipment to be used and noise mitigation measures to be implemented on Site. Noise limits shall be compliant with the limits set by the covenant contained within the 2009 Transfer. The position of gates in the Facility is such to prevent the noise impact on local receptors. Annual and Monthly Schedules of Planned Maintenance shall be drawn up to minimise statutory nuisance and environmental impacts. Turbine filter and ventilation apertures will be fitted with high performance silencers, and designed such that the plant provides screening to nearby sensitive receptors. Due to the impracticality of screening stack noise, discharge noise will be controlled using high performance silencers tuned to attenuate low frequencies from the fan exhausts. Unit transformers and generator transformers will be housed in an appropriate enclosure to ensure compliance with noise level restrictions as detailed within both the Planning Permission and the restrictive covenant.
Vibration nuisance	Control measures to protect users of the Javelin Park distribution centre and local residents and businesses from vibration will be in accordance with the Vibration Dose Values (VDV) specified in BS 6472: 1992 Guide to evaluation of human exposure to vibration in buildings (1 Hz to 80 Hz).
Light nuisance	The Contractor shall ensure that light impact outside the Facility grounds is minimised and does not adversely affect the surrounding area. Lighting is designed to be as directional as possible. Appropriate colours will be used on lighting poles and floodlighting will only be used in areas of the Facility which are operational. Exterior lighting is controlled with a twilight switch for automatic activation and deactivation depending on the levels of daylight. Lighting at the Site is designed in accordance with relevant lighting standards.

Environmental aspect/impact	Control measures
	Floodlighting is designed to ensure that lighting for the Facility is the minimum for what is required and that light spillage is controlled through the use of measures such as cowls and hoods. External areas will use low lux lighting; higher lux lighting will be used for internal areas and process specific lighting.
Traffic related noise and vibration	In order to minimise noise from reversing alarms, vehicles shall enter and exit the Site in a forward direction, except where space restriction does not permit this. The Contractor shall manage the timing of vehicle movements where possible in order to reduce the impact of noise and vibrations. Noise levels from the Facility will be kept at a minimum at all times through implementing the following measures: • minimising the use of noisy Equipment outside; • restriction on motorised Equipment and vehicles running when they are idling; • continued evaluation of noise cancellation actions; • use of low noise emitting Equipment whenever possible; • minimising the use of reversing alarms; and • use of white noise alarms in Contractor's vehicles.
Effects on biodiversity	An ecology management plan shall be implemented which will consider methods for the safety and security of protected species and biodiversity section plan species that nest, forage and/or commute within the Site. A landscape management plan shall be implemented, setting out detailed methods to ensure designated and non-statutory designated sites surrounding the Facility are protected and landscape maintenance requirements of the Site are adhered to. Security and operational lighting shall ensure that there are minimal impacts to nocturnal species which may be on-Site or in the surrounding area.
Contamination of the Site during operation	In the event of potentially contaminated material on-Site, the handling, storage and removal of such material would be subject to current waste management Legislation and Guidance. If any asbestos-containing materials are found on-Site, appropriate techniques will be used for its removal and disposal (in accordance with applicable Legislation and best practice), and will be undertaken by a suitably qualified contractor. Drip trays of sufficient capacity shall be fitted under equipment and fixed installations that has the potential to drip under fault condition. Spill kits will be available at the Facility to ensure a fast response and Personnel will be trained in how to use these kits and made aware of their location on-Site.

Environmental aspect/impact	Control measures
	The following procedures and practices will be implemented in order to prevent and manage Site spillages and will form part of the Emergency plan detailed in MS 6 (Health and Safety): • Site observation using CCTV; • all visitors to the Site will be given instruction as appropriate to the nature of their visit; • a single Site contact point will be provided so that alerts can be directed and responded to accordingly; • a Site Emergency plan will be developed and used to escalate the cleanup of a spillage via a management system according to the scale and nature of the incident, with the general manager having overall responsibility; • the Site shovel vehicle will be used to clear up large spills; • dedicated Personnel will clear up small spills with brooms and shovels; • spill kits will be provided throughout the Site for liquid spillages. These will be located at clearly marked "spill kit" locations and include a variety of absorbent and containment materials; • quarantine storage of clean up materials will be employed pending inspection and a decision regarding the appropriate disposal route; • spilled Waste disposal will be by way of off-Site disposal or by addition to the Waste bunker; • a record of all such incidents will be kept in accordance with the Site health and safety procedures and the Environmental Permit requirements; and • reporting to the relevant authorities will be in accordance with the Environmental Permit and Contract requirements. All such matters will be reviewed at weekly Site management meetings and preventative actions developed using a risk assessment protocol.
Waste to Landfill	The EMS will set out the methods and procedures to be followed for managing Wastes on Site and in line with the Waste hierarchy.
Storage and management of materials on Site	All hazardous materials shall be used, stored and transported in a safe manner by a suitably qualified contractor. As set out in the Waste storage plan (Part 4, MS 2C (Waste treatment)), the following reagents shall be stored on Site: • lime: the hydrated lime storage silo will have a capacity corresponding to two (2) weeks' consumption at nominal conditions of $300m^3$; • activated carbon: the activated carbon storage silo will have a capacity corresponding to six (6) weeks' consumption of $110m^3$; • ammonia: the ammonia tank will have a capacity of $40m^3$;

Environmental aspect/impact	Control measures
	• light fuel: the light fuel for the burners will be stored in one (1) 100m^3 fuel tank; • fuel: the fuel for mobile Equipment will be stored in one (1) 10m^3 fuel tank; • caustic soda: the tank will have a capacity of 5m^3; and • hydrochloric acid: the tank will have a capacity of 5m^3. Rejected materials from the combustion process will be stored in the following locations at the Facility: • APC residues - the APC residues storage silo has a capacity equating to one hundred and twenty (120) hours of production at nominal load; and • IBA - IBA will be stored inside the IBA building in five (5) designated bays. The five (5) bays have a capacity equating approximately to a ten (10) day period of slag production. All Personnel involved with hazardous materials handling shall be made aware of the associated environmental hazards and risks and shall be appropriately trained in routine activities and Emergency actions. Personnel will be provided with appropriate personal protective equipment (PPE). Where hazardous materials are stored on Site, an up-to-date list of the materials shall be prepared, specifying their location. This will be reviewed and updated to ensure the storage of these materials takes into consideration their potential impact should an incident occur. The member of Personnel carrying out the verification of Unacceptable Waste will be competent and take into consideration the relevant risks at the workplace and the adequacy of control and other environmental measures put in place. Unacceptable Waste will be stored as detailed in MS 2B (Waste reception) and will be kept in suitable conditions.
Storage and management of IBA	All IBA shall be stored in the IBA treatment plant with the exception of a maximum of two (2) securely covered containers stored adjacent to the IBA building during the Opening Hours.
Operational traffic affecting road users	The Transport Plan set out in MS 4 (Transport) shall be implemented, which will address all activities involving vehicles associated with the operation of the Facility and associated traffic management arrangements (including signage) to and from the Site. Methods set out in MS 4 (Transport), proposed to reduce the reliance on private car trips for Personnel, shall be implemented, such as car sharing initiatives and encouraging cycling to work. Measures to promote reduced mileage and fuel efficiency of Waste vehicles shall also be identified and implemented. All vehicles delivering Waste to, or removing Waste from, the Facility will be required to ensure that all loads or containers are secured to prevent items falling, or being blown, from the load. No open vehicles will be permitted to deliver to the Site.

Environmental aspect/impact	Control measures
	Roads and tipping bays will be kept free of Waste and dirt ensuring that vehicles will not carry pollution to the surrounding roads. Cleaning equipment will be deployed as necessary.
Reduced energy use and carbon efficiency promotion	The Facility will generate all of the electrical energy required for it to function (except during planned or unplanned shutdown periods). The Contractor shall use all reasonable endeavours to ensure that any external energy is obtained from sustainable sources. The Contractor shall annually review the options for the use of heat at both the Javelin Park development and further afield. Carbon efficiency will be ensured through: • energy production optimisations; • optimisation of IBA metal recovery; • minimisation of Landfilling; • reduction of parasitic load; • choices of energy efficient consumables; • optimisation of Product transport; • adoption of the Contractor's internal energy policy to optimise energy efficiency.
Visual amenity	The Site shall be enclosed with fencing to a 2.4m height in order to screen all activities from the public. Good Site management shall be implemented in order to avoid/minimise the generation of litter and dust, both within the Site and around the boundary of the Site. Lighting of the Site boundary adjacent to the B4008 shall be by way of illuminations sufficient for the safety of the passing public, including visually and mobility impaired people. In particular, precautions shall be taken to avoid shadows cast by the Site fencing on surrounding footpaths and roads. Site lighting shall be kept to a minimum in order to minimise visual intrusion and light spillage, however still providing a minimum brightness for adequate security and safety. The layout of the Facility shall take into consideration the visual impact of the building on the surrounding area, minimising its impact through landscape planting as necessary, screening and the appropriate selection of materials to ensure the Facility blends in with the surrounding environment as much as possible. Careful location of tree and shrub planting groups will ensure a visual linkage and continuity between adjoining trees and fields and also screen the Facility from the M5 motorway where possible. Maintenance, in accordance with the Maintenance Requirements, of the Equipment, infrastructure and landscaping is detailed in MS 2F (Maintenance).

Environmental aspect/impact	Control measures
Litter	The Contractor shall maintain the Site in a clean and tidy condition and shall be a good neighbour to the local community in accordance with the procedures set out in the Environmental Monitoring Plan and paragraphs 9.1 and 9.6 of Schedule 2 (Output Specification) of the Contract. Waste shall be tipped within an enclosed tipping hall and maintained under negative air pressure. All loads arriving and departing from the Facility will be required to be properly sheeted or contained in order to prevent litter spilling out at the Facility or on the public highway. Appropriate signage at the entrance to the Facility shall display relevant information relating to on-Site surveillance measures and prosecution. The Contractor shall ensure that the ground within ten (10) metres of the boundary of the Site, including but not limited to access roads and Adjoining Property to which the Contractor can lawfully obtain access without payment of monies, are kept free from litter and debris to at least Grade B classification as per the Defra Code of Practice of Litter and Refuse (CoPoLR). Where fly tipped waste within ten (10) metres of the Site boundary is brought to the attention of the Contractor then the Contractor shall contain and control such fly tipped Waste with consideration to its health and safety obligations within sixty (60) minutes of being notified; and shall remove and dispose of such fly tipped Waste and clean up the affected surrounding area within twenty-four (24) hours. The Contractor shall at all times maintain the Site in a clean and tidy condition free from litter and debris to ensure the Site is maintained at Grade B or above at all times as per the Defra CoPoLR in accordance with paragraph 9.6 of Schedule 2 (Output Specification) of the Contract.
Pests and vermin	Good Site management shall be implemented in order to minimise the generation of litter and dust, both within the Site and around the boundary of the Site, to help reduce the likelihood of vermin and other pests populating the area. The main features incorporated into the design of the Facility in order to avoid such issues are as follows: • total containment of Waste in designated storage areas; • a FIFO management system to prevent Waste being stored longer than is necessary; • effective on-Site vehicle flow, to avoid queuing and waiting times when Waste may "escape" from delivery vehicles; • Site control and supervision measures to ensure vehicles are fully emptied (CCTV and vehicle inspection); and • the Contractor will enter into an environmental management contract for the Facility that shall minimise vermin and other pests.

Environmental aspect/impact	Control measures
Archaeology and cultural heritage	Appropriate mitigation measures shall be put in place, such as orientation of the Facility, screening the Facility and selecting appropriate materials for the buildings in order to blend into the surrounding environment. Any other required measure will be put in place in accordance with the Planning Permission.
Security concerns	Security shall be maintained on a twenty-four (24) hour basis so as to prevent unauthorised entry to the Site. Site gates shall be closed and locked to prevent trespassing and vandalism when the gatehouse and weighbridges are closed. Any alarms shall meet health and safety requirements and the requirements of the Code of Practice on Noise from Audible Intruder Alarms 1982. Site security cameras, where used, shall be placed in locations that will not cause any offence to local residents. Details of security arrangements are provided in MS 2A (Operational interface). The Site shall be sufficiently and adequately fenced off from members of the public and to prevent any animals from straying onto the Site. A health and safety management plan, as set out in MS 5ABC (Contract Management and Management Information System), shall be implemented, setting out the procedures to be followed in order to ensure the safety of Personnel and the public on Site at all times.
Employment	See local recruitment procedures set out in MS 5D (Personnel).
Major incident (for example, fire, natural disaster)	The Contractor shall ensure the correct implementation of health and safety measures, such as suitable working methods and the correct use of PPE at all times. The Emergency plan shall be implemented to ensure that impacts from any potential major accident are kept to a minimum. The contents of the Emergency plan included in MS 6 (Health and Safety) will be further developed. The separate areas of the Site will be designed to isolate and prevent the spread of fire. Each of these areas will have its own specific fire detection and control system. The key measures will include: • fire detection systems; • water cannons and sprinkler systems; • large volume on-Site fire water containment vessel; • concrete fire wall between the Waste bunker and process plant; • material selection to reduce fire risks; • cleaning procedures to reduce build-up of fluff; • equipment temperature monitoring and automatic alarm systems; and • redundant FGT water fed pumps to protect the bag filter system in the event of failure.

Table MS2E.1 - Current environmental impacts register including mitigation and control measures. This table will be periodically updated throughout the duration of the Contract

The Contractor shall finalise and agree with the Authority the Environmental Monitoring Plan prior to the Readiness Date and will update this plan monthly throughout the Contract Period to ensure Good Industry Practice in accordance with paragraph 9.7.2 of Schedule 2 (Output Specification) of the Contract. The Contractor shall provide the procedures and actions required by paragraph 9.7.3 of Schedule 2 (Output Specification) of the Contract within the Environmental Monitoring Plan. This will include detailed risk assessments to minimise any adverse environmental impacts and the mitigation and control measures to be taken. Table MS2E.1 above provides further details of the Contractor's current approach, including the mitigation and control measures to be followed to ensure the Facility will meet WID standards and the conditions of its Consents.

A full record of inspections, maintenance and measures required to be carried out in order to comply with the Consents shall be maintained in line with the Environmental Monitoring Plan and in accordance with the EMS, and will be archived in the MIS.

The Contractor shall comply with the latest version of the Environmental Monitoring Plan, in accordance with paragraph 9.7.5 of Schedule 2 (Output Specification) of the Contract.

The Contractor shall implement all required updates and amendments to the Environmental Monitoring Plan through the MIS at the Contractor's cost, in accordance with paragraph 9.7.6 of Schedule 2 (Output Specification) of the Contract. The latest version of the Environmental Monitoring Plan will be clearly marked as such and will be distributed to all relevant Personnel. Old versions will be archived to avoid confusion. Certification of the inspections, maintenance description and all the versions of the Environmental Monitoring Plan will be made available to the Authority.

In accordance with paragraph 9.1 of Schedule 2 (Output Specification) of the Contract, the Contractor shall be a good neighbour to the local community and will avoid causing nuisance to Site users, neighbours and pollution to the local environment at all times. This will be achieved through the introduction of the environmental protection measures detailed in Table MS2E.1 above and the Site rules as set out in the Operating Manual. These Site rules will enable the Contractor to deal with those Site users which do not comply with relevant sections of Schedule 2 (Output Specification) of the Contract, and to impose appropriate sanctions where necessary.

All vehicles arriving and departing the Facility will be managed in line with the Site rules as set out in MS 4 (Transport).

All activities subject to impact on the surrounding environment will be compliant with current Legislation and Guidance and in accordance with the updated version of the Environmental Monitoring Plan.

Tests will be carried out by accredited laboratories to establish certain emissions from the Facility. The measuring Equipment will require installation so the Facility will be designed with adequate platforms and stairs to allow technical Personnel to carry out measurements.

The Contractor will employ a full range of monitoring systems as required under the Environmental Permit. This will include the parameters listed in Table MS2E.2 below.

Parameter	Monitoring (continuous emissions monitoring (CEM) or spot monitoring)
Particulate	CEM stack
HCl	CEM stack
SO2	CEM stack
NOx	CEM stack
CO	CEM stack
VOC	CEM stack
Ammonia (NH3)	CEM stack
HF	(as required by Environmental Permit)
Hg	(as required by Environmental Permit)
Cd	(as required by Environmental Permit)
Pb + other metals	(as required by Environmental Permit)
PCDD/F	(as required by Environmental Permit)
Oxygen (O2)	CEM - combustion control monitor
H2O	CEM - combustion control monitor

Table MS2E.2 – Monitoring systems to be employed

2. Part 2 - Sustainability

2.1. Sustainability strategy

The Contractor shall contribute to reducing climate change impacts and sustainable development in Gloucestershire by, as a minimum, the measures set out below.

- Providing a reliable means of reducing Landfill (please refer to WDP 2B (Technology) Part 3 for the associated performance guarantee table (Diversion Rate)).
- Recovering energy from Waste (the non-fossil fraction is close to carbon-neutral).
- Complying with the emission levels (please refer to WDP 2B (Technology) Part 3 for the associated performance guarantee table).
- The electrical energy consumed at the Facility shall be sourced from the Facility's own production of energy (except during planned or unplanned shutdown periods). The Contractor will also seek to reduce the amount of energy used internally from non-renewable resources, use energy efficiently and reduce greenhouse gas emissions.
- Use and promote sustainable transport measures (further details of the Contractor's approach to delivering a sustainable solution are provided in MS 4 (Transport)).
- Maintain the landscaping scheme which is designed to enhance the biodiversity of the Site.
- The outdoor amenity and wildlife zone will add further opportunities for community use and education regarding climate change and its effects on biodiversity. The wildlife zone at the Facility will be used to inform visitors about the biodiversity of Gloucestershire and the need to protect this.
- Use suppliers or Sub-Contractors that have environmental standards compatible with the Contractor's own standards wherever possible.
- When replacing Equipment and fixed installations during maintenance works, conduct periodic technical reviews in the light of best available technique (BAT) in order to maximise environmental performance (within the bounds of commercial and operational viability).
- Conduct periodic market reviews in order to maximise Third Party Income to the benefit of the Parties (for example, via the Renewable Heat Incentive).
- Constantly review Legislation and Guidance to consider best practice and potential Change in Law impacts.
- Positively contribute to the sustainable economic growth of local communities, providing local employment opportunities and training for Personnel wherever possible. Please refer to MS 5D (Personnel) for further details.
- Involve, where appropriate, the Contractor's central research and development department in identifying new technologies and/or processes which may support the improvement of the Facility's performance, subject to key performance targets continuing to be met with the introduction of such new measures.

- Monitor the performance of the Facility through the collection and recording of data through the MIS and compare results in order to identify possible areas/Equipment/fixed installations which could be subject to improvement. The feasibility of such improvement will be reviewed by the Contractor always taking into consideration the environmental and financial balance.

The Site layout and structures are designed to allow for climate change impacts, such as:

- flood risk and increased rainfall;
- ambient temperature change; and
- wind storms;

by means of:

- minimised storm-water collection surfaces - use of green space to provide natural drainage where possible;
- maintaining the original stream which flows on Site;
- drainage and flood alleviation measures including oversized drainage and shut off valves;
- a large volume on-Site attenuation pond;
- innovative roof water harvesting and storage capacity and overflow; and
- best practice stack wind tolerance characteristics.

2.2. Procedure for the use of sustainable suppliers and Sub-Contractors

During the Services Period the Contractor shall adopt a sustainable procurement strategy, which will be finalised prior to the Services Commencement Date.

2.2.1. Establishing critical suppliers and Sub-Contractors

As part of the sustainable procurement strategy, the Contractor shall complete and maintain a list of approved suppliers or Sub-Contractors who are considered critical suppliers and supply either products or services as described below.

- Consultants/training providers.
- Third Party Waste management contractors/Waste carriers.
- Laboratories/testing/calibration suppliers.
- Maintenance Sub-Contractors undertaking routine scheduled maintenance.
- Sub-Contractors undertaking activities which have the potential to cause significant environmental impacts (for instance, bulk fuel/oil deliveries, bulk ammonia and other material suppliers).
- Sub-Contractors undertaking tests and activities critical to occupational health and safety (for example, portable appliance testing (PAT) testing, lifting certificates).

The data retained about the approved suppliers or Sub-Contractors shall include:

- approved supplier number;

- name, address and contact names;
- telephone number/fax number/email; and
- approval/competence details, for example, certification body and registration number.

2.2.2. Evaluation criteria

The Contractor shall evaluate suppliers of products and services and Sub-Contractors by the following methods:

- using companies who have previously demonstrated that they can satisfy the Contractor's order requirements;
- sustainability credentials by reference to recognised quality systems such as quality management systems (BS EN ISO 9001) and environmental systems (BS EN ISO 14001);
- for Third Party Waste management companies, obtaining a copy of their Waste [redacted]