



**POLLUTION PREVENTION AND CONTROL ACT 1999
ENVIRONMENTAL PERMITTING (ENGLAND & WALES) REGULATIONS
2016 (As Amended)**

**Permit Number: 5.1/040864/JT4
Installation Address: City Road Crematorium
Sheffield City Council
Bereavement Services
City Road
Sheffield
S2 1GD**

In accordance with Regulation 13 (1) of the Environmental Permitting (England and Wales) Regulations 2016 as amended, Sheffield City Council is hereby permitted to operate a scheduled activity at the address detailed above, namely the cremation of human remains as described in Schedule 1, Part 2, Chapter 5, Section 5.1, Part B, subsection (b) and subject to the following Permit conditions.

Signed

Dated this day: 18th October 2022

**Commercial Team Manager
Authorised by Sheffield City Council to sign on their behalf**

The Secretary of States Guidance PG 5/2 (12) Statutory Guidance for Crematoria has provided the framework for the conditions in this Permit.

Name & Address of Operator:

Sheffield City Council
Bereavement Services
City Road Crematorium
City Road
Sheffield
S2 1GD
Contact Ellie Fraser Tel: 07970862606

Registered Office:

Sheffield City Council
Bereavement Services
City Road Crematorium
City Road
Sheffield
S2 1GD

Address of Permitted Installation:

City Road Crematorium
Sheffield City Council
Bereavement Services
City Road
Sheffield
S2 1GD

Holding Company:

No.

Talking to Us

Any communication with Sheffield City Council should be made to the following address quoting the Permit Number:

**ENVIRONMENTAL PROTECTION SERVICE
SHEFFIELD CITY COUNCIL
HOWDEN HOUSE, FLOOR 5
UNION STREET
SHEFFIELD
S1 2SH**

Alternatively Email: epsadmin@sheffield.gov.uk or ippc@sheffield.gov.uk
Telephone: (0114) 273 4651

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Explanatory Note to Pollution Prevention and Control Permit for Part B Installations.

(This note does not form a part of the Permit)

The following Permit is issued under Regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016 (S.I. 2016 No.1154), as amended, (“the EP Regulations”) to operate an installation carrying out activities covered by the description in Part 2, Chapter 5, section 5.1, Part B, subsection (b) of Schedule 1 of those Regulations, to the extent authorised by the Permit.

Process Changes

Under the provisions of the EP Regulations, you are required to notify the Council of any proposed change in operation at least 14 days before making the change. This must be in writing and must contain a full description of the proposed change in operation and the likely consequences. Failure to do so is an offence.

If you consider that a proposed change could result in the breach of the existing permit conditions or is likely to require the variation of permit conditions then you may apply in writing under Regulation 20(1) of the EP Regulations. Additionally, if this involves a SUBSTANTIAL CHANGE to the installation you will be required to submit an application, pay the relevant fee and advertise the application accordingly. You may serve a Notice on the Council requesting that they determine whether any change that is proposed would constitute a substantial change before you proceed with application.

Variations to the Permit

The Permit may be varied in the future by the Council serving a Variation Notice on the Operator. If the Operator wishes any of the Conditions of the Permit to be changed, a formal Application must be submitted.

Surrender of the Permit

Where the Operator of a Part B installation or mobile plant ceases or intends to cease the operation of the activity the Operator may notify the regulator of the surrender of the whole permit, in any other case, notify the regulator of the surrender of the permit in so far as it authorises the operation of the installation or mobile plant which he/she has ceased or intends to cease operating. The notification shall contain information as described in Regulation 24 or 25 of the EP Regulations.

Transfer of the Permit or Part of the Permit

Before the Permit can be wholly or partially transferred to another person, a joint application to transfer the Permit has to be made by both the existing and proposed holders, in accordance with Regulation 21 of the EP Regulations. A transfer will be allowed unless Sheffield City Council considers that the proposed holder will not be the person who will have control over the operation of the installation or will not ensure compliance with the conditions of the transferred Permit.

Annual Subsistence Fee

In accordance with the EP Regulations, the holder of a permit is required to pay a fee for the subsistence of the Permit. This fee is payable annually on 1st April. You are advised that under the provisions the EP Regulations, if you fail to pay the fee due promptly, Sheffield City Council may revoke the Permit. You will be contacted separately each year in respect to this payment.

Public Register

The Council is required by Regulation 46 of the EP Regulations to maintain a Public Register containing information on all LAPPC installations and mobile plant. The register is available for inspection by the public free of charge during office hours (Monday to Friday 9.00 am to 5.00 pm) at the following address:

Environmental Protection Service
Sheffield City Council
Floor 5 Howden House
Union Street
Sheffield
S1 2SH

Tel: 0114 273 4651 or email epsadmin@sheffield.gov.uk or ippc@sheffield.gov.uk.

Confidentiality

Sheffield City Council has a duty to consider the question of confidentiality of information supplied to it. If any information supplied is considered confidential, a statement of which information this applies to and the reasons why it is considered confidential should be specified. The Operator is reminded that he may apply to Sheffield City Council for the exclusion of information from the public register under the provisions of the Environmental Permitting (England and Wales) Regulations 2016 as amended.

Appeals

Under Regulation 31 of the EP Regulations Operators have the right of appeal against the conditions attached to their permit. Schedule 6 of the EP Regulations sets out the detailed procedures.

Appeals against a Variation Notice do not have the effect of suspending the operation of the Notice. Appeals do not have the effect of suspending Permit conditions.

Notice of appeal against the conditions attached to the permit must be given within six months of the date of the Notice, which is the subject matter of the appeal.

How to Appeal

There are no forms or charges for appealing. However, for an appeal to be valid, appellants (the person/Operator making the appeal) are legally required to provide:

- Written notice of the appeal;
- A statement of the grounds of appeal;
- A statement indicating whether the appellant wishes the appeal to be dealt with by written representations procedure or a hearing – a hearing must be held if either the appellant or enforcing authority requests this, or if the Planning Inspector or the Secretary of State decides to hold one.
- (Appellants must copy the above three items to the local authority when the appeal is made)
- A copy of any relevant application;
- A copy of any relevant permit;
- A copy of any relevant correspondence between the appellant and the regulator; and
- A copy of any decision or notice, which is the subject matter of the appeal.

Where to Send Your Appeal Documents

Appeals should be addressed to:

**The Planning Inspectorate
Environmental Appeals Administration
Room 4/19 – Eagle Wing
Temple Quay House
2 The Square
Temple Quay
Bristol BS1 6PN**

In the course of an Appeal process the main parties will be informed of procedural steps by the Planning Inspectorate.

To withdraw an appeal the appellant must notify the Planning Inspectorate in writing and copy the notification to the local authority.

Enforcement

An **Enforcement Notice** may be served if the Local Authority believes an Operator has contravened, is contravening or is likely to contravene any condition of his Permit.

A **Suspension Notice** may be served if in the opinion of the Local Authority the operation of an installation involves an imminent risk of serious pollution. This applies whether or not the Operator has breached a Permit condition.

The Local Authority can revoke a Permit by written notice at any time by serving a **Revocation Notice**. The Permit then ceases to authorise the operation of the installation.

Offences

A limited summary of the offences is listed below:

- a) operation of an installation without a Permit
- b) failure to comply with or contravene a Permit condition
- c) failure to comply with the requirements of an enforcement or suspension notice

A full list is available under Regulation 38 of the Environmental Permitting (England & Wales) Regulations 2016 as amended.

Penalties

The maximum penalties for the above offences are a fine not exceeding £50,000 and/or up to twelve months imprisonment per offence for a summary conviction (in a Magistrates Court); and a fine and/or up to five years imprisonment for conviction on indictment (in a Crown Court).

Definitions

In relation to this Permit, the following expressions shall have the following meanings:

“Application” means the application for this Permit, together with any response to a notice served under Schedule 4 to the EPR Regulations and any operational change agreed under the conditions of this Permit.

“EPR Regulations” means the Environmental Permitting (England and Wales) Regulations S.I.2016 No. 1154 (as amended) and words and expressions defined in the EPR Regulations shall have the same meanings when used in this Permit save to the extent they are explicitly defined in this Permit.

“Permitted Installation” means the activities and the limits to those activities described in this Permit.

“Monitoring” includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys.

“Regulator” means any officer of Sheffield City Council who is authorised under section 108(1) of the Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in Section 108(1) of that Act.

“BAT” means the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing in principle the bases for emission limit values designed to prevent, and where that is not practical, generally to reduce emissions and the impact on the environment as a whole. For those purposes:

“available techniques” means those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the United Kingdom, as long as they are reasonably accessible to the Operator;

“best” means, in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole; “techniques” include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned. Schedule 2 of the Regulations shall have effect in relation to the determination of best available techniques, and;

“Fugitive Emission” means an emission to air from the permitted installation that is not controlled by an emission limit imposed by a condition of this Permit.

Where any condition of this Permit refers to the whole or parts of different documents, in the event of any conflict between the wording of such documents, the document with the most recent publication date shall be taken to be the most appropriate document to be used.

Description of Activities

This Permit relates to the cremation of human remains in 2 cremators.

The scope of the activity comprises:

The receipt of coffins containing human remains:

The cremation of human remains:

The reduction of the calcined residues from the cremation:

The receipt, handling, storage of materials and wastes relating to the activity.

The cremation process is based on the rapid and efficient combustion in dual chamber forced draught cremators. The combustion of the coffin and cadaver occurs in the primary chamber, with products of incomplete combustion and particulates then further combusted in the secondary chamber.

The cremators are both gas fired Facultatieve Technologies FTIII Cremators (for larger coffins). Emissions from each cremator are ducted to a flue gas treatment system to abate flue gas emissions of acidic flue gas components, particulates, heavy metals (including mercury) and dioxins/furans.

Prior to flue gas treatment, the gases to be filtered are cooled to a temperature suitable for the filters to handle.

A general system layout can be seen in Schedule 1.

The flue gases enter a cooler via a refractory lined duct, and cooled down to the filter operating temperature of 150°C. The heat removed is transferred in a sealed water/glycol circulation system to a dedicated air blast cooler located outside. The water/glycol system is fitted with a heat exchanger to allow the heat recovered to be used to heat buildings on site.

Once flue gases are cooled, fresh reagent additive (Factivate 20) is added. The gases and reagent are homogeneously mixed prior to entering a fabric filter.

Each cremator is ducted to a separate bank of Nederman FD type bag filters.

In the filter the spent reagent and particulate from the cremator are removed from the flue gases.

Within the fabric filter, a cake of additive and dust builds up on the filter bags during the working day. The filter capacity is designed to accommodate a full day's operation without the need to clean the filter media. In the event of a build up of material in the filter there is an online cleaning facility.

The adsorption of the mercury, dioxins and furans occurs with the reagents in the flue gas stream and in the dust/reagent cake on the filter bags. The concentration of HCl is reduced by reaction with the chemical reagent.

At the end of the working day, the released dust cake falls into the filter hopper and is transported by a mechanical screw to a waste container for disposal.

An induced draught fan draws the cleaned gases through the fabric filter, and passes it to atmosphere via 16.23m chimney stack.

Following cremation, the calcined residues are milled in a Facultatieve Technologies High Speed Cremulator. Dust extraction, for this process, is provided to this area by means of a Facultatieve Technologies Ash Transfer Cabinet with integral dust extractor with bag-filter and filter shaker.

The activities are carried out within the installation boundary marked in green on Schedule 2.

CONDITIONS OF PERMIT.

The following conditions shall be complied with immediately unless otherwise stated.

Section 1 – Upgrading

- 1.1 There are no Upgrading requirements

Section 2 – Plant and Equipment

- 2.1 The activities at the installation shall be carried out within the installation boundary as indicated on the installation location plan shown in Schedule 2 of this Permit.
- 2.2 Permitted activities shall only be carried on using the plant and equipment as detailed in the Description of Activities and on the Installation Layout reproduced in Schedule 3 of this Permit.
- 2.3 The Operator shall notify the Regulator of any proposed operational changes, including any alterations to the process involving the provision of new plant or equipment which may affect emissions or have consequences for the environment. The information shall be submitted at least 14 days before the changes take place.

Section 3 – Emission Limits

- 3.1 Emissions from the cremators shall in normal operation, which includes start up and shut down, be free from visible smoke and no emission from the cremators shall exceed the equivalent of Ringelmann Shade 1 as described in British Standard BS2742:2009.
- 3.2 Emissions from cremators in normal operation shall be free from droplets, other than steam and condensed water vapour.
- 3.3 Emissions from cremators in normal operation shall be free from persistent visible emissions.
- 3.4 There shall be no offensive odour arising from the activity detectible beyond the installation boundary as shown in Schedule 2, as perceived by the Regulator.
- 3.5 There shall be no burning of materials, including waste, in the open air, inside buildings or in any form of incinerator other than the cremators, in connection with the activities within the installation boundary, without permission in writing from the Regulator.

- 3.6 The best available techniques shall be used to prevent or, where that is not practicable, reduce emissions from the installation in relation to any aspect of the operation of the installation which is not regulated by any other condition of this Permit.
- 3.7 Emissions from the cremators shall discharge via the two stacks at a minimum height of 16.23 metres, with a minimum efflux velocity of 15m/s. The stacks shall not be fitted with any final restriction such as a plate, cap or cowl.
- 3.8 Emissions shall be expressed at reference conditions 273K, 101.3kPa, 11% oxygen v/v dry gas.
- 3.9 Emissions of cremation pollutants, as detailed in Schedule 4, shall be monitored at the frequency described in the table in Schedule 4.
- 3.10 The introduction of dilution air to achieve the emission limits is not permitted.
- 3.11 Sampling points shall be designed to comply with the relevant British Standard to allow compliance with sampling standards.

4.0 Control Techniques

- 4.1 The temperature in the secondary combustion chamber of each cremator shall not be less than 800°C (1073K) as measured at the last measuring thermocouple after the exit of the secondary combustion zone.
- 4.2 When the cremators are operating without abatement, such as under emergency conditions and by-pass, the minimum temperature of the secondary combustion chamber shall be 850°C.
- 4.3 Temperatures shall be monitored continuously, recorded automatically and shall have a visual alarm when the temperature drops below 800°C. Each alarm event shall be automatically recorded.
- 4.4 The residence time in the secondary combustion chamber of the 2 cremators shall be 2 seconds.
- 4.5 The cremators shall be interlocked to prevent loading when the temperature in the secondary combustion zone is below 800°C
- 4.6 There shall be no discharge of smoke, fumes, or other substances during the charging of each coffin.
- 4.7 The charging system shall be interlocked to prevent the introduction of a coffin to the primary combustion zone unless the secondary combustion zone temperature exceeds 800 °C, or 850 °C if abatement is not in use.

- 4.8 All cremators shall be designed to ensure complete combustion and fitted with a secondary combustion zone. The manufacturer shall state the volume of the secondary combustion zone. When re-bricking a cremator, the convolutions of the secondary combustion chamber shall be maintained and the volume of the chamber recalculated and restated.
- 4.9 Each cremator and all the ductwork shall be maintained as gas tight if under positive pressure to prevent the escape of gases from the ductwork or cremator to the air.
- 4.10 Cremated remains shall be moved and stored in lidded containers; cremated remains shall not be stored in open bags or containers.
- 4.11 Dusty materials, dusty wastes and wastes containing mercury shall be kept tightly contained.
- 4.12 The remains in the cremator shall only be removed when calcination is complete.
- 4.13 Ash and non-combustible residues shall be removed from the cremator in such a way as to prevent dust emissions via the flue.

5.0 Monitoring, Investigation and Reporting

- 5.1 The results of all checks and assessments carried out in accordance with Permit conditions shall be recorded in a logbook or recording system. The record shall state:
- the time, date and result of the assessment;
 - the name of the person making the assessment;
 - the observation position;
 - the status of the activity at the time of observation; and
 - the prevailing weather conditions including the wind strength and direction.
- 5.2 In the case of abnormal emissions, malfunction or breakdown leading to abnormal emissions, the Operator shall:
- investigate the cause and undertake remedial action immediately;
 - adjust the process or activity to minimise those emissions; and
 - promptly record the events and actions taken.
- 5.3 The Regulator shall be informed without delay, whether or not there is related monitoring showing an adverse result:
- if there is an emission that is likely to have an effect on the local community; or
 - in the event of the failure of key arrestment plant; or
 - in the event of the use of the bypass or emergency relief vent; or
 - if continuous monitoring results exceed twice the specified emission limit

5.4 A Zirconium Oxide Sensor linked to the Facultatieve Technologies computerised cremator control system shall continuously monitor oxygen concentrations at the outlet of the secondary combustion zone of each cremator. It shall be connected to an alarm which activates when oxygen falls below 3%. Alarm activations shall be automatically recorded by the computer system. Regular checks on the monitoring equipment shall be carried out by staff and any faults or failures shall be recorded in the log book or recording system.

5.5 Emissions of total particulate matter at the outlet of each individual Flue Gas Treatment System shall be continuously indicatively monitored using a PCME Dust Alert 65-02 particulate monitor. The monitor shall act as a filter leak detector as specified in PG5/2 (12) in order to detect malfunction of the abatement plant. All readings shall be continuously logged and recorded by the computer control system along with any alarm events. Alarm levels will be set at values agreed with the Regulator.

The continuous monitoring equipment shall have visual alarms and each alarm event shall be recorded. The continuous monitoring equipment shall be serviced annually in accordance with the manufacturer's instructions.

5.6 No continuous particulate emission result shall exceed the emission concentration limit of $20\text{mg}/\text{m}^3$ when averaged over any hour of cremation. No 15 minute mean emission concentration shall exceed twice the limit specified in Schedule 4 during normal operating conditions. The Regulator shall be informed in the event that any continuous monitoring result exceeds twice the emission limit specified.

5.7 Emissions from each individual cremator shall be continuously monitored for carbon monoxide using an infra-red sensor linked to the Facultatieve Technologies computerised control system. Data shall be acquired at intervals of 10 seconds or less. Regular checks on the monitoring equipment shall be carried out by staff and any faults or failures shall be recorded in the logbook or recording system kept in accordance with this Permit.

5.8 Gas temperatures in the secondary combustion zone of each cremator shall be monitored. Temperatures at the entrance and after the exit from the secondary combustion zone shall be continuously monitored and recorded. The monitor shall trigger an alarm when the temperature drops below 800°C (1073K) when running abated, or 850°C (1123K) in an unabated bypass condition. Alarm activations shall be automatically recorded by the computer system.

- 5.9 All continuous monitoring readings shall be on display to appropriately trained operating staff and fitted with an audible and visual alarm fitted with the ability to warn the operator of arrestment plant failure or malfunction. Activation of the alarms shall be automatically recorded.
- 5.10 Emission concentrations may be reported as zero when the plant is off and there is no flow from the stack.
- 5.11 Each continuous emissions monitor (CEM) shall provide reliable data >95% of the operating time (i.e. availability >95%). A manual or automatic procedure shall be in place to detect instrument malfunction and to monitor instrument availability.
- 5.12 The continuous monitoring equipment shall be operated, maintained, and calibrated in accordance with the manufacturer's instructions. The maintenance and calibration shall be recorded in the logbook referred to in condition 5.1.
- 5.13 Every 6 months the Operator shall submit a report containing continuous monitoring data for carbon monoxide. The data shall be submitted covering each period of either four weeks or a calendar month:
- a. Values that exceed the 95% limit for carbon monoxide in that period;
 - b. 60-minute mean emission values that exceed the 100% limit for carbon monoxide in that period;
 - c. A list of the highest 60-minute mean emission value for each period;
 - d. The 95th percentile value for each period.
- 5.14 For temperature and oxygen, the Operator shall report the following continuous monitoring value to the Regulator every 6 months:
- a. Secondary chamber entrance temperature, 4-weekly/monthly maximum and minimum (of 5-minute averages);
 - b. Secondary chamber exit temperature, 4-weekly/monthly maximum and minimum (of 5-minute averages);
 - c. Oxygen concentration, 4-weekly/monthly minimum (of 5-minute averages).
- 5.15 Where any values given in condition 5.13 and 5.14 are exceeded in any 4-weekly/monthly or 6-monthly reporting period, the records shall be kept to identify the number of times that the limit was exceeded during the reporting period, the levels of the exceedance, and the time, date and cremation reference. This data shall be kept on site and made available to the Regulator on request.

- 5.16 Particulate emissions from the process shall be monitored annually to check compliance with the emission limit specified in Schedule 4. Test method BS EN: 13284-1, with averages taken over operating periods, excluding start-up and shutdown, shall be used unless agreed in writing with the Regulator.
- 5.17 Hydrogen chloride emissions from the process shall be monitored annually to check compliance with the emission limit specified in Schedule 4. Test method BS EN: 1911 parts 1 to 3 shall be used unless agreed in writing with the Regulator.
- 5.18 Carbon monoxide emissions from the process shall be monitored annually to check compliance with the emission limit specified in Schedule 4. Test method BS ISO 15058 shall be used unless agreed in writing with the Regulator.
- 5.19 Organic compounds (excluding particulate matter) expressed as carbon shall be monitored annually to check compliance with the emission limit specified in Schedule 4. Test method BS EN 12619 shall be used unless agreed in writing with the Regulator.
- 5.20 Mercury emissions from the process shall be monitored annually to check compliance with the emission limit specified in Schedule 4. Test method BS EN 13211 shall be used unless agreed in writing with the Regulator.
- 5.21 The Operator shall investigate adverse results from either the non-continuous or continuous monitoring as soon as the monitoring data is obtained. The Operator shall:
- Identify the cause of the adverse result and take corrective action;
 - Record as much detail as possible regarding the cause and extent of the problem, and the action taken to rectify the situation;
 - Retest to demonstrate compliance as soon as possible; and
 - Notify the Regulator within 1 day of receiving the re-test results.

5.22 The Operator shall send to the Regulator by 1 April annually, a certificate from the Crematoria Abatement of Mercury Emissions Organisation (CAMEO) or appropriate evidence from a comparable audited burden sharing arrangement or scheme which specifies:

- a. The total number of cremations in the past 12 months;
- b. The number of cremations undertaken in cremators fitted with operational mercury abatement equipment in the previous 12 months; or
- c. The number of cremations undertaken in the previous 12 months and the proportion of those subject to burden sharing arrangements under which money is paid for the benefit of abated crematoria; or
- d. In cases where mercury abatement is fitted but fewer than 50% of cremations at the installation were undertaken in cremators fitted with it in the previous 12 months, the relevant information in both b) and c).

5.23 A visual and olfactory assessment of emissions shall be made at least once per day whilst cremation is occurring to check compliance with conditions 3.1, 3.2, 3.3 and 3.4. The results of these assessments and the location at which they were carried out shall be recorded in the log book or recording system kept in accordance with condition 5.1.

5.24 Records of gas consumption shall be kept and recorded on a quarterly basis. Gas consumption shall be converted to CO₂ emissions using the following equation:

$$\text{Gas usage (kWh)} \times \text{conversion factor} = \text{kgCO}_2\text{e}$$

[Environmental reporting guidelines: including Streamlined Energy and Carbon Reporting requirements - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/environmental-reporting-guidelines-including-streamlined-energy-and-carbon-reporting-requirements)

Records shall be submitted to the Regulator annually.

5.25 Records in the logbook or recording system shall be kept on site for at least two years and shall be made available for inspection by the Regulator upon request.

5.26 All reports and notifications required by this Permit, or under any Regulation under the Environmental Permitting Regulations 2016, as amended, shall be sent to the Regulator. Unless notified in writing, all reports, notifications and communications in respect of this Permit shall be sent to:

Sheffield City Council,
Environmental Protection Service,
Floor 5 North Howden House
1 Union Street
Sheffield
S1 2SH

epsadmin@sheffield.gov.uk or ippc@sheffield.gov.uk

5.27 The Operator shall inform the regulator at least 7 days in advance of the intention to sample emissions. The Operator shall submit the Site Specific Monitoring Protocols produced by the monitoring consultants, including the date of sampling, pollutants to be sampled and the methods to be used.

5.28 The Operator shall submit the results of the annual non-continuous emissions monitoring within 8 weeks of completion of sampling.

6.0 Records and Training

6.1 Staff at all levels shall receive training and instructions necessary for their duties and shall include the following.

- Responsibilities under the Permit;
- Minimisation of emissions;
- Actions during abnormal emissions including dust suppression.

6.2 The Operator shall keep and maintain a statement of training requirements for each operational post and keep a record of the training received by each employee whose actions may have an impact on emissions. These documents shall be made available to the Regulator upon request.

- 6.3 The Operator shall ensure that all records required to be made by this Permit and any other records made by it in relation to the operation of the permitted process shall:-
- a. be made available for inspection by the Regulator at any reasonable time;
 - b. be supplied to the Regulator on demand and without charge;
 - c. be legible;
 - d. be made as soon as reasonably practicable;
 - e. indicate any amendments which have been made and shall include the original record wherever possible, and;
 - f. be retained at the Permitted installation, or other location agreed by the Regulator in writing, for a minimum period of 2 years from the date when the records were made, unless otherwise agreed in writing.

7.0 Complaints

- 7.1 The Operator shall implement a written complaints procedure to be followed by the Operator in the event of any complaint from the general public. Records of complaints relating to emissions shall be kept for a minimum of two years and made available for the Regulator upon request.

8.0 General Conditions

- 8.1 The Operator shall notify the following to the Regulator, in writing, within 14 days of their occurrence: -
- Any change in the name of Sheffield City Council Bereavement Services registered name or registered office address;
 - A change to any particulars of any ultimate holding company (including details of an ultimate holding company where Sheffield City Council Bereavement Services has become a subsidiary);
 - Any steps taken with a view to Sheffield City Council Bereavement Services going into administration, entering into a company voluntary arrangement or being wound up.

- 8.2 The Operator shall notify the Regulator **without delay and within 1 day** of: -
- a. The detection of an emission of any substance, which exceeds any limit or criterion in this Permit, specified in relation to the substance;
 - b. The detection of any fugitive emission that has caused, is causing or may cause significant pollution, unless the quantity emitted is so trivial that it would be incapable of causing significant pollution;
 - c. The detection of any malfunction, breakdown or failure of plant or techniques which has caused, is causing or has the potential to cause significant pollution;
 - d. Any accident, which has caused, is causing or has the potential to cause significant air pollution.
- 8.3 The Operator shall give written notification to the Regulator in the following instances;
- a. Permanent cessation of the operation of any part of, or all of the Permitted Installation;
 - b. Cessation of the operation or any part of, or all of the Permitted installation for a period, likely to exceed 1 year:
 - c. Resumption of the operation of any part of, or all of the Permitted Installation after a cessation notified under (b) above.
- 8.4 Effective preventative maintenance shall be employed on all plant and equipment concerned with the control of emissions to air. Essential spares and consumables such as thermocouples shall be stored on site or be readily available in 24 hours from guaranteed suppliers, in order to rectify break downs rapidly.
- 8.5 The Operator shall implement and maintain a written planned preventative maintenance programme in relation to permitted pollution control equipment. The programme shall be made available to the Regulator.

9.0 Environmental Management Systems

- 9.1 A list of key arrestment plant shall be maintained on site, each item on the list shall have a written procedure for dealing with its failure, in order to minimise any adverse effects.
- 9.2 Cleaning schedules covering all aspects of the installation including the cleaning of cremator ducts and flue shall be held on site and made available to the Regulator. Flues and ductwork shall be cleaned to prevent accumulation of materials, as part of the routine maintenance programme.

9.3 In the event of the use of an emergency relief vent (ERV)/bypass during cremation:-

- a. The failure, its cause and cure shall be entered in the logbook or recording system; and
- b. The Regulator shall be notified immediately (preferably by email).

The ERV/bypass shall only be used:

- a. When the heat removal plant has failed and the abatement plant would be damaged; or
- b. During warm-up and shutdown, provided that compliance is demonstrated with the carbon monoxide limit.

9.4 A plan shall be maintained for dealing with emergencies which give rise to mass fatalities. This shall address the holding of additional spares and consumables and the training of suitable numbers of staff.

End of permit conditions.

Please Note

Where complaint is attributable to the operation of the installation and is, in the opinion of the Regulator, justified, or if new knowledge develops on the potential for harmful effects from emissions, an immediate review of the Permit shall be undertaken. The Regulator shall subsequently specify any new requirements and compliance time scales.

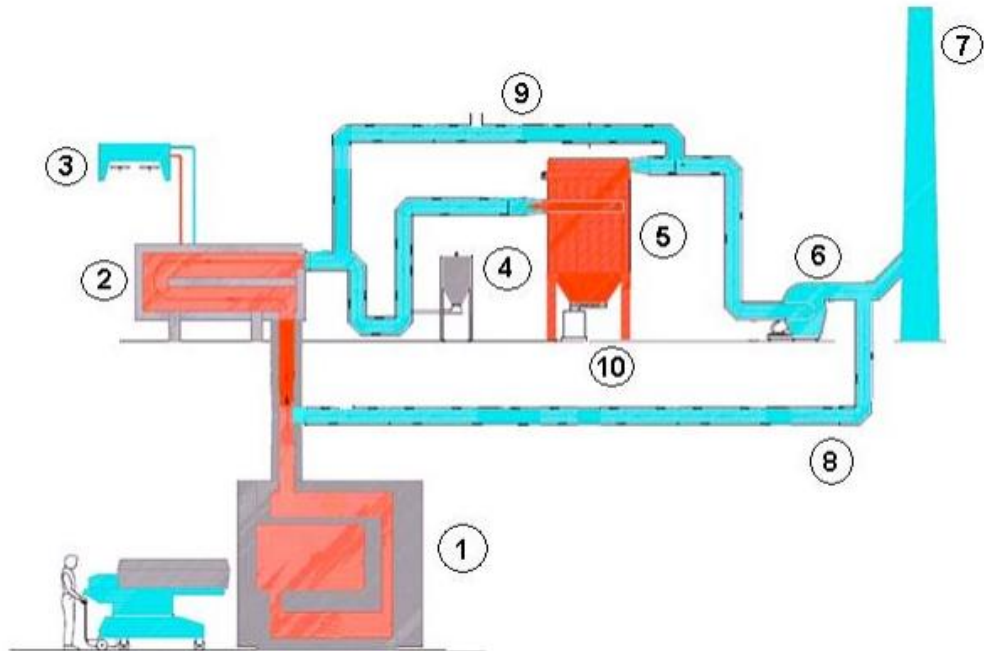
An annual subsistence fee as prescribed by the Secretary of State for the Environment shall be payable, for this Permit, by the process Operator, to the Regulator within 2 weeks of the 1st April of each year.

If the relevant payment is not received by the Regulator, Permit revocation procedures shall be initiated in accordance with Regulation 22 of the Environmental Permitting (England & Wales) Regulations 2016 or any statutory re-enactment of the same.

The requirements of this Permit are not to be taken as planning permission. Where any structural alterations are necessary to ensure compliance with this Permit then the normal planning channels should be followed.

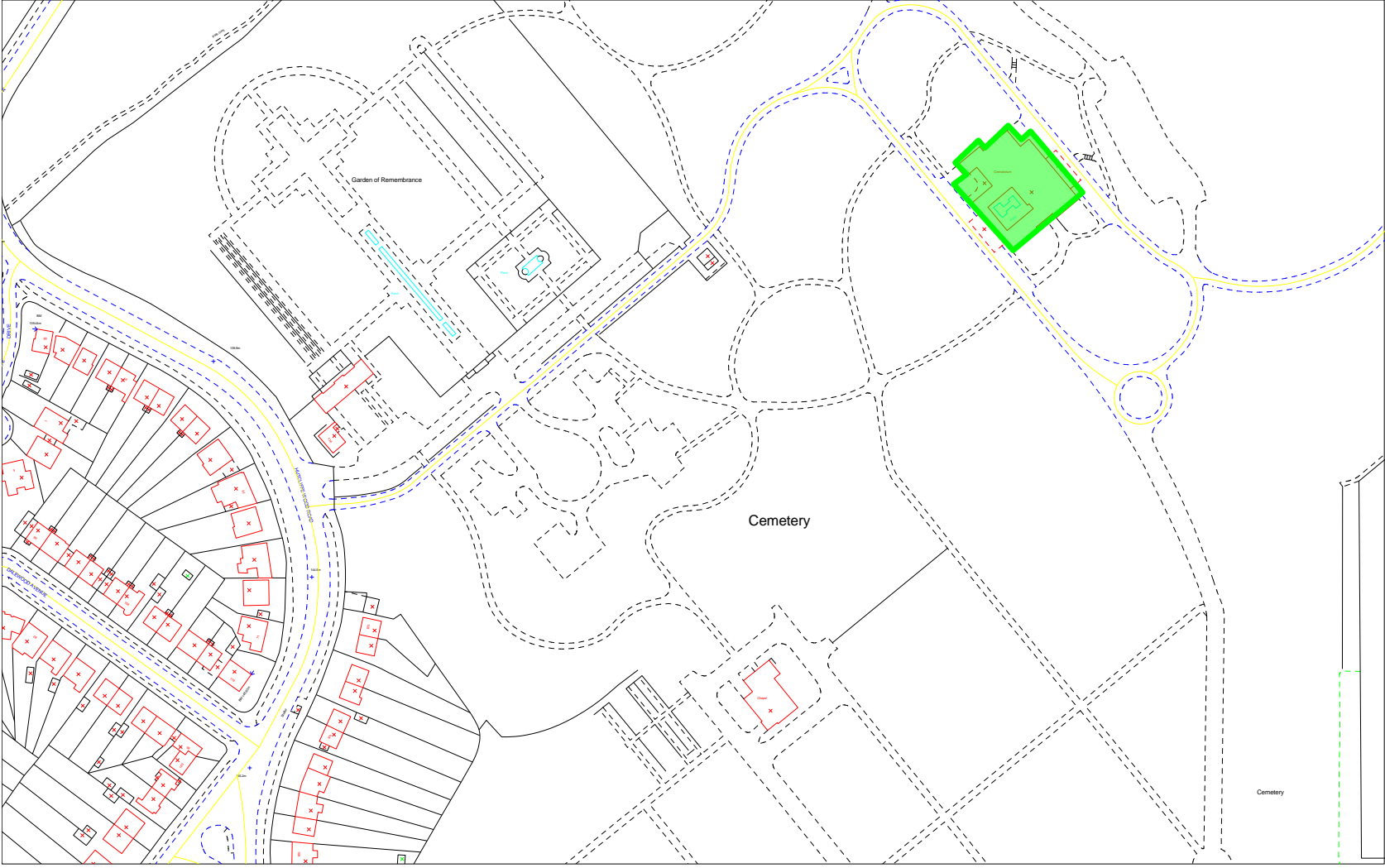
Schedule 1: General System Layout

1.7 General System Diagram

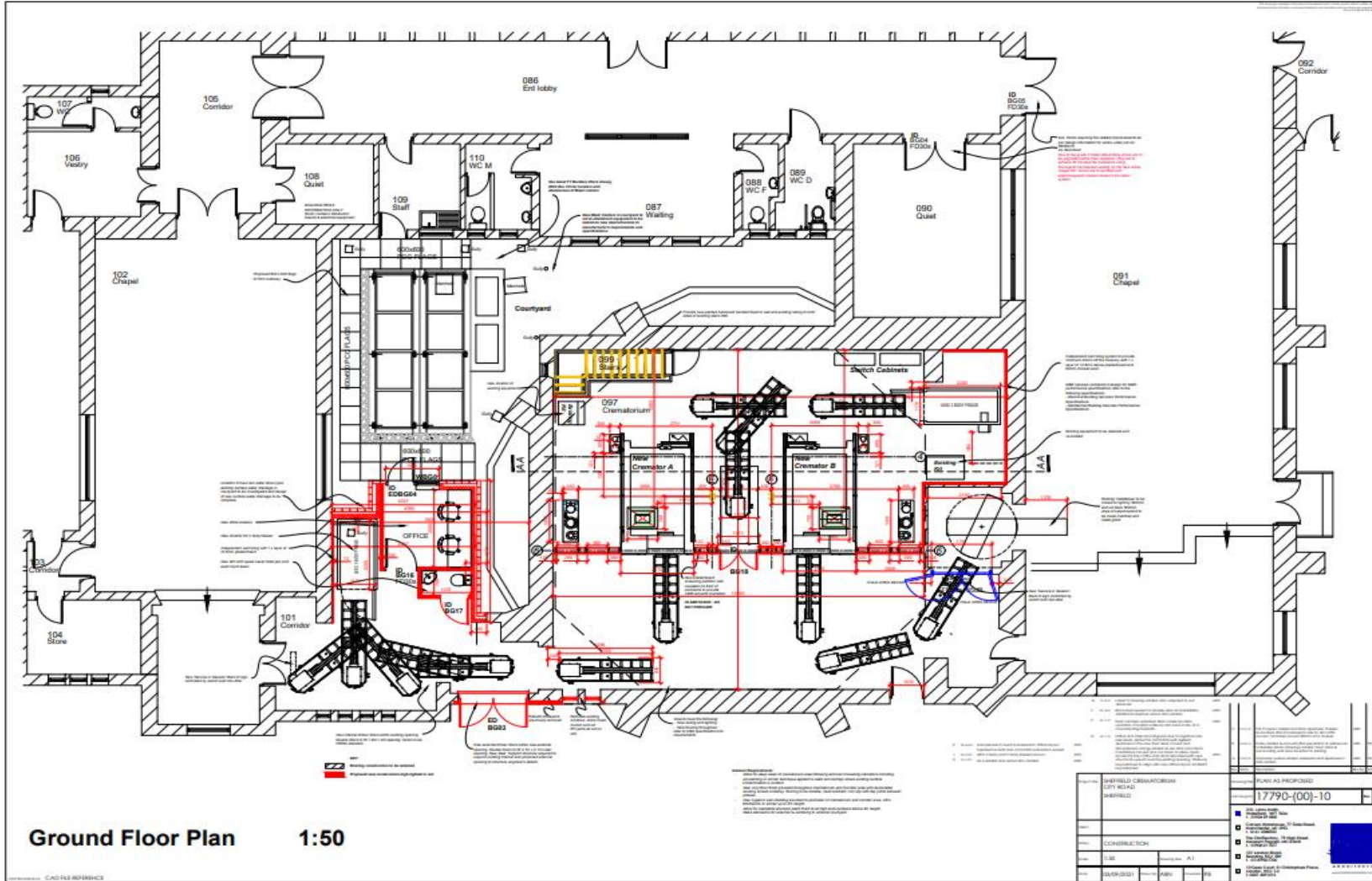


ITEM No	EQUIPMENT
1	Cremator
2	Waste Heat Cooler
3	Air Blast Cooler
4	Reagent Dosing System
5	Compact Filter Unit
6	Induced Draught Fan
7	Chimney Stack
8	Filter Bypass Valve
9	Filter Outlet Valve
10	Spent Reagent Storage Bin

Schedule 2 – Installation Location and Boundary



Schedule 3: Installation Layout



Schedule 4: Emission Limits

Table 4 - Abated cremators - emission limits, monitoring and other provisions

Row	Substance	Mass emission limits per cremator	Concentration limits	Type of monitoring	Monitoring frequency
1	Mercury	n/a	50 micrograms/m ³	Periodic monitoring (Note 1)	Annual
2	Hydrogen chloride (excluding particulate matter)	n/a	30 mg/m ³ hourly average	Periodic monitoring	Annual
3	Total particulate matter	n/a	20 mg/m ³ hourly average	Filter leak monitor <ul style="list-style-type: none"> • Provide visual alarms and record levels and alarms • Set reference levels on commissioning (i.e. set levels at which alarms will activate) Plus Instrument health check - i.e. service according to manufacturer's instructions Plus Periodic monitoring <ul style="list-style-type: none"> • Set reference levels for continuous emission monitor (CEM) (i.e. set levels at which alarms will activate) 	Continuous Plus Annual Plus Every 3 years
For abated crematoria with a "multiple cremators/single abatement plant" configuration, the provisions of Row 4a apply. For abated crematoria with a "single cremator/single abatement plant" configuration, the provisions of either Row 4a OR Row 4b can apply but should be specified to the regulator at the earliest opportunity.					
4a	Carbon monoxide	n/a	100 mg/m ³ reported as 2 x 30-minute averages	Qualitative monitoring <ul style="list-style-type: none"> • Record data at 15 second intervals or less • Provide visual alarms and record alarm events Plus Periodic test: <ul style="list-style-type: none"> • Validation of continuous emissions monitor (CEM) output through comparison with periodic test results 	Continuous Plus Annual

Continued on next page

4b	Carbon monoxide	<ul style="list-style-type: none"> • 150g in the first hour of cremation for 95% of cremations and • 300g in the first hour of cremation for all cremations 	n/a	<p>Qualitative monitoring</p> <ul style="list-style-type: none"> • Record data at 15 second intervals or less • Provide visual alarms and record alarm events <p>Plus</p> <p>Instrument health check – i.e. service according to manufacturer's instructions</p> <p>Plus</p> <p>Periodic monitoring</p> <ul style="list-style-type: none"> • Validation of continuous emissions monitor (CEM) output through comparison with periodic test results 	<p>Continuous</p> <p>Plus Annual</p> <p>Plus Annual</p>
5	Organic compounds (excluding particulate matter) expressed as carbon	n/a	20 mg/m ³ averaged over an hour of cremation.	Periodic monitoring	Annual
If combustion provisions in Rows 8 – 10 are <u>not</u> met, then the dioxin emission limit and monitoring provision in Row 6 should be applied					
6	PCDD/F (on abated processes, for cremators that don't meet the combustion provisions below)	n/a	0.1 nanogram/m ³ as ITEQ	<p>Periodic monitoring</p> <ul style="list-style-type: none"> • Continuous monitoring of any temperature, oxygen and flow parameters that apply during the dioxin tests should be required by the permit • Interlock to prevent cremator loading unless those parameters are met 	Upon commissioning of new or replacement cremators
Concentration limits from cremated remains reduction plant that vents externally are given in Row 7					
7	Particulate matter	n/a	50 mg/m ³ with no correction for oxygen concentration or water vapour	Gross filter failure detection (see paragraph 4.6)	Testing at commissioning