Medworth Energy from Waste
Combined Heat and Power Facility

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Environmental Statement Technical Appendix

Appendix 7D Outline Operational Noise Management Plan

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Executive summary

Purpose of this report

This outline Operational Noise Management Plan (ONMP) presents the noise management and control measures to be implemented during the operation of the EfW CHP Facility. The ONMP also outlines the procedure for the handling and logging of noise complaints, should any arise.

The operator of the Facility will be responsible for the delivery of the measures outlined within this document, the handling and logging of any complaints, and undertaking any investigative and remedial action, as appropriate, following the receipt of any complaints. All personnel working at the Facility will be made aware of the ONMP and the relevant measures and procedures contained herein.

This outline ONMP has been prepared for submission with the DCO and environmental permit application. However, at this stage, precise details of the plant and processes required to operate the EfW CHP Facility are not available. Full plant and process details will be available following completion of the detailed design and selection of plant. This outline ONMP, therefore, presents a generic management plan which contains examples of the types of mitigation and operational controls, that will be used in the final design, to control noise emissions during operation of the EfW CHP Facility.

It is, therefore, anticipated that this ONMP will be updated with further information, detailing the final control measures that will be implemented to control emissions to the environment, following completion of the detailed design and prior to commissioning.

Contents

1. Introduction

1.1 Background

1.1.1 Medworth CHP Limited (the Applicant) is applying to the Secretary of State (SoS) for a Development Consent Order (DCO) to construct operate and maintain an Energy from Waste (EfW) Combined Heat and Power (CHP) Facility on the industrial estate, Algores Way, Wisbech, Cambridgeshire. Together with associated Grid Connection, CHP Connection, Access Improvements, Water Connections, and Temporary Construction Compound (TCC), these works are the Proposed Development.

1.1.2 The Proposed Development would recover useful energy in the form of electricity and steam from over half a million tonnes of non-recyclable (residual), non-hazardous municipal, commercial and industrial waste each year. The Proposed Development has a generating capacity of over 50 megawatts and the electricity would be exported to the grid. The Proposed Development would also have the capability to export steam and electricity to users on the surrounding industrial estate. Further information is provided in **ES Chapter 3: Description of the Proposed Development (Volume 6.2)**.

1.1.3 The Proposed Development is a Nationally Significant Infrastructure Project (NSIP) under Part 3 Section 14 of the Planning Act 2008 (2008 Act) by virtue of the fact that the generating station is located in England and has a generating capacity of over 50 megawatts (section 15(2) of the 2008 Act). It, therefore, requires an application for a DCO to be submitted to the Planning Inspectorate (PINS) under the 2008 Act. PINS will examine the application for the Proposed Development and make a recommendation to the SoS for Business, Energy and Industrial Strategy (BEIS) to grant or refuse consent. On receipt of the report and recommendation from PINS, the SoS will then make the final decision on whether to grant the Medworth EfW CHP Facility DCO.

1.2 The Applicant and the project team

1.2.1 The Applicant is a wholly owned subsidiary of MVV Environment Limited (MVV). MVV is part of the MVV Energie AG group of companies. MVV Energie AG is one of Germany's leading energy companies, employing approx. 6,500 people with assets of around €5 billion and annual sales of around €4.1 billion. The Proposed Development represents an investment of approximately £450m.

1.2.2 The company has over 50-years' experience in constructing, operating, and maintaining EfW CHP facilities in Germany and the UK. MVV Energie's portfolio includes a 700,000 tonnes per annum residual EfW CHP facility in Mannheim, Germany.

1.2.3 MVV Energie has a growth strategy to be carbon neutral by 2040 and thereafter carbon negative, i.e., climate positive. Specifically, MVV Energie intends to:

- reduce its direct carbon dioxide (CO_2) emissions by over 80% by 2030 compared to 2018;
- reduce its indirect CO_2 emissions by 82% compared to 2018;
- be climate neutral by 2040; and
- be climate positive from 2040.

1.2.4 MVV's UK business retains the overall group ethos of 'belonging' to the communities it serves whilst benefitting from over 50 years' experience gained by its German sister companies.

1.2.5 MVV's largest project in the UK is the Devonport EfW CHP Facility in Plymouth. Since 2015, this modern and efficient facility has been using around 265,000 tonnes of municipal, commercial and industrial residual waste per year to generate electricity and heat, notably for Her Majesty's Naval Base Devonport in Plymouth, and exporting electricity to the grid.

1.2.6 In Dundee, MVV has taken over the existing Baldovie EfW Facility and has developed a new, modern facility alongside the existing facility. Operating from 2021, it uses up to 220,000 tonnes of municipal, commercial and industrial waste each year as fuel for the generation of usable energy.

1.2.7 Biomass is another key focus of MVV's activities in the UK market. The biomass power plant at Ridham Dock, Kent, uses up to 195,000 tonnes of waste and non-recyclable wood per year to generate green electricity and is capable of exporting heat.

1.2.8 To prepare the ES for the Proposed Development, the Applicant has engaged Wood Group UK Limited (Wood). Wood is registered with the Institute of Environmental Management and Assessment (IEMA)'s Environmental Impact Assessment (EIA) Quality Mark scheme. The scheme allows organisations that lead the co-ordination of EIAs in the UK to make a commitment to excellence in their EIA activities and have this commitment independently reviewed.

1.3 The Proposed Development

1.3.1 The Proposed Development comprises the following key elements:

- The EfW CHP Facility;
- CHP Connection;
- Temporary Construction Compound (TCC);
- Access Improvements;
- Water Connections; and
- Grid Connection.

1.3.2 A summary description of each Proposed Development element is provided below. A more detailed description is provided in **ES Chapter 3: Description of the Proposed Development (Volume 6.2)** of the ES. A list of terms and abbreviations

can be found in **ES Chapter 1 Introduction, Appendix 1F Terms and Abbreviations (Volume 6.4)**.

- EfW CHP Facility Site: A site of approximately 5.3ha located south-west of Wisbech, located within the administrative areas of Fenland District Council and Cambridgeshire County Council. The main buildings of the EfW CHP Facility would be located in the area to the north of the Hundred of Wisbech Internal Drainage Board (HWIDB) drain bisecting the site and would house many development elements including the tipping hall, waste bunkers, boiler house, turbine hall, air cooled condenser, air pollution control building, chimneys and administration building. The gatehouse, weighbridges, 132kV switching compound and laydown maintenance area would be located in the southern section of the EfW CHP Facility Site.
- CHP Connection: The EfW CHP Facility would be designed to allow the export of steam and electricity from the facility to surrounding business users via dedicated pipelines and private wire cables located along the disused March to Wisbech railway. The pipeline and cables would be located on a raised, steel structure.
- TCC: Located adjacent to the EfW CHP Facility Site, the compound would be used to support the construction of the Proposed Development. The compound would be in place for the duration of construction.
- Access Improvements: includes access improvements on New Bridge Lane (road widening and site access) and Algores Way (relocation of site access 20m to the south).
- Water Connections: A new water main connecting the EfW CHP Facility into the local network will run underground from the EfW CHP Facility Site along New Bridge Lane before crossing underneath the A47 (open cut trenching or horizontal directional drilling (HDD)) to join an existing Anglian Water main. An additional foul sewer connection is required to an existing pumping station operated by Anglian Water located to the northeast of the Algores Way site entrance and into the EfW CHP Facility Site.
- Grid Connection: This comprises a 132kV electrical connection using underground cables. The Grid Connection route begins at the 132kV switching compound in the EfW CHP Facility Site and runs underneath New Bridge Lane, before heading north within the verge of the A47 to the Walsoken Substation on Broadend Road. From this point the cable would be connected underground to the Walsoken DNO Substation.

1.4 Purpose of this Document

1.4.1 This document presents noise control measures for the operational phase of the EfW CHP Facility forming a component part of the Proposed Development.

1.4.2 This outline ONMP has been prepared for submission with the DCO and Environmental Permit (EP) application. An EP will be required to operate the EfW CHP Facility in accordance with the Environmental Permitting (England and Wales)

Regulations 2016[1] as amended (EPR). However, at this stage, precise details of the plant and processes required to operate the EfW CHP Facility are not available. Full plant and process details will be available following completion of the detailed design and selection of plant. This outline ONMP, therefore, presents a generic management plan which contains examples of the types of mitigation and operational controls, that may be used in the final design, to control noise emissions during operation of the EfW CHP Facility.

1.4.3 It is anticipated that this ONMP will be updated further information will be submitted to the Environment Agency (EA), within an updated ONMP, detailing the final control measures that will be implemented to control emissions to the environment, following completion of the detailed design and prior to commissioning.

1.4.4 This outline ONMP presents the noise management and control measures to be implemented during the operation of the EfW CHP Facility. The outline ONMP also outlines the procedure for the handling and logging of noise complaints, should any arise.

1.4.5 The operator of the EfW CHP Facility, Medworth CHP Ltd, will be responsible for the delivery of the measures outlined within this document, the handling and logging of any complaints, and undertaking any investigative and remedial action, as appropriate, following the receipt of any complaints. All personnel working at the EfW CHP Facility will be made aware of the ONMP and the relevant measures and procedures contained herein.

1.4.6 Significant levels of groundborne noise and vibration are not anticipated during the operation of the EfW CHP Facility. As such, no controls to prevent or reduce emissions of groundborne noise are considered in this outline ONMP.

1.4.7 The ONMP will be reviewed on a regular basis, at a minimum of once a year, and this review should consider the effectiveness of the ONMP and the measures included, and account for any variation to the proposed operational processes. Any revisions to the ONMP shall be communicated to all staff working at the EfW CHP Facility.

[1] HMSO, 2016. Environmental Permitting Regulations (as amended). [Accessed 12 April 2022].

2. Operational noise and vibration management guidance

2.1.1 The principals of noise management planning for permitted sites are set out in the EA guidance – Noise and vibration management: environmental permits[2]. The guidance provides recommended constituents of a noise management plan (NMP) and identifies that compliance with NMP is an excellent way of demonstrating that site operations are properly controlled.

2.1.2 The NMP should demonstrate competence and commitment to controlling noise pollution. It should be clear that the noise pollution potential of any process is understood, and that systems are in place to manage that risk effectively.

2.1.3 Having an NMP does not necessarily mean the regulator will consider that all appropriate measures needed are included and implemented. If the regulator considers that the NMP is not sufficient for its purpose, they may suggest improvements.

2.1.4 NMPs should be reviewed, typically once a year. Any such review should consider land use around the facility and any future developments that could be affected by emissions to the environment.

2.1.5 The scope and level of detail in the NMP should be enough to show that noise emissions from the site are effectively managed.

2.1.6 The recommended constituents of a “Good NMP” are

- a clear statement that responsibilities for controlling noise impact are understood and accepted, and that the effectiveness of NMP will be constantly reviewed;
- a commitment that the permit holder, contractors or subcontractors, will make sure that any noise control equipment is designed, operated and maintained appropriately so it controls noise effectively at all times;
- a risk assessment of noise problems from normal and abnormal situations (including worst-case scenarios due to, for example, weather, temperature, or breakdowns, and accidents);
- details of the appropriate controls (both physical and management) needed to manage the identified risks;
- confirmation of the level of noise or vibration monitoring that should be in place;
- details of any noise management actions required, contingencies, and responsibilities when problems arise (particularly including expected actions resulting from exceptional circumstances or where serious pollution may occur);

[2] Environment Agency, January 2022. Noise and vibration management: environmental permits.

- confirmation of the procedures in place to consider reducing or stopping operations to avoid serious noise pollution; and
- a procedure for engaging with neighbours to minimise their concerns and respond to complaints.

2.1.7 If the regulator considers certain aspects of the NMP do not meet the expected standard, or it does not have all the appropriate measures needed, the plan should be reviewed and amend the plan.

2.1.8 If not undertaken:

- The regulator may impose a requirement or restriction on your site operations. We would do this in a way that gives you the right to appeal (for example, by varying permit to add site specific improvement conditions or a prescriptive condition); or
- the regulator may refuse (or require improvements to) an application if they consider the NMP to be sub-standard.

2.1.9 Where a permit has been issued, if proposed measures are operating as designed, but are giving rise to an off-site noise issue, then reasonable time will be provided to propose and implement further improvements.

2.1.10 The regulator will set out any requirements in writing and failure to act, or supply requested information, within the specified timescale, is likely to be a breach of permit conditions or the regulations.

2.1.11 It is acknowledged by the regulator that no NMP can cover every eventuality. Even where the plan is executed rigidly, noise pollution may sometimes occur. This situation would indicate that further appropriate measures are necessary.

2.1.12 If a noise pollution incident occurs and the NMP does not meet the regulator's expected standard, this is taken into account in enforcement decisions. It will be more difficult to demonstrate appropriate measures were adopted in any subsequent enforcement action.

2.1.13 Noise emissions from a permitted premises are always the responsibility of the permit holder and immediate enforcement will be considered where:

- NMP procedures are not being followed
- measures in the NMP are not appropriately specified, designed, operated, maintained or managed appropriately; or
- there is a risk of serious impact on human health or the environment.

2.1.14 If rapid action is required to solve a noise problem and that action may contravene something written in your NMP, the regulator would prefer the mitigating action is undertaken. The NMP can be revised in reasonable time after the event.

2.2 Incident management plan

2.2.1 It is considered appropriate to append an NMP to the site's accident and incident management plan, in order that noise-related incidents are covered. The NMP

should identify the appropriate response to a situation, and who is responsible for taking preventative action and taking action after an incident. The regulator expects that noise-critical plant is identified and a list of required spares is maintained. This will make sure vital equipment can be repaired quickly.

2.2.2 Where any incident occurs with the potential to significantly affect the environment, Articles 7 & 8 of the Industrial Emissions Directive[3] (and corresponding UK legislation) require operators to take immediate actions to limit the environmental consequences.

2.2.3 The ultimate control measure when problems arise, is to reduce, or stop, operations to avoid serious noise pollution. The NMP should include a clear statement of the situations in which this could occur and how these will be managed.

2.2.4 The NMP should identify the points in the operation where significant noise pollution may occur, and where throughput restrictions or production cessation can be applied.

2.2.5 Where continuous throughput is business-critical, the operator must demonstrate that they have suitable measures in place that will prevent the need to reduce or stop production. For example, redundancy is built into the process so standby plant is available to use, if there is a problem with the primary equipment.

[3] Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions

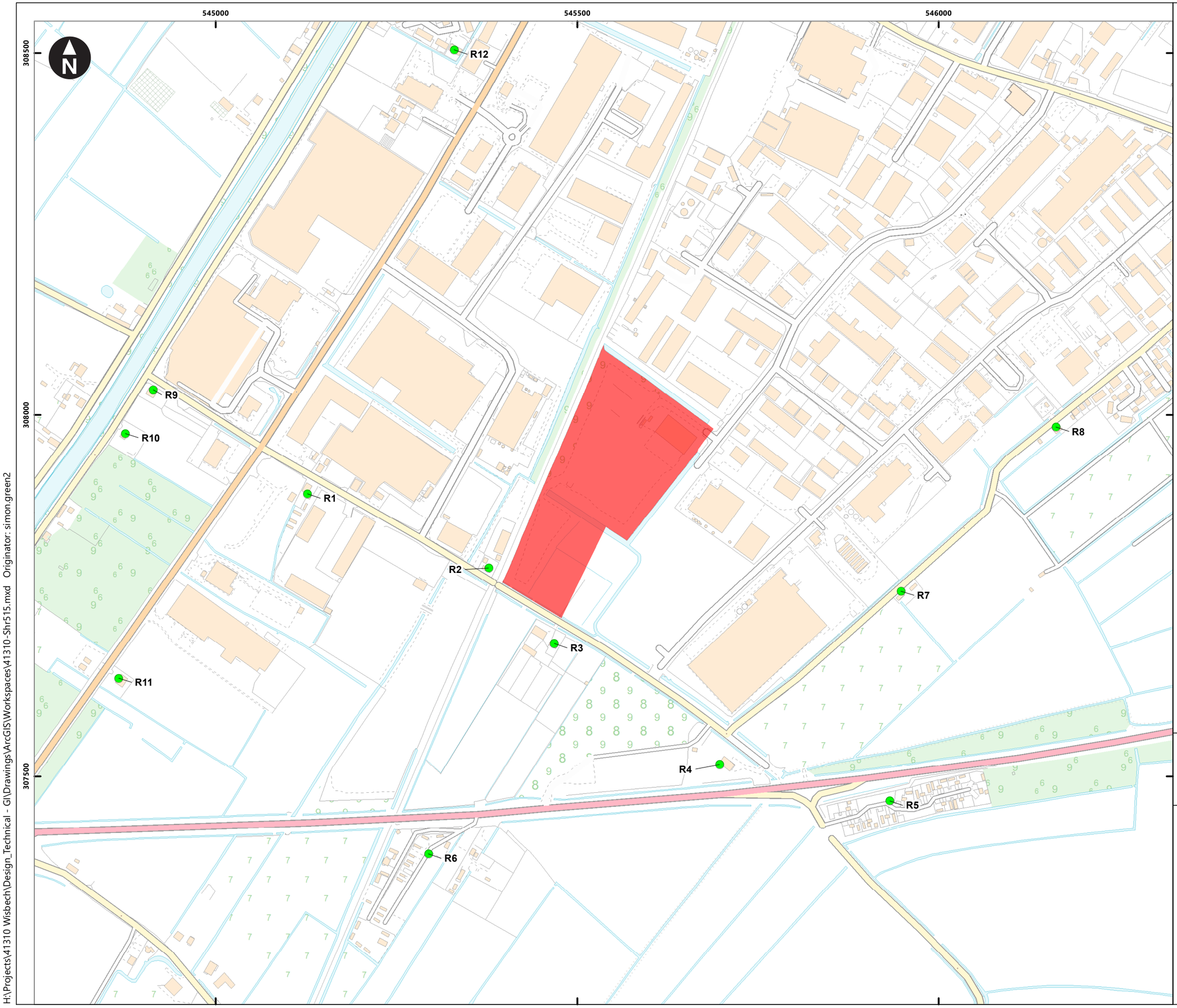
3. Identification of Sensitive Receptors

3.1.1 **Table 3.1 Nearest sensitive Receptors** presents a list of the nearest residential noise sensitive Receptors within approximately 500m of the EfW CHP Facility Site. Most of the sensitive Receptor locations listed below are isolated and consist of one or two dwellings (R1, R2, R3, R4, R7, R9, R10, R11). The others are near to/representative of a number of dwellings (R5, R6, R8, R12). All sensitive Receptors are indicated in **Figure 3.1 EfW CHP Facility, nearest residential noise sensitive premises**.

3.1.2 9 New Bridge Lane (R2) will be subject to agreed purchase by the Applicant and will therefore not be a sensitive Receptor during the operation of the EfW CHP Facility.

Table 3.1 Nearest sensitive Receptors

ID	Receptor	Direction	Approximate distance from boundary of EfW CHP Facility Site
R1	**2 New Bridge Lane**	west	300m
R2	**9 New Bridge Lane**	south-west	20m
R3	**10 New Bridge Lane**	south-west	30m
R4	**Dwelling known as 'Potty Plants' off new Bridge Lane, north of the A47**	south	340m
R5	**Newbridge Lane Caravan Park**	south	400m
R6	**Oakdale Place Caravan Site**	south	500m
R7	**The Chalet, New Drove**	south-east	350m
R8	**125 New Drove**	east	500m
R9	**93 South Brink**	west	550m
R10	**97 South Brink**	west	550m
R11	**25 Cromwell Road**	west	550m
R12	**27 - 37 Cox Close**	north-west	450m



Key

EfW CHP Facility Site

Noise Sensitive Receptors

0 100 200 300 m

Scale at A3: 1:5,000

Client

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Medworth Energy from Waste Combined Heat and Power Facility DCO
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Figure 3.1
EfW CHP Facility Site, nearest residential noise sensitive premises

June 2022

wood.

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4. Site Operation

4.1 Operational hours

4.1.1 Once operational, the EfW CHP Facility will be capable of processing waste 24-hours a day, up to 365 days a year.

4.1.2 The acceptance of waste will be limited to the operational hours of 07:00 to 20:00. Outside of these hours, to ensure the EfW CHP Facility's continued safe and efficient operation, and for security purposes, a shift team would be present.

4.1.3 There may be some occasions when waste deliveries are accepted outside the normal opening hours, for example in the case of an emergency or to accommodate the delivery of waste where vehicles have been unavoidably delayed, or in other similar circumstances. It is therefore proposed that the EfW CHP Facility be able to accept waste outside the operating hours stated above in these circumstances.

4.2 Waste deliveries and storage

4.2.1 Waste would be delivered to the EfW CHP Facility in HGVs (including but not limited to RCVs and walking floor articulated lorries). These vehicles will enter the enclosed tipping hall, reverse up to the bunker edge and tip the waste into the tipping bunker.

4.2.2 Mechanical cranes then transfer waste from the tipping bunker to the main waste bunker. The waste will be mixed and stored in the main waste bunker prior to being loaded into the furnaces by the crane.

4.2.3 Though noise from vehicles on the public highway does not form part of the permitted installation, this was included in the assessment provided in the ES, as set out paragraph 7.8.23 of **ES Chapter 7 Noise and Vibration (Volume 6.2)**.

4.3 Major plant and processes

4.3.1 The equipment and systems for the delivery, storage, processing and thermal treatment of waste to generate electricity, include a number of fixed plant items/buildings providing critical functions for the operation of the EfW CHP Facility. These items may contribute to off-site noise emissions.

4.3.2 Specific sound levels due to fixed and mobile plant at the EfW CHP Facility were predicted according to the method provided in ISO 9613-2:1996[4] using the 3D noise modelling software package SoundPLAN 8.2. Source sound power levels for all fixed plant items were provided by the Applicant, and data indicating the expected numbers of waste deliveries were as provided in the **ES Chapter 6: Traffic and Transport (Volume 6.2), Appendix 6B Transport Assessment, Section 6.3 Operational Phase Proposed Development Details (Volume 6.4)**.

[4] International Standards Organisation, 1996. ISO 9613-2:1996 Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation. ISO, London

4.3.3 The noise model used to predict specific sound levels generally assumed flat, acoustically mixed ground, but included topography data for an area 100m beyond the boundary of the EfW CHP Facility Site. Ground at the EfW CHP Facility Site was assumed to be acoustically hard. Existing buildings, outside the EfW CHP Facility Site, were included. Specific sound levels were predicted at ground floor and first floor level, and the greater of the two were used in the assessment, except at R3, R5, R6 and R7, as these Receptors are single storey and hence only ground floor level predictions were used at these Receptors.

4.3.4 Based on analysis of the detailed model results, which considered the average contribution from each source at all Receptor locations, the list provided below identifies fixed plant items and buildings predicted to be the most significant contributors to off-site noise emissions. Items towards the top of the list are predicted to contribute more to off-site noise emissions than those towards the bottom of the list:

- Air Cooled Condenser (ACC);
- Boiler House;
- Tipping Hall (during the daytime, below turbine hall during night-time);
- ID Fan Cabin;
- Bag Filter House;
- Water Treatment Plant;
- Cooling water re-cooling system;
- Stack outlets;
- Turbine Hall; and
- Compressed air station.

4.3.5 A full/updated risk assessment of potential noise emissions, accounting for the major plant items and processes, detailing the final noise control measures and consideration of BAT, will be undertaken following completion of the detailed design and plant selection. However, outline control measures and an initial BAT assessment has been presented in the permit application. These aspects are discussed in **Section 5**.

4.4 Predicted operational noise effects

4.4.1 This section provides a summary of the predicted operational noise effects anticipated during the operational phase of the Proposed Development. Following completion of the detailed design, this section will be updated to outline any changes in anticipated operational noise emissions and associated operational noise effects.

4.4.2 Predicted operational noise effects have been assessed in the EIA in **ES Chapter 7 Noise and Vibration (Volume 6.2)**, in accordance with BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound*[5].

4.4.3 The predicted operational noise effects presented in **Table 4.1** below are taken from **ES Chapter 7 Noise and Vibration (Volume 6.2)**, for the scenario that includes the additional mitigation measures set out in **ES Chapter 7 Section 7.10** to reduce operational noise effects. The same mitigation measures are also described in **Section 5** of this document.

Table 4.1 Predicted operational noise effects from the permitted installation

ID	Weekdays			Weekends		
	Daytime (0700 – 1900 hrs)	**Evening (1900 – 2300 hrs)**	**Night-time (2300 – 0700 hrs)**	**Daytime (0700 – 2300 hrs)**	**Evening (1900 – 2300 hrs)**	**Night-time (2300 – 0700 hrs)**
R1	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact
R3	Low impact	Negligible to low impact	Low impact	Low impact	Negligible to low impact	Negligible to low impact
R4	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact
R5	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact
R6	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact
R7	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact
R8	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact

[5] British Standards Institution, 2019. BS 4142:2014 + A1:2019 Methods for rating and assessing industrial and commercial sound. BSI, London.

ID	Weekdays			Weekends		
	Daytime (0700 – 1900 hrs)	**Evening (1900 – 2300 hrs)**	**Night-time (2300 – 0700 hrs)**	**Daytime (0700 – 2300 hrs)**	**Evening (1900 – 2300 hrs)**	**Night-time (2300 – 0700 hrs)**
R9	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact
R10	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact	Negligible to low impact

5. Noise Control Measures

5.1 Embedded noise control

5.1.1 The EfW CHP Facility Site lies within a predominantly industrial area with the nearest dwelling, 10 New Bridge Lane, on the opposite side of New Bridge Lane from the southern boundary. As outlined in **Section 3**, 9 New Bridge Lane will be subject to agreed purchase by the Applicant and hence will not be a sensitive Receptor during the operation of the EfW CHP Facility.

5.1.2 An acoustic fence will be provided to 10 New Bridge Lane to reduce daytime sound levels from fixed plant and waste delivery vehicles. A diagram indicating the proposed location of the acoustic fence is provided in **Figure 5.1 Proposed acoustic fence to 10 New Bridge Lane**. The Applicant will engage with the owner of 10 New Bridge Lane to discuss the detailed design of the acoustic fence and agree installation and maintenance access agreements.

5.1.3 The layout of the site, plant design and selection has been specified so that noise emissions from the site will be limited.

5.1.4 The implementation of the measures contained in this outline ONMP should ensure that noise levels arising from site activity are managed appropriately and that off site noise levels will not give rise to any unacceptable impacts at nearby noise-sensitive Receptors.

5.1.5 The EfW CHP Facility will be operated in accordance with the requirements of the Environmental Permit at all times. As such, the EfW CHP Facility will also operate in accordance with BAT. BAT is defined and described in **Section 5.2**, below.

5.1.6 All staff working at the EfW CHP Facility will receive appropriate training, and will be made aware of the specific measures in the final ONMP relating to their duties, to ensure that noise emissions are minimised and that the site is operated in accordance with BAT at all times, as set out in **Section 5.3**.

5.1.7 In addition to the fixed plant items listed in **Section 4.3**, other potentially significant sources of noise include waste delivery vehicles accessing, exiting and manoeuvring around the site. To ensure noise emissions from vehicles manoeuvring around the site are minimised, all roads and hardstandings will be subject to regular inspection and maintenance, when required, and a site speed limit of 10mph will be implemented, as set out in **Section 5.4**.

5.2 Best Available Techniques

5.2.1 The site operator will ensure that the EfW CHP Facility is operated in accordance with BAT at all times to minimise operational noise emissions.

5.2.2 BAT is defined as the available techniques which are the best for preventing or minimising emissions and impacts on the environment. BAT is defined by the

European Commission in Directive 2010/75/EU of the European Parliament and of the Council[6] as:

> *"(10) 'best available techniques' 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 the basis for emission limit values and other permit conditions designed to prevent and, where that is not practicable, to reduce emissions and the impact on the environment as a whole:*
>
> *(a) 'techniques' includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned;*
>
> *(b) 'available techniques' means those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced inside the Member State in question, as long as they are reasonably accessible to the operator;*
>
> *(c) 'best' means most effective in achieving a high general level of protection of the environment as a whole;"*

5.2.3 The EfW CHP Facility will be operated in accordance with guidance detailed within the European Commission Best Available Techniques Reference Document (BREF)[7] and the implementing BAT Conclusions (BATC)[8]. The BREF and BATC cover the disposal or recovery of waste in waste incineration plants and waste co-incineration plants, and the disposal or recovery of waste involving the treatment of slags and/or bottom ashes from the incineration of waste. BATC defines the measures considered to be BAT to reduce noise emissions in BAT 37. The measures defined in BAT 37 are referred to in **Section 5.4 Noise management**.

5.3 Training

5.3.1 All staff are to be made aware of the content of the final ONMP and trained in the appropriate techniques to keep site noise to a minimum. Staff should be effectively supervised to ensure that best working practices are maintained with respect to noise reduction in accordance with BAT. All employees are to be advised on a regular basis of the following as part of their training:

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[6] The European Commission, November 2010. Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) (Recast) (Text with EEA relevance).

[7] Frederik Neuwahl, Gianluca Cusano, Jorge Gómez Benavides, Simon Holbrook, Serge Roudier, 2019; Best Available Techniques (BAT) Reference Document for Waste Incineration; EUR 29971 EN; doi:10.2760/761437

[8] The European Commission, November 2019. Commission Implementing Decision (EU) 2019/2010 of 12 November 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration (notified under document C(2019) 7987) (Text with EEA relevance).

- the proper use and maintenance of tools and equipment;
- the positioning of mobile plant on site to reduce the emission of noise to the neighbourhood and to site personnel;
- the avoidance of unnecessary noise when carrying out manual operations and when operating plant and equipment;
- the protection of persons against noise; and
- the operation of sound measuring equipment (selected personnel).

5.3.2 Vehicle and plant operators will be required to have training on maintenance protocols. The training will ensure operators are capable of performing thorough inspections on machinery and identify when maintenance is required. The training will be based on an inspection schedule supplied by the plant manufacturer.

5.4 Noise management

5.4.1 **Table 5.1 Noise management measures** below sets out the noise management and control measures that will be used to control noise emissions from the EfW CHP Facility during its operation.

Table 5.1 Noise management measures

Source	Noise management and control methods to be implemented
All major fixed plant located externally and within buildings	Acoustic fence to be provided to Number 10 New Bridge Lane to reduce sound from fixed plant and on-site vehicle movements during the daytime. Acoustic fence to be maintained and remain in place whilst Number 10 New Bridge Lane is in residential use. The contract specification for the EPC Contractor will include provision for low-noise compressors, pumps and fans when the detailed design is developed. Where possible, noise generating equipment will be installed within a building or, where that is not possible, will be housed in suitable enclosures (e.g., fan enclosures) to provide additional attenuation. All plant to be subject to schedule of regular inspection and maintenance in accordance with manufacturer's instructions. All silencers/mufflers are to be inspected to ensure they are in good repair and are correctly fitted. Any plant or machinery not in use is to be powered down/deactivated.

Source	Noise management and control methods to be implemented
	Where possible, windows and doors to noisy enclosed areas are to remain closed.
Waste delivery vehicles travelling to and from site	Acoustic fence to be provided to Number 10 New Bridge Lane to reduce sound from passing waste delivery vehicles during the daytime. Acoustic fence to be maintained and remain in place whilst Number 10 New Bridge Lane is in residential use. Engines are to be switched off when not in use. Deliveries of waste will only be accepted between 07:00 – 20:00 (during normal operations). Road surfaces within the site boundary will be maintained in a good state of repair. Skip lorries that access site should be fitted with chain socks to reduce noise from loose chains banging on skips/lorry. Implementation of a 10-mph speed limit on site. Drivers are to enter and exit site with consideration of the neighbouring community and avoid unnecessary revving of engines.
Waste delivery vehicles depositing waste into the tipping bunker in the tipping hall,	All tipping will occur within the tipping hall which offers acoustic screening. Delivery vehicles should be fitted with broadband reversing alarms.
Mechanical crane operation transferring waste from the tipping bunker to the main waste bunker, and from the main waste bunker to the furnace.	Crane operation will occur within the bunker hall which offers acoustic screening. Site team to regularly monitor the transferring of material to make sure the task is being undertaken with care and in accordance with BAT. All plant to be subject to schedule of regular inspection and maintenance in accordance with manufacturer's instructions.

Source	Noise management and control methods to be implemented
Bangs from crane grab colliding with waste bunker walls	Training for all crane operators in correct waste handling techniques. Crane anti-sway system to be enabled at all times.
Vehicles manoeuvring around external areas of the site	All plant to be subject to schedule of regular inspection and maintenance in accordance with manufacturer's instructions. All silencers/mufflers are to be inspected to ensure they are in good repair and are correctly fitted. Road surfaces and any surfaces which vehicles transit over are to be regularly inspected and maintained/repaired where necessary. A site speed limit of 10-mph will be enforced. Engines are to be turned off when not in use. Broadband reverse alarms are to be fitted to all on-site mobile plant.
Repairs and maintenance	All buildings and plant will be subject to a schedule of regular inspection and maintenance. Repairs/maintenance externally to site buildings/external plant must be undertaken with due regard for nearby sensitive Receptors and, whenever possible, be undertaken during normal daytime working hours. Mobile plant to be repaired/maintained within a screened area/building when safe and practicable to do so.

545400

545450

545500

307750

307700

307650

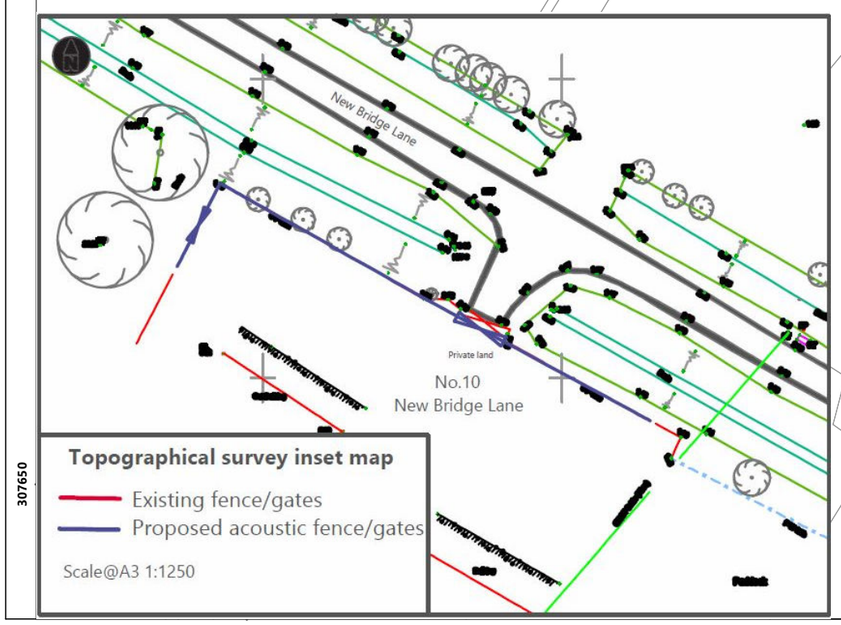
A

A(i)

B

B(i)

No. 10 New Bridge Lane



Key

Order limits

Land required for rights to construct and maintain the acoustic fence

Acoustic barrier, 3m height

A - Acoustic fence (west) approximately 8.5m (l) x 3m (h)

B - Acoustic fence (north) approximately 41m (l) x 3m (h)

A(i) - Solid doors (if required)

B(i) - Solid automated doors

0 5 10 15 20 25 30 m

Scale at A3: 1:500

Client

Medworth CHP Limited
Medworth Energy from Waste Combined Heat and Power Facility DCO
Environmental Statement
Appendix 7D Operational Noise Management Plan

Figure 5.1
Proposed acoustic fence to 10 New Bridge Lane

June 2022

wood.

41310-Shr531

H:\Projects\41310 Wisbech\Design_Technical - GI\Drawings\ArcGIS\Workspaces\41310-Shr531.mxd Originator: simon.green2

6. Complaints Procedure

6.1.1 Noise complaints are to be logged with the relevant member of management and detailed within the Incident Management Recording Software. All information relating to the complaint will stored on site in perpetuity for inspection by the Local Authority or EA, at their request.

6.1.2 Noise complaint investigations are to be undertaken immediately, or as soon as practically possible.

6.1.3 Remedial action is to be taken immediately, or as soon as practically possible. Where remedial measures fail to address the complaint sufficiently, the activity in question is to cease (assuming it is safe to do so) until suitable remedial measures are implemented.

6.1.4 The site is located within a predominantly industrial area. Therefore, it may be necessary to verify the source of the complaint, and the validity of the complaint, with noise monitoring. All noise monitoring will be undertaken by competent and appropriately qualified personnel. Where complaints are found to be valid the complaints procedure will be implemented (**Section 6.2**).

6.1.5 Following a complaint substantiated by the EA, appropriate action will be taken to remediate the issue and to prevent it from reoccurring. Actions may include, but are not limited, to:

- Inspection and evaluation of:
  - existing mitigation measures;
  - operational procedures;
  - requirements for additional mitigation measures; and
  - staff training.

6.1.6 Unavoidable events such as plant/equipment malfunctions are to be logged by the shift team leader. This will ensure retrospective complaints can be cross referenced with any logged events/plant conditions which occurred, to see whether these may have given rise to the complaint.

6.1.7 Where the source is within the EfW CHP Facility Site's control, the following action is required:

- investigating the source to prevent a re-occurrence;
- suspending operations which are giving rise to excessive noise due to potential plant malfunction;
- investigate noise mitigation measures;
- logging findings in the site operational log and the Incident Management Recording Software;
- report actions to the complainant and/or EA, as appropriate; and

- if, following the above, complaint(/s) are still received, and it is confirmed that noise emissions from the EfW CHP Facility are giving rise to the complaint, and that adverse impacts are occurring due to noise emissions from the EfW CHP Facility, it may be necessary to cease the specific operations giving rise to the complaint until the issues have been rectified.

6.2 Complaints recording procedure

6.2.1 Any complaint that is received will be received and managed in accordance with IMS procedure BS.CL.01 Management of Communications and Complaints and recorded on the Incident Management Recording Software through which an investigation will be instigated, and any corrective actions allocated to responsible persons..

6.2.2 Details to be included as a minimum within the Incident Management Recording Software are:

- name, address, and contact details of the caller (so that the complainant may be contacted to provide a response following any investigations/remedial works undertaken);
- an auto generated reference number;
- date of event;
- details of the event:
  - time of occurrence;
  - duration of event;
  - frequency of occurrence;
  - is this the first occurrence or have there been multiple occurrences; and
  - what is the reason for complaint, including a subjective description of the noise heard by the complainant.
- weather conditions at the time of event:
  - weather conditions (rain, snow, fog etc.); and
  - wind conditions (wind speed/direction).
- details of the internal investigation, and any actions taken; and
- name of the member of staff who received the complaint.

6.2.3 Following the investigation of the complaint, and subject to agreement from the complainant, the complainant is to be contacted to provide a summary of the investigation undertaken, the results thereof, and, if remedial steps were found to be necessary, a description of the remedial steps that have been, or will be, carried out. If remedial actions are planned for the future, the complainant should be provided with the anticipated timescale, where possible, in which any remedial actions will be undertaken.

6.2.4 The purpose of the IMS procedure is to ensure that any complaint is investigated promptly, and that appropriate remedial action is taken. Communications maintained with the complainant, and other interested parties, regarding the actions taken will be recorded.

6.2.5 The complaints procedure will be reviewed, as part of the regular review of the ONMP, and at any other such time as found to be necessary (for example, following a valid and verified complaint), to identify any potential improvements that can be made. If the complaints procedure, or any aspect of the ONMP is updated, the revisions to it will be communicated to all staff working at the EfW CHP Facility.

6.3 Noise monitoring equipment

6.3.1 Where noise monitoring is required to investigate a complaint, the following is to be implemented.

- Instrumentation for monitoring must meet requirements within BS EN 60942: 2018 'Electroacoustics – Sound level meters. Specifications'[9],
- Measurements should include, as a minimum, broadband indices L_{Aeq}, L_{Amax} and L_{A90}. It may be necessary, if any complaints are received regarding tonal noise, to undertake measurements in unweighted ($L_{Zeq,T}$) third octave bands.
- Any sound level meters used should conform to Class 1 requirements as set out in BS EN 60942, with a suitable traceable calibration certificate.
- Field calibration checks will be undertaken and documented prior to and after measurements.

6.4 Noise monitoring procedure – complaint response

6.4.1 If, following a complaint, noise monitoring is required the following procedure will apply:

- measurements will be undertaken in accordance with British Standard BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound*[5].
- noise surveys will be undertaken at a location representative of the complainant's property, or a proxy location, depending on which is most practicable at the time.
- noise surveys are to be undertaken during representative working hours and for a period of time representative of the activity's duration. Surveys should be undertaken during potential worst-case activities, or during such activities that may be considered to have given rise to the complaint.

[9] BSI (2018). British Standards Institution. British Standard BS EN 60942 'Electroacoustics – Sound level meters. Specifications'

- results from the noise monitoring will be used to determine the validity of the complaint and may assist in the identification of specific noise sources which may have given rise to the complaint.
- noise monitoring should be undertaken by a competent and qualified person.
- noise survey results will be stored, and provided to the Local Authority or EA, at their request, within two weeks of the monitoring.

6.5 Notifying neighbours of unexpected/emergency/remedial works

6.5.1 The EfW CHP Facility will engage with a community liaison committee on matters regarding operational control. In advance of any planned outage the community liaison committee will be informed of the planned dates for the outage, as this is the time when the risk of noise is highest from the EfW CHP Facility.

6.5.2 In circumstances where a temporary increase in noise and/or vibration from site operations due to unexpected/emergency/remedial works is anticipated, neighbours are to be notified of the unexpected/emergency/remedial works. The details that are to be provided will include the source of the temporary increase in noise and. or vibration, the nature of the work, the expected duration of the work, the actions that are being taken to resolve the issue and contact details for a point of contact who will act as public liaison.