Medworth Energy from Waste
Combined Heat and Power Facility

PINS ref. EN010110
Document Reference: 14.8
Revision: 1.0
Deadline: 5
June 2023

Water Supply Availability Statement

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Contents

1. Summary

1.1 Purpose of the document

1.1.1 This document summarises the recent engagement between Anglian Water and the Applicant, confirming potable and foul water supplies are available for the Proposed Development.

1.2 Background

1.2.1 Since original discussions took place to assess the potable and foul water demands of the Proposed Development (see Table 1.1, **Statement of Common Ground between Medworth CHP Limited and Anglian Water draft Statement of Common Ground (Volume 9.10) [REP1-044]**), Anglian Water published their Draft Water Resources Management Plan (DWRMP); consultation closed on 29 March 2023. The DWRMP process identified uncertainties relating to future water supply and demand. Anglian Water then advised the Applicant that the new non-household demands cannot compromise current and future household supply. Therefore, and based on the DCO Application documents, Anglian Water sought clarification from the Applicant of the potable and foul water demands for the Proposed Development to:

- Understand the 'worst-case' and 'day-to-day' demand requirements; and
- Consider if the Energy from Waste (EfW) Combined Heat and Power (CHP) Facility's potable and foul water demands can be accommodated within the DWRMP.

1.2.2 Considering the DWRMP, Anglian Water and the Applicant met on the 13 March 2023 to review the water demands for the Proposed Development. At this meeting, there was a consensus that the demands of the Proposed Development could be met without compromising the DWRMP. Following this meeting, Anglian Water submitted a representation into the Examination **[REP3-043]** indicating there may be insufficient resources to supply non-domestic uses i.e., the Proposed Development. A further meeting was arranged with Anglian Water and the Applicant; consequently, a Technical Note of the Applicant's water demands was prepared.

1.2.3 The Technical Note was issued to Anglian Water on 12 April 2023 and following further meetings to clarify water demand requirements, updated and resubmitted to Anglian Water on 22 May 2023, See **Appendix A**.

1.3 Outcome

1.3.1 On the 09 June 2023, at a virtual meeting with the Spatial Planning Advisor, Anglian Water confirmed that following a detailed review, sufficient supplies will be available to meet the demand requirements for the Proposed

Development. Anglian Water confirmed this position by email on 14 June 2023, see **Appendix B**. In summary Anglian Water has confirmed:

- The ability to supply the day-to-day baseline requirement when the facility is commissioned in Q1 2027 as a result of the strategic interconnector bringing additional supply into the Fenland water resource zone; and
- Flow modelling will be required to confirm whether any upgrades are required through Anglian Water's pre-development process.

1.3.2 Submitted at Deadline 5, the draft **Statement of Common Ground between Medworth CHP Limited and Anglian Water Rev 2 (Volume 9.10)** reflects the agreed position.

Appendix A Technical Note: Water demands for the Proposed Development

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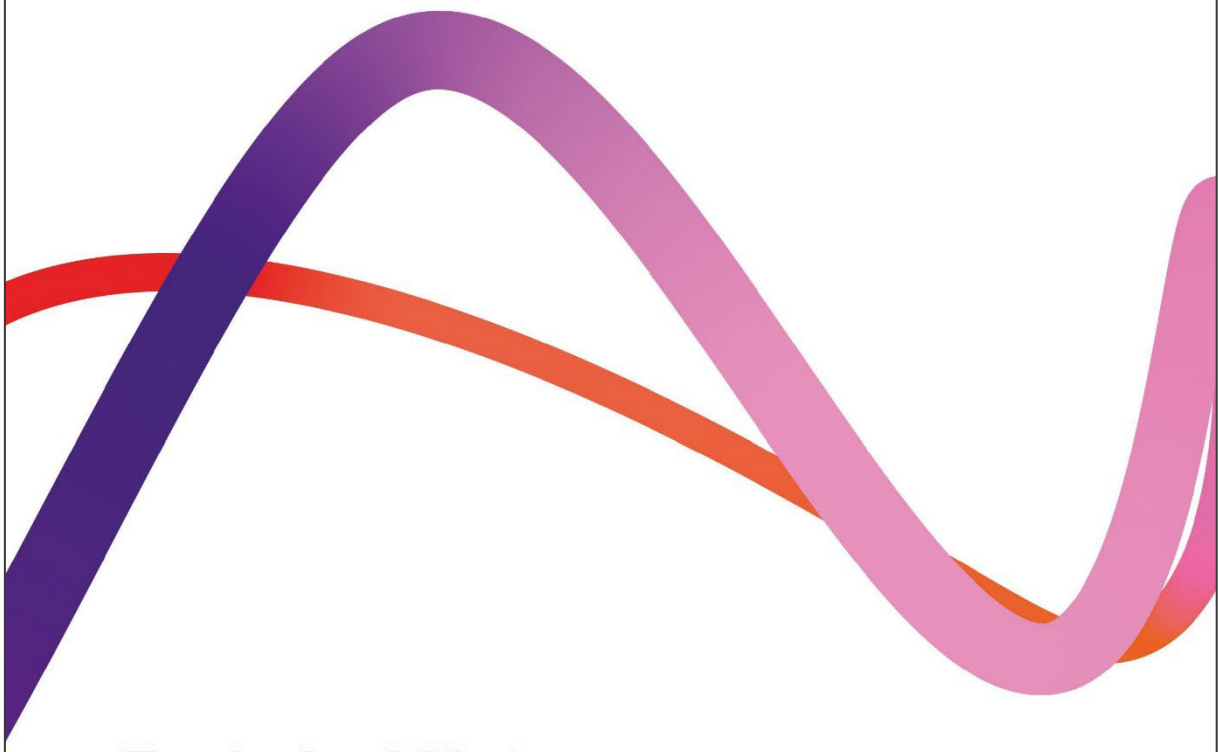

Technical Note:

Water demands for the Proposed Development

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1. Background

1.1 Introduction

1.1.1 Since original discussions took place to assess the potable and foul water demands of the Proposed Development (see Table 1.1, **Statement of Common Ground between Medworth CHP Limited and Anglian Water draft Statement of Common Ground (Volume 9.10 [REP1-044]**), Anglian Water published their Draft Water Resources Management Plan (DWRMP); consultation closed on 29 March 2023. The DWRMP process has identified uncertainties relating to future water supply and demand. Anglian Water have advised the Applicant that the new non-household demands cannot compromise current and future household supply. Therefore, and based on the DCO Application documents, Anglian Water seek clarification from the Applicant of the potable and foul water demands for the Proposed Development to:

- Understand the 'worst-case' (EIA) and 'day-to-day' demand requirements; and
- Consider if the Energy from Waste (EfW) Combined Heat and Power (CHP) Facility's potable and foul water demands can be accommodated within the DWRMP.

1.1.2 In light of the DWRMP, Anglian Water and the Applicant met on the 13 March 2023 to review the water demands for the Proposed Development. At this meeting, there was a consensus that the demands of the Proposed Development could be met without compromising the DWRMP.

1.1.3 Following the meeting on 13 March 2023, Anglian Water submitted a representation into the Examination at Deadline 3 requesting further information. The Applicant agreed to issue Anglian Water with a Technical Note to allow Anglian Water to review and formally respond.

1.2 Purpose of this Technical Note

1.2.1 This Technical Note presents information to verify the water demands for the Proposed Development thereby allow Anglian Water to confirm if they can be accommodated.

1.3 Structure of this document

- Section 2.0 – Existing potable and foul water supply
- Section 3.1 – Potable water demands
- Section 3.2 – 'Domestic' foul water
- Section 3.3 – Foul 'trade' effluent

4 Technical Note: Water demands for the Proposed Development

- Section 3.4 – Construction potable and foul water demand
- Section 3.5 – DCO Water Connections
- Section 3.6 – Summary of operational water use
- Section 3.7 – Summary of requirements and current position
- Section 4.0 – Conclusion
- Section 5.0 – Next Steps

2. Existing supply

2.1.1 Located at an existing and operational waste and aggregates transfer station (WTS), the proposed EfW CHP Facility Site benefits from an existing potable water connection and foul water treatment package plant. **Appendix A** presents the WTS 'as built' drawings, including the location of the potable water supply and foul water arrangements.

2.2 Potable Water

2.2.1 An existing metered water main serves the WTS. The manhole cover to access the water meter is located adjacent to the site's access off Algores Way (the location is annotated on the 'as built' drawing, see **Appendix A**).

2.2.2 During a visit to the site of the Proposed Development on 11 May 2023, the Applicant examined the existing site water supply connection and estimates the supply size to have an approximately 50mm internal diameter. Assuming Anglian Water's velocity limit of 1m/s, the Applicant estimates a 50mm connection can supply up to 7t/h. **Appendix B** presents photographs of the water main.

2.3 Foul Water

2.3.1 The existing WTS is not connected to Anglian Water's foul water network, instead a package treatment plant, discharging treated water to the adjacent drain suitably accommodates existing requirements. **Appendix C** provides details of the 'as built' arrangements.

3. Proposed Development

3.1 Potable water demand

3.1.1 The potable water connection is included as **Works No. 6A, Draft DCO (Volume 3.1) [REP3-006]**.

Proposed Development

3.1.2 Summarised in **Section 3.4.65 to 3.4.67 ES Chapter 3: Description of the Proposed Development (Volume 6.2) [APP-030]**.

3.1.3 Process waste water is generally reused in the process. In the event of an excess, this is neutralised and discharged to foul sewer.

3.1.4 Surface water runoff is collected and passed though the surface water drainage system; including biodiversity features see the **Outline Landscape and Ecological Management Plan (Volume 7.7) [REP3-020]**.

3.1.5 Water efficiency is an important factor in the operation of the EfW CHP Facility and ensured by the following measures.

- Wastewater from various parts of the process will be collected and reused to replace potable water consumption where possible and where the water quality requirements allow. This includes such uses as make up to the wet ash conveyors and wash down water.
- Rainwater harvesting will be implemented in the administration building for flushing of WCs and irrigation of any implemented landscaping features.
- The administration building will be provided with new, water efficient domestic appliances, low flow taps in the kitchens and toilets and water saving shower heads in the changing rooms.
- Potable water supplies for process and domestic use will be separately metered and recorded in the central control system, so that any excessive usage can be identified which may indicate leakages or faulty equipment.

Potable water demand scenarios

3.1.6 5t/h (tonnes/hour) – day-to-day base load requirement for main steam cycle process and other site requirements. (a typical annual demand curve is given in **Appendix D**.

3.1.7 12t/h – additional demand on occasions (approximately 4 to 6 times per year for a duration of up to 8-hours each) for main steam cycle process for example, during start up.

3.1.8 63t/h – steam supply with no condensate return. Any steam supplied off site would be offset by a similar reduction of potable water use by the customer(s) i.e., there would be a reallocation of demand within the Anglian Water network.

Anglian Water may need to consider how the 'reallocation' is monitored in practice.

3.1.9 The total of 80t/h is to be used for pipeline sizing only.

Commissioning

3.1.10 Commissioning period requires infrequent high demands. Applicant to inform Anglian Water of the commissioning programme to identify when the high demand periods would take place. Commitment to be embedded in the Applicant's **Outline Construction Environment Management Plan (Volume 7.12)**, was included in the updated version submitted at Deadline 3 [REP3-022]. Draft text included in the updated Outline CEMP:

"During commissioning of the EfW CHP Facility the Applicant will draw potable water and discharge this to the foul water network. Within the commissioning process there will be periods where the water demands are within the network's capacity, but Anglian Water have requested prior notification to inform their operational team and consequently understand any sudden increase in demands. To ensure Anglian Water are aware of any periods of high water/foul demands during commissioning phase of the EfW CHP Facility, prior to commissioning, the Applicant will notify Anglian Water of programmed periods for high potable and foul water demands".

3.2 'Domestic' foul water

3.2.1 The foul water connection is included as **Works No. 6B, Draft DCO (Volume 3.1) [REP3-006]**.

Proposed Development

3.2.2 Summarised in **Section 3.4.61 to 3.4.64 ES Chapter 3: Description of the Proposed Development (Volume 6.2) [APP-030]**.

3.2.3 At 40 staff, this is relatively low site occupancy. Lower during night shift (3) and weekends (up to 10).

Annual maintenance

3.2.4 Up to 100 temporary staff. Planned maintenance periods are either 10 days or 21 days annually and alternating.

Unplanned maintenance

3.2.5 Up to 50 temporary staff. From MVV's experience the duration of such events last around 3 to 7 days.

3.3 Foul 'trade' effluent

3.3.1 The foul 'trade' effluent water connection is included as **Works No. 6B, Draft DCO (Volume 3.1) [REP1-006]**.

3.3.2 Foul 'trade' effluent at 1.5m^3 per hour (constant flow).

3.3.3 Three types of foul water are created by the process:

- Relatively clean water from the process – discharged once neutralised to the standard requirements. Pumped to the sump system and only discharged to the foul sewer if the sump is at capacity;
- Sump water – not discharged to drain, as it would not be of sufficient quality, but reused within the process. There would be a minimum of one sump in the boiler house and another in the water treatment plant. Only when necessary, tankered offsite; and
- Boiler water, if a boiler needs to be emptied (approximately 200m^3) and the water cannot be stored due to maintenance activities – this is normally stored in either a boiler water tank or process water tank for reuse. Discharging this water is avoided as that increases operational costs.

3.3.4 Unlikely that further reinforcement works (to Anglian Water's foul water infrastructure) will be required, however Applicant to consider lead-in time to complete a foul water flow survey to confirm capacity of the network (2 to 3 years).

3.3.5 Details of the trade effluent red list analysis from MVV's existing facility in Devonport are provided in **Appendix E**.

3.4 Construction potable and foul water demand

3.4.1 Summary of the construction potable and foul water demand is provided at **Section 3.8.45 ES Chapter 3: Description of the Proposed Development (Volume 6.2) [APP-030].**

3.4.2 The Applicant proposes to use the existing connections at the Waste Transfer Station (WTS) to serve the construction of the EfW CHP Facility and operation of the Temporary Construction Compound (TCC).

3.4.3 Existing potable water supply is suitable for construction activities.

3.4.4 Applicant does not propose to erect a temporary concrete batching plant for construction purposes.

3.4.5 Anglian Water have and may use their statutory powers to make alterations to the construction supplies of water, for example, re-routing into the TCC.

3.5 DCO Water Connections

3.5.1 As previously agreed, the DCO Application includes the Water Connections (**Works No. 6A and 6B (Draft DCO (Volume 3.1) [REP3-006]**) to allow either

Anglian Water or the Applicant to implement, but Anglian Water will not be obliged to follow the DCO approved pipeline route if they use their statutory powers or obtain a separate consent.

3.6 Summary of Operational Water Use

3.6.1 The EfW CHP Facility has been designed with a principal objective of achieving minimal consumption of potable water and 'zero process effluent' production during normal operation.

3.6.2 Whilst some mains water will be required for topping up boiler feedwater and the ash quench system, potable uses in kitchens and washrooms, washdown operations and for fire suppression systems, fresh water consumption will be minimised through collection of process effluents for re-use, principally in the bottom ash quenching system, whilst boiler feed water used to generate steam will use recycled condensate from the ACC with condensate losses replaced using demineralised water.

3.6.3 The following general techniques will be applied in sequence to reduce water use:

- Use water-efficient techniques at source wherever possible;
- Recycle water within the process;
- Directly measure and record fresh water consumption regularly, at every significant usage point; and
- As part of the ongoing cleaning/management include general efficiency techniques such as vacuuming, scraping or mopping in preference to hosing down, using trigger controls on all hoses, hand lances and washing equipment, and reusing wash water where practicable.

3.6.4 During normal operation of the EfW CHP Facility, a peak mains water supply requirement of 63m3/h has been estimated in the case where a CHP scheme is in place, but condensate is not returned from the steam consumers. The normal expected demand of the EfW CHP Facility will be much lower than this at 5m3/h. The main consumers of water in the EfW CHP Facility will be as follows:

- Steam generation – demineralised water will be required to replace the boiler feedwater/condensate lost via evaporation, boiler blowdown and other steam consumers on-site. Use of demineralised water and boiler blowdown is essential to maintain the quality of boiler water and prevent the build-up of sludge and chemical impurities. Demineralised water will be fed to the process from the on-site water treatment plant. The water treatment plant is designed to continuously supply demineralised water to the process;
- Bottom ash quenching – hot IBA from the moving grate will be quenched in a water pit, with evaporated water preferentially replaced using process

water generated from other areas of the EfW CHP Facility (there may be a nominal requirement for top-up using mains water in some instances);

- Washing operations – water will be required for general equipment and surface cleaning, and to washdown hardstanding surfaces or vehicles. This will be supplied from the mains water supply with trigger controls on hoses to minimise water consumption;
- Potable uses – potable water from the mains supply will be consumed in amenity areas such as kitchens, washrooms and toilets. Domestic effluents from toilets, showers and kitchen areas will be discharged to foul sewer; and
- Fire suppression systems – the requirements for fire-fighting water are intermittent but can constitute large flows when required. In the event of a fire, water would initially be supplied from the fire water tank (capacity to be determined by the EPC contactor during the detailed design) and then, only if necessary, from the mains water system. Fire-fighting waste waters will be retained within the waste bunker and/or surface drainage system which will be closed in the event of an emergency using penstock valves. Procedures will be in place for sampling and testing fire-fighting runoff prior to appropriate disposal.

3.6.5 Rainwater collection from building roofs, roads and hardstanding areas will be discharged through an independent surface water drainage system incorporating oil interceptors and attenuation tanks. Sanitary and process effluents would be discharged to foul sewer. The steam/condensate cooling water system will also be independent to the surface drainage and foul sewer systems.

3.6.6 **Table 2.6.1** provides a summary of the expected consumption within the EfW CHP Facility and its source. **Appendix F** provides an indicative water flow drawing.

3.6.7 **Appendix G** provides indicative water consumption within the EfW CHP Facility.

3.6.8 Water efficiency audits will be carried out routinely as part of the Applicant's integrated management system.

3.7 Summary of Requirements and Current Position

3.7.1 Key project dates are as follows:

- DCO application submitted – July 2022
- Environmental Permit application duly made – March 2023
- DCO decision expected – end of Q1 2024
- Construction commencement – end of Q3 2024
- Commissioning commencement – end of Q1 2027

3.7.2 Key water and foul dates are as follows:

- Construction water supply required – from start of construction
- Day-to-day base load 5t/h water supply required – from start of commissioning
- With CHP offtake up to 63t/h water supply required – as soon as first steam supply customer is secured. Capacity based on peak demand from initial discussions with two prospective customers
- 1.5t/h foul water connection required – from start of construction

3.7.3 During a visit to the site of the Proposed Development on 11 May 2023, the Applicant examined the existing site water supply connection and estimates the supply size to have an approximately 50mm internal diameter. Assuming Anglian Water's velocity limit of 1m/s, the Applicant estimates a 50mm connection can supply up to 7t/h and request that Anglian Water comment on this estimate.

3.7.4 As discussed with Anglian Water during a Teams meeting on 12 May 2023, the Applicant is confident that the capacity of the existing site connection, via meter serial number 02A047110R, is sufficient to supply their construction and day-to-day water supply requirements. Please see **Appendix B** for photographs of the existing site connection water supply meter.

3.7.5 A new connection to increase the supply to up to 63t/h would be required once the first steam supply customer is secured. The Applicant is targeting existing businesses who currently draw water from the Anglian Water network to generate their own steam. Therefore, any increase in the Applicant's water demand due to CHP steam supply would be offset by an equal decrease in demand from the receiving customer.

3.7.6 To the extent that the customer collected condensate return from their boiler, this can be collected by the Applicant via their condensate return pipe, thus reducing the 63t/h by the corresponding amount.

3.7.7 On the basis of the above statements, the Applicant believes that their water supply demands can be met and will have no significant impact on the Anglian Water network or their domestic customers.

3.7.8 The Applicant would also be happy to supply CHP steam to any new business moving to the area of the EfW CHP Facility. It is the Applicant's view that any such business would have to secure their own water supply requirement with Anglian Water and the scenario described in 2.7.4 above would still apply.

3.7.9 A peak foul water flow of 2.502l/s or 9t/h was assumed in Anglian Water's original V2 desktop study. The Applicant confirms that this would not be exceeded under any operational scenario, with or without CHP steam supply.

4. Conclusion

4.1.1 Further to engagement with Anglian Water on potable water supply requirements for the EfW CHP Facility, the Applicant has concluded that the existing connection capacity is sufficient to provide the construction and day-to-day water supply needs, whilst utilising only 71% of the existing connection capacity (see **Appendix G**).

4.1.2 Once the CHP connection is implemented by the Applicant, the requirements to implement Works Order 3, 3A and 3B, i.e., increase the capacity to up to 63t/h by offsetting the demand of the steam customer, will be triggered.

5. Next Steps

5.1.1 Since publication of the DWRMP, Anglian Water to review and comment on this Technical Note to confirm if the Proposed Development's potable and foul water demands can be accommodated.

5.1.2 Anglian Water and the Applicant to set-up a 6-monthly review meeting to keep both parties updated on the progress of the Proposed Development and demands on the Anglian Water network. This approach will inform the detailed design stage e.g., when the water flow survey should commence.

5.1.3 The draft Statement of Common Ground (SoCG) **(Statement of Common ground between Medworth CHP Limited and Anglian Water (Draft) (Volume 9.10) [REP1-044]** to be reviewed and updated.

5.1.4 Anglian Water to provide the analysis of their waste water treatment works effluent (post reverse osmosis) for the Applicant to consider its suitability for use in their process.

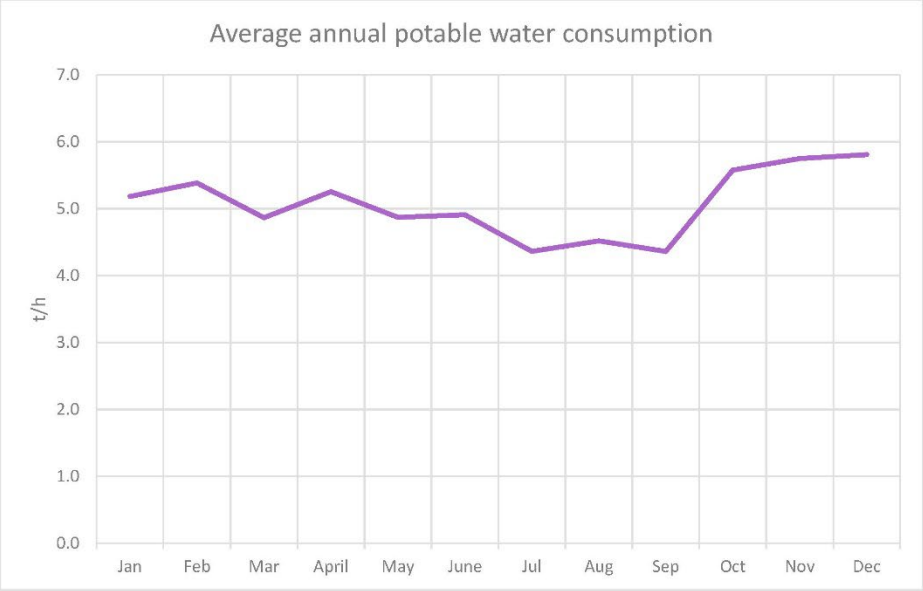
Appendix A Waste Transfer Station 'as built' drawings

Appendix B Existing Site Connection Images


BOUNDARY

Appendix C Package treatment plant 'as built' drawings

Appendix D Typical Annual Base Load Potable Water Consumption Based on MVV's Operating Experience



Appendix E Trade Effluent Red List Analysis from Devonport EfW CHP Facility

Certificate of Analysis

UKAS 1314 0897 4409

ALS Environmental

Report Number: COV/1672656/2019 Issue 1
Laboratory Number: 17945063 Sample 1 of 1

Sample Source: South West Water
Sample Point Description:
Sample Description: E19/001955
Sample Matrix: Trade Effluent
Sample Date/Time: 11 February 2019 12:00
Sample Received: 12 February 2019
Analysis Complete: 26 February 2019

Test Description	Result	Units	Analysis Date	Accreditation		Method
Cadmium , Total as Cd	<0.0006	mg/l	22/02/2019	Y	Cov	WAS049
Mercury, Total as Hg	<0.00020	mg/l	22/02/2019	Y	Cov	WAS013
1,2,3-Trichlorobenzene	<10	ng/l	19/02/2019	Y	Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	19/02/2019	Y	Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	19/02/2019	N	Cov	GEO47
Aldrin	<4	ng/l	19/02/2019	Y	Cov	GEO47
alpha-Endosulphan	<4	ng/l	19/02/2019	Y	Cov	GEO47
alpha-HCH	<3	ng/l	19/02/2019	Y	Cov	GEO47
beta-Endosulphan	<4	ng/l	19/02/2019	Y	Cov	GEO47
beta-HCH	<3	ng/l	19/02/2019	Y	Cov	GEO47
alpha-Chlordane	<3	ng/l	19/02/2019	Y	Cov	GEO47
Dichlobenil	<2	ng/l	19/02/2019	Y	Cov	GEO47
Dieldrin	<4	ng/l	19/02/2019	Y	Cov	GEO47
Endrin	<4	ng/l	19/02/2019	Y	Cov	GEO47
gamma-HCH	<2.7	ng/l	19/02/2019	Y	Cov	GEO47
Heptachlor Epoxide	<4	ng/l	19/02/2019	Y	Cov	GEO47
Hexachlorobenzene	<2	ng/l	19/02/2019	Y	Cov	GEO47
Hexachlorobutadiene	<7	ng/l	19/02/2019	N	Cov	GEO47
Isodrin	<4	ng/l	19/02/2019	Y	Cov	GEO47
o,p - DDE	<2	ng/l	19/02/2019	Y	Cov	GEO47
p,p - DDE	<2	ng/l	19/02/2019	Y	Cov	GEO47
o,p - TDE	<2	ng/l	19/02/2019	Y	Cov	GEO47
p,p - TDE	<2	ng/l	19/02/2019	Y	Cov	GEO47
o,p - DDT	<2	ng/l	19/02/2019	Y	Cov	GEO47
p,p - DDT	<4	ng/l	19/02/2019	Y	Cov	GEO47
Tecnazene	<10	ng/l	19/02/2019	Y	Cov	GEO47
gamma-Chlordane	<4	ng/l	19/02/2019	Y	Cov	GEO47
Triallate	<10	ng/l	19/02/2019	Y	Cov	GEO47
Trifluralin	<30	ng/l	19/02/2019	Y	Cov	GEO47
PCB 28	<2	ng/l	19/02/2019	Y	Cov	GEO47
PCB 52	<2	ng/l	19/02/2019	Y	Cov	GEO47
PCB 101	<2	ng/l	19/02/2019	Y	Cov	GEO47

Certificate of Analysis

UKAS TESTING 1314 0897 4409

ALS Environmental

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Sample Source: South West Water
Sample Point Description:
Sample Description: E19/001955
Sample Matrix: Trade Effluent
Sample Date/Time: 11 February 2019 12:00
Sample Received: 12 February 2019
Analysis Complete: 26 February 2019

Test Description	Result	Units	Analysis Date	Accreditation	Method
PCB 118	<3	ng/l	19/02/2019	Y Cov	GEO47
PCB 138	<2	ng/l	19/02/2019	Y Cov	GEO47
PCB 153	<2	ng/l	19/02/2019	Y Cov	GEO47
PCB 180	<3	ng/l	19/02/2019	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	19/02/2019	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	19/02/2019	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	19/02/2019	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	19/02/2019	Y Cov	GEO47
Chlorpyriphos	<0.002	ug/l	19/02/2019	Y Cov	GEO47
Diazinon	<0.003	ug/l	19/02/2019	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	19/02/2019	Y Cov	GEO47
Dimethoate	<0.02	ug/l	19/02/2019	Y Cov	GEO47
Methyl Tertiary Butyl Ether	<0.10	ug/l	18/02/2019	Y Cov	GEO56
Fenitrothion	<0.002	ug/l	19/02/2019	Y Cov	GEO47
Fenthion	<0.002	ug/l	19/02/2019	Y Cov	GEO47
Malathion	<0.004	ug/l	19/02/2019	Y Cov	GEO47
Mevinphos	<0.020	ug/l	19/02/2019	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	19/02/2019	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	19/02/2019	Y Cov	GEO47
Phorate	<0.004	ug/l	19/02/2019	Y Cov	GEO47
Phosalone	<0.004	ug/l	19/02/2019	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	19/02/2019	Y Cov	GEO47
Propetamphos	<0.003	ug/l	19/02/2019	Y Cov	GEO47
Triazophos	Analyst Com	ug/l	26/02/2019	Y Cov	GEO47
Atrazine	<0.020	ug/l	19/02/2019	Y Cov	GEO47
Prometryne	<0.020	ug/l	19/02/2019	Y Cov	GEO47
Propazine	<0.020	ug/l	19/02/2019	Y Cov	GEO47
Simazine	<0.020	ug/l	19/02/2019	Y Cov	GEO47
Terbutryn	<0.020	ug/l	19/02/2019	Y Cov	GEO47
Trietazine	<0.010	ug/l	19/02/2019	Y Cov	GEO47
1,2-Dichloroethane	<1.00	ug/l	18/02/2019	Y Cov	GEO56
Benzene	<0.10	ug/l	18/02/2019	Y Cov	GEO56
Ethyl Benzene	<0.10	ug/l	18/02/2019	Y Cov	GEO56

Certificate of Analysis

UKAS TESTING 1314 0897 4409

ALS Environmental

Report Number: COV/1672656/2019 Issue 1
Laboratory Number: 17945063 Sample 1 of 1

Sample Source: **South West Water**
Sample Point Description:
Sample Description: **E19/001955**
Sample Matrix: **Trade Effluent**
Sample Date/Time: **11 February 2019 12:00**
Sample Received: **12 February 2019**
Analysis Complete: **26 February 2019**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,1,1-Trichloroethane	<0.10	ug/l	18/02/2019	Y Cov	GEO56
Bromodichloromethane	2.03	ug/l	18/02/2019	Y Cov	GEO56
Bromoform	<0.10	ug/l	18/02/2019	Y Cov	GEO56
Carbon Tetrachloride	<0.10	ug/l	18/02/2019	Y Cov	GEO56
Tetrachloroethene	<0.10	ug/l	18/02/2019	Y Cov	GEO56
Trichloroethene	<0.10	ug/l	18/02/2019	Y Cov	GEO56
Dibromochloromethane	0.94	ug/l	18/02/2019	Y Cov	GEO56
Total THM	6.28	ug/l	18/02/2019	N Cov	GEO56
Organo-tin	<0.02	ug/l	16/02/2019	N Cov	GEO24
Tributyl Tin	<0.02	ug/l	16/02/2019	Y Cov	GEO24
Triphenyl Tin	<0.02	ug/l	16/02/2019	Y Cov	GEO24
SVOC	Y	ug/l	21/02/2019	N Cov	GEO40
Phenol	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	21/02/2019	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	21/02/2019	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	21/02/2019	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	21/02/2019	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	21/02/2019	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Bis(2-chloroisopropyl)ether	<1.0	ug/l	21/02/2019	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Isophorone	<1.0	ug/l	21/02/2019	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	21/02/2019	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	21/02/2019	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	21/02/2019	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Naphthalene	<2.0	ug/l	21/02/2019	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	21/02/2019	Y Cov	GEO40

Certificate of Analysis

UKAS TESTING 1314 0897 4409

ALS Environmental

Report Number: COV/1672656/2019 Issue 1
Laboratory Number: 17945063 Sample 1 of 1

Sample Source: South West Water
Sample Point Description:
Sample Description: E19/001955
Sample Matrix: Trade Effluent
Sample Date/Time: 11 February 2019 12:00
Sample Received: 12 February 2019
Analysis Complete: 26 February 2019

Test Description	Result	Units	Analysis Date	Accreditation	Method
4-Chloro-3-methylphenol	<1.0	ug/l	21/02/2019	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	21/02/2019	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	21/02/2019	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	21/02/2019	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	21/02/2019	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	21/02/2019	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Fluorene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	21/02/2019	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Anthracene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Fluoranthene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Pyrene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Chrysene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	21/02/2019	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	21/02/2019	Y Cov	GEO40

Certificate of Analysis

UKAS TESTING 1314 0897 4409

ALS Environmental

Report Number: COV/1672656/2019 Issue 1
Laboratory Number: 17945063 Sample 1 of 1

Sample Source: South West Water
Sample Point Description:
Sample Description: E19/001955
Sample Matrix: Trade Effluent
Sample Date/Time: 11 February 2019 12:00
Sample Received: 12 February 2019
Analysis Complete: 26 February 2019

Test Description	Result	Units	Analysis Date	Accreditation	Method
Benzo(g,h,i)perylene	<1.0	ug/l	21/02/2019	Y Cov	GEO40
2-Fluorophenol	98.7	%Recovery	21/02/2019	N Cov	GEO40
Phenol-d6	64.0	%Recovery	21/02/2019	N Cov	GEO40
Nitrobenzene-d5	95.7	%Recovery	21/02/2019	N Cov	GEO40
2-Fluorobiphenyl	96.6	%Recovery	21/02/2019	N Cov	GEO40
2,4,6-Tribromophenol	93.2	%Recovery	21/02/2019	N Cov	GEO40
Terphenyl-d14	95.3	%Recovery	21/02/2019	N Cov	GEO40
Description of Sample	Analyst Com	Text	20/02/2019	N Cov	70
Asbestos Identification	Analyst Com	Text	20/02/2019	N Cov	70
Chloroform	3.32	ug/l	18/02/2019	Y Cov	GEO56
Toluene	<0.10	ug/l	18/02/2019	Y Cov	GEO56
1,1,2-Trichloroethane	<0.10	ug/l	18/02/2019	Y Cov	GEO56
m&p Xylene	<0.20	ug/l	18/02/2019	Y Cov	GEO56
o-Xylene	<0.10	ug/l	18/02/2019	Y Cov	GEO56
Styrene	<0.10	ug/l	18/02/2019	Y Cov	GEO56
1,1,2,2-Tetrachloroethane	<0.10	ug/l	18/02/2019	Y Cov	GEO56
Total Xylenes	<0.20	ug/l	18/02/2019	N Cov	GEO56

Analyst Comments for 17945063: Raised reporting limits for 1,2 DCE due to sample matrix.
SVOC : Reporting Limit raised for mercury due to sample matrix interference.
Unable to provide results for Triazophos due to quality failure. ASBESTOS COMMENTS Asbestos ID: Non Detected, Description of Sample: Water

This issue replaces all previous issues
Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.
Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2SW), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG).
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.
I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

ANALYST COMMENTS FOR REPORT COV/1672656/2019 Issue 1

This issue replaces all previous issues

Date of Issue: 26 February 2019

Sample No	Analysis Comments
17945063	Raised reporting limits for 1,2 DCE due to sample matrix. SVOC : Reporting Limit raised for mercury due to sample matrix interference. Unable to provide results for Triazophos due to quality failure. ASBESTOS COMMENTS Asbestos ID: Non Detected, Description of Sample: Water

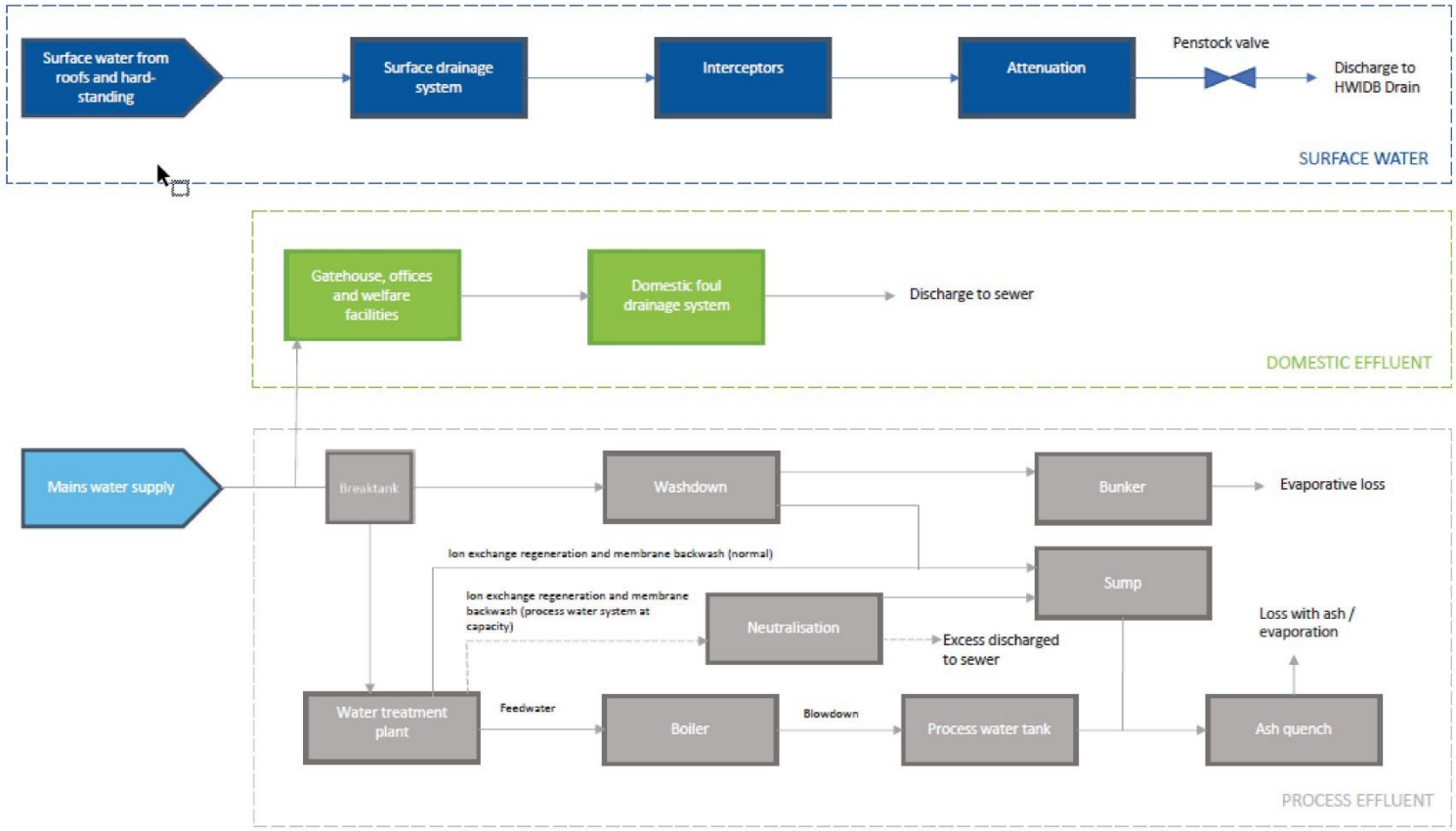
DETERMINAND COMMENTS FOR REPORT COV/1672656/2019 ISSUE 1

Date of Issue: 26 February 2019

This issue replaces all previous issues

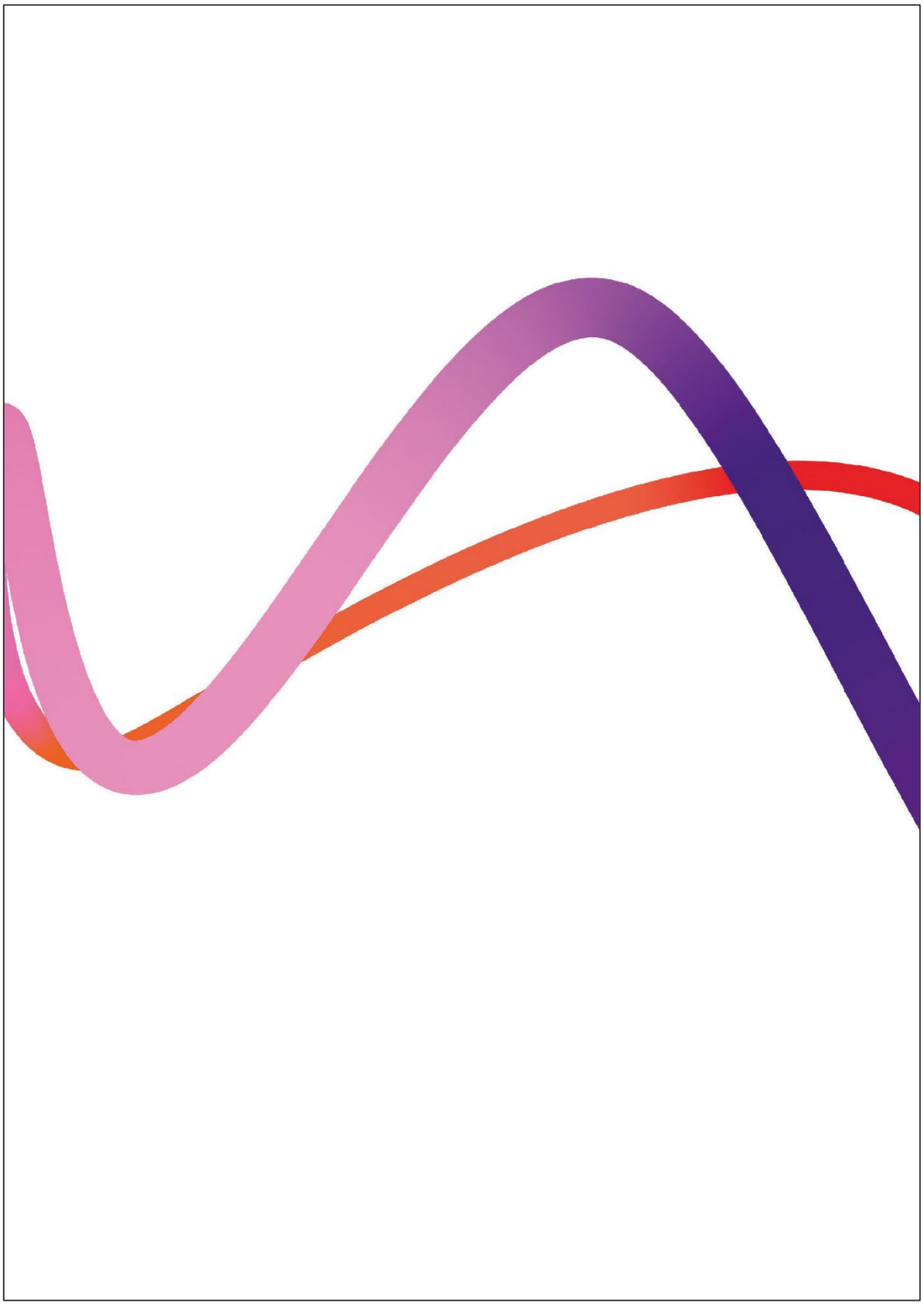
Sample No	Description	Determinand	Comments
17945063	E19/001955	Asbestos Identification	{/"}Non Detected{"/}
17945063	E19/001955	Description of Sample	{/"}Water{"/}

Appendix F Indicative Water Flow Diagram



Appendix G Indicative Water Consumption Within the EfW CHP Facility

Source/use	Consumption (m^3/h) [A]	Comments
Breakdown of water consumption in the EfW CHP Facility		
Steam production	2.46	For blowdown only. If Anglian Water's treated effluent is of sufficient quality, it could be used
Ash quench	1.00	Anglian Water's treated effluent
Flue gas treatment systems	0.00	Dry scrubbing systems used
Washing and cleaning operations	0.50	Anglian Water's treated effluent
Potable and amenity uses (e.g., washrooms, kitchens)	0.21	Potable water
Non-potable uses (e.g., toilets)	0.51	Harvested rainwater supplemented with Anglian Water's treated effluent
Fugitive emission suppression systems	0.32	Anglian Water's treated effluent
TOTAL	**5.00**	Total imported water to the EfW CHP Facility from mains water supply
[A] Expected consumption for normal operation		
Total annual volume requirements	43,800m^3	Based on 8,760h
Total capacity of the existing water connection to the EfW CHP Facility Site	61,320m^3	Assumed 7t/h connection
TOTAL UTILISATION	**71%**	EfW CHP Facility utilisation of the existing potable water connection at the EfW CHP Facility Site



Appendix B Correspondence with Anglian Water

From: Tessa Saunders
To: Tim Marks
Cc: Smith, Michelle; Paul Carey; Gary Parkinson; James Ashton; John Wade; Geoff Darch; Rob Morris; Phil Jones
Subject: Anglian Water Review and Response to MVV Technical Note: Water demands for the Proposed Development
Date: 14 June 2023 12:07:35

Caution! This message was sent from outside your organization.

Dear Tim,

Thank you for providing the updated Technical Note outlining the water demands and foul drainage for the proposed Medworth Energy from Waste and Combined Heat and Power Facility.

As a result of the review of the detailed information provided over the proposed requirements for water resources and foul drainage for the facility, Anglian Water can respond to the key matters previously raised through the examination and Statement of Common Ground, as follows:

Water Resources

- The water demand for the existing use on the site (waste transfer depot) does not exceed 3 m^3/day and therefore is negligible in terms of any off-set against the proposed demand for non-domestic water.
- The requirement for the standard daily operational needs of the facility is 5m^3/hr or 0.12 megalitres/day (Ml/d) which is above our de minimis threshold for non-domestic water demand. As highlighted previously, to respond to the challenges of abstraction reductions to protect the environment, and a growing population, Anglian Water is building a new strategic pipeline to move water around our region. We have also developed plans to build two new reservoirs to increase water supply. These solutions will take time to deliver, and so it is more crucial than ever that all homes and businesses are water efficient, to reduce the overall demand for water, to meet government targets and to ensure there is enough water to go around.
- The Technical Note setting out the approach to efficiently managing potable water use and utilising a water audit process is welcomed. The breakdown of water consumption in Appendix G of the Note demonstrates that of the 5 m^3/hr consumption, 0.72 m^3/hr is for domestic purposes (amenity and sanitary uses) of which 0.51 m^3/hr can be addressed by non-potable supply including on-site rainwater harvesting. The non-domestic supply therefore equates to 4.28 m^3/hr (0.1 Ml/d).
- The Anglian Water strategic interconnector from Peterborough to Bexwell (near Downham Market) will be constructed in 2025 and will bring more water into the Fenland water resource zone. Once other pressures for water demand have been addressed, Anglian Water can confirm the ability to offer 0.12 Ml/d from April 2026 to the facility. It is understood that the site will be commissioned from Q1 2027 and therefore the strategic interconnector will enable both domestic and non-domestic demands for water to be met.
- The 12m^3/hr of additional demand for occasional use (4 – 6 times a year) is less than 0.002 Ml/d on average, and will be considered by our network modellers when a

submission for a water supply connection is made by the Applicant through the Anglian Water InFlow process.

- Anglian Water understands that the steam supply requirement of 63m^3/hr should not result in an net increase in terms of available water resources, as it will replace the water supply used by existing customers in the vicinity of the facility. Through the application to Anglian Water to upgrade to the water connection and increase supply to for steam generation, measures will be required to ensure a net 'neutral' position on water resources accounting for a corresponding reduction in demand from the 'steam customer'. Whilst a 'no condensate return' approach is outlined, Anglian Water would encourage condensate return to be utilised wherever possible whilst recognising that this is dependent on whether the customer's processing of the steam supplied can enable this to be secured.
- It is noted that water demands during the construction process should not be excessive as no temporary concrete batching plant is required on site, and therefore water will be generally required for amenity and sanitary uses for construction workers on site.

Foul drainage connections:

- Anglian Water has no specific concerns with the proposed foul drainage strategy presented by the Applicant, and advise the Applicant to submit an application for the foul drainage connections as soon as reasonably practicable to enable the application process to progress and align with the construction and commissioning of the project.
- A flow survey will be required for trade effluent and will confirm whether any network reinforcement will be needed. It is advised that any network upgrades, should they be required, will take 2-3 years to construct and at the cost of the developer.
- For information, the domestic foul flows will need to be confirmed at the point of submitting a pre-planning application through our Inflow platform and any upgrades will be the responsibility and at cost to Anglian Water.

Next Steps:

- Alternative water supply options for future consideration by the facility includes final effluent re-use from Water Recycling Centres following further investigation into feasibility by Anglian Water.
- The ability to secure condensate returns from existing customers provides greater water efficiencies by the facility, and could provide opportunities for closed-loop processes for future customers, subject to securing a supply from Anglian Water.
- As outlined in the Technical Note, the Pre-development Team would welcome regular update meetings to facilitate works required to connect to the foul drainage network, and upgrades to the water supply connection when required.

Kind regards,

Tessa Saunders MRTPI
Spatial Planning Advisor – Sustainable Growth
Quality & Environment

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Our Purpose
To bring environmental and social prosperity to the region we serve through our commitment to
love every drop.