

Southern Water Canterbury Sludge Treatment Work Permit Application – Response to Environment Agency

1

Environment Agency reference:	EPR/NP3698HN/V007	Date:	11 September 2024
Prepared by:	Mohar Das and Shannon Stone	Checked by:	Anita Manns
Approved by:	Anita Manns	Document reference:	790101_NDM Response_CAN September 2024



This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

Mott MacDonald Limited (Registered in England and Wales no. 1243967. Registered office: Mott MacDonald House, 8-10 Sydenham Road, Croydon CR0 2EE, United Kingdom) accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

Table 1: Response to Environment Agency

Topic of relevancy	Question no.	Question	Response	Commented [SS1]: Table to be split when approved, due to formatting issues
Payment details	N/A	 The correct application charge may be as follows, but will be subject to confirmation of the activities being applied for. We have currently calculated this as £22,008. This leaves a potential balance of £2,379 to pay. Application fee £13,984 application fee for - S5.4 1) (b) (i) Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving biological treatment. Application fee for the physical treatment of non-hazardous waste relating to temporary storage of cake and other wastes (Grit screenings) – 1.16.12 - £3,965 Application fee for the dewatering activity – 1.16.12 - £793 Additional Assessments (see below for further details) Odour management plan – a fixed charge of £1,246 Habitats assessment – a fixed charge of £779 	 Based on the information provided, the application charge is £21,215. In the original application Southern Water have paid £19,629 so there is a difference of £1,586 outstanding balance to pay. Southern Water are due to submit the request for the outstanding fee to their finance department week commencing 2 September, and payment is due to be received by the Environment Agency on 10 September (Reference PSCAPPSOUTH007). Application fee £13,984 application fee for - S5.4 (1) (b) (i) Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving biological treatment. £3,965 application fee (1.16.12) for the storage of digested cake Odour management plan – a fixed charge of £1,246 Habitats assessment – a fixed charge of £1,241 	
Process flow	1	The process flow provided in '790101_MSD_Schematics_CAN' includes the WwTW which does not form part of your applied for	The Process Flow Diagram has been updated to provide clarification of the IED boundary, coverage of the Odour Control Unit and the inclusion of the	

2

Topic of relevants	Question no.	Question	Response
		activity. It also does not include the waste activities that you have applied for.	digested sludge acceptance at the post digestion (document reference 790101_MSD_Schematics_CAN September 2024).
		 Update and resubmit your process flow to clearly show which assets will form part of your permit boundary, and which assets in the process flow are part of the WwTW, ensuring that it includes all processes that you have applied for 	
Form C2.5	2	We cannot locate form C2.5 and you have applied to add medium combustion plant to your site. Guidance on how to complete this form can be found here. (https://www.gov.uk/government/publications/application-for-an- environmental-permit-part-c25-vary-to-add-a-new-mcpsg-or-change-an- existing-mcp-or-sg-permit) a) Provide a completed C2.5 form.	Form C2.5 has been completed and provided as document reference 790101_App_PartC2.5_CAN September 2024, and 790101_CombustionPlant_CAN September 2024
Site Condition Report	3	 Update your SCR to reflect the permit area and application you are applying for, removing activities that will not be included within your permit, or clearly identifying that that are not part of the permit being applied for. 	 The SCR (doc ref 790101_MSD_SCR_CAN September 2024) has been updated to amend reference to activities in the wider WwTW, which do not form part of the permit boundary, and remove any identified exemptions.
		 b) Provide 'Appendix B. Landmark Envirocheck Report', and all supporting information identified in section 'supporting information'. 	b) The Landmark Envirocheck Report ad any other supporting document has been provided (doc ref 790101_MSD_SCR_CAN_AppB_Envirocheck).
			Southern Water confirm that they will not operate exemptions within the permit boundary once the permit is issued.
Missing documents	4	On review of your application, we cannot locate the following documents. (Note your application will not be duly made until these have been checked)	790101_MSD_DrainagePlan_CAN has been provided with the not duly made response.
		 790101_MSD_DrainagePlan_CAN 790101_MSD_Directors February 2024 a) Provide a copy of the above re-submitted/updated documents 	The directors list will be sent separately under email subject "EPR/NP3698HN/V007 Canterbury Not Duly Made Response September 2024".
Odour control units	5	You have advised in your OMP that application that "Odour is controlled via one current odour control unit (OCU), which undertakes extraction only." BAT 34 and 53 require that in order	Canterbury has one odour control unit which. Southern Water does not believ the installed OCU currently meets BAT 34.
		to reduce emissions, BAT is to use one or a combination of	Southern Water is progressing detailed survey and assessment of the existin OCU to understand the additional measures required to meet BAT 34. Provisionally, they believe that to meet the wet scrubbing definition of BAT 34 requires a scrubber in combination with activated carbon adsorption.
			The OMP has been updated accordingly (document reference 790101_ERA_OdourMP_CAN September 2024).

Commented [SS1]: Table to be split when approved, due to formatting issues

3

Topic of relevant	Question no.	Question	Response	C fc
ACDONALD		 defined abatement techniques. It is not clear in your OMP which technique your OCU is and if it meets BAT. a) Update and resubmit your OMP to clearly explain the OCU technology on site. b) Update and re-submit your OMP to explain how your OCU meets the requirements of BAT 34 and 53. c) If the emission point does not meet the requirements of BAT 34 and BAT 53 explain what measures you will take to meet BAT by confirming the OCU type that will be implemented to meet BAT. 		
Emissions to air from OCUs	6	 a) Confirm that you will characterise emissions from the odour control units in line with BAT 3 to demonstrate if TVOC and HCI are present in the waste gas stream. b) Confirm that if TVOC and HCI are identified as relevant in the waste gas streams that you will monitor these emission in line with BAT requirements. 	Southern Water confirm that characterisation of emissions from the odour control units will be undertaken in line with BAT 3 to demonstrate if TVOC and HCI are present in the waste gas stream. If TVOC and HCI are identified as relevant in the waste gas streams Southern Water will monitor these emission in line with BAT requirements. Table 7 of the Odour Management Plan has been updated to reflect the above commitments, document reference 790101_ERA_OdourMP_CAN September 2024.	
Secondary containment	7	 a) Provide an update secondary containment report that clearly identifies the containment solution proposed within the permit boundary, the containment volumes, an explanation of how your proposals meet BAT and CIRIA C736. b) Update your permit boundary (and all relevant documents) to include your proposed containment solution. 	The report is provided separately as document reference 790101-MMD-IED- CAN-CA-C-001-ADBA Canterbury P03 The previous report doc refs are replaced by the above: • 790101-MMD-IED-CAN-SIM-M-101 • 790101 -MMD-IED-CAN-SIM-M-102 • 790101 -MMD-IED-CAN-SIM-M-104 • 790101-MMD-IED-CAN-SIM-M-105 • 790101-MMD-IED-CAN-SIM-M-106 • 790101-MMD-IED-CAN-SIM-M-107 • 790101-MMD-IED-CAN-SIM-M-108 • 790101-MMD-IED-CAN-SIM-M-108	

Commented [SS1]: Table to be split when approved, due to prmatting issues

4

Mott MacDonald				5
Topic of relevation	Question no.	Question	Response	Commented [SS1]: Table to be split when approved, due to formatting issues
ACDONALD			Section 5 of the report 790101-MMD-IED-CAN-CA-C-001-IED ADBA tool Canterbury P03 addresses the following aspects, as per the Not Duly Made letter:	
			Considered jetting	
			Contain all tanks,	
			 Explanation on volumes in regard to CIRIA C736 in relation to the 110%/25% rule 	
			Considered rainfall	
			 Explanation on how the chosen solution mitigates spillage from sludge storage tanks identified in the area holding the sludge storage tanks 	
			Provided further comment on impermeable surfacing	
			• Further details on the earth bund on how this will meet CIRIA C736	
			Addressing that all drainage will be returned to the WwTW, a receptor	
			The Site Layout Plan (doc ref 790101_MSD_SiteLayoutPlan_CAN September 2024) has been updated and provided separately in response to the Not Duly Made letter. It includes the containment solution within the permit boundary.	
Anaerobic digestion Activity Capacity	8	Table 6.1 of your main supporting document advises that you are applying for an annual capacity of 75,607m3 per annum, or 207.1m3 per day for the AD and 225,270m3 of indigenous and imported sludge for dewatering. This volume seems low in relation to the dewatering	A visual summary of the Site's throughout quantities in total dry solids (TDS) and wet tonnes is provided separately in doc ref 790101_AnnualThroughput_CAN September 2024.	
		process and we require further confirmation that this volume is correct. Also your volume must be provided in tones not meters cubed. Provide the following information:	On reflection, the annual throughput provided in the application requires adjusting. The annual capacity is 121,721 tonnes (wet).	
		 Total tonnage of indigenous and imported wet tones to be received at the sludge treatment centre. 	Digester hydraulic retention time varies between 14-19 days at the Site. The minimum retention time for the digesters, as an operational standard, is 14	
		b) Total tonnage per annum to be accepted at the anaerobic digesters	days.	
		c) Digester hydraulic retention time	The Main Supporting Document Table 6.1 has been updated to reflect the requested annual throughout (document reference 79010_MSD_Main_CAN September 2024).	

Mott MacDonald Restricted

Mott MacDonald

Topic of relevation	Question no.	Question	Response	Commented [SS1]: Table to be split when approved, due to formatting issues
ACTORNALD codes accepted	9	 'Wastes imported for Anaerobic Digestion': a) Provide the source of 16 10 02 that you intend to accept for anaerobic digestion. b) Explain why accepting 16 10 02 would not be co-digestion. c) If you are applying for co-digestion, update and re-submit your application to reflect co-digestion. d) If you do not require 16 10 02 for acceptance to the anaerobic digestion process confirm that this code is to be removed. 'Wastes received under the Controlled Waste Regulations 2012': please note that we do not permit controlled waste regulation codes, as such these will not be included on any permit issued. e) Confirm your acceptance of the above. 	 a to d) 'Wastes imported for Anaerobic Digestion': Southern Water confirm that the code 16 10 02 is to be removed from tables referring to 'Wastes imported for Anaerobic Digestion', as the intention is not for co-digestion at this site. e) 'Wastes received under the Controlled Waste Regulations 2012': Southern Water acknowledge these waste codes will not be included in a permit. The Main Supporting Document and Odour Management Plan have been amended and provided separately (doc ref 790101_MSD_Main_QUE September 2024 and 790101_ERA_OdourMP_QUE September 2024 respectively). The latest version removes the applicable 16 10 02, and caveats that controlled waste will not feature on the permit. 	
Import of grit and screenings from sewer cleaning and the temporary storage of digested sludge cake	10	 Please provide all information identified within our application process, this includes but is not limited to the below. a) Payment as identified above b) Non-technical summary, and process flow including how you will keep this activity separate from your installations activity (https://www.gov.uk/guidance/waste-environmental-permits) c) Assessment against Non-hazardous and inert waste: appropriate measures for permitted facilities https://www.gov.uk/guidance/non-hazardous-and-inert-waste-appropriate-measures-for-permitted-facilities d) Completion of relevant forms – B4 new bespoke waste operation - e) https://www.gov.uk/government/publications/application-for-an-environmental-permit-part-b4-new-bespoke-waste-operation f) Updating and inclusion of this activity in all relevant management plans such as the Odour management plan etc. 	 Import of grit and screenings from sewer cleaning is not requested for the site. Storage of digested sludge cake is requested, and reflected throughout the documents that refer to permitted activities. a) It is acknowledged that a further fee of £3,965 is required. Payment date to be clarified in the week commencing 2 September 2024 b) Non-technical summary of the Main Supporting Document has been updated, and the process flow diagram 790101_MSD_Schematics_CAN September 2024 to demonstrate the inclusion of the acceptance and storage of digested cake. c) Section 6.3 has been updated to refer to appropriate measures d) Part B4 has been submitted as 790101_App_PartB4_CAN September 2024.pdf Management plan have been updated to refer to the activity as part of the permit (once granted) within introductions. Previous measures within the management plans are deemed also applicable to the additional waste activity.	
Dewatering activity	11	 a) Payment as identified above b) Non-technical summary, and process flow including how you will keep this activity separate from your installations activity (https://www.gov.uk/guidance/waste-environmental-permits) c) Assessment against Non-hazardous and inert waste: appropriate measures for permitted 	Acceptance of liquid sludge after digestion is not requested for this site.	

6

Topic of relevant	Question no.	Question	Response
Waste water	12	 facilitieshttps://www.gov.uk/guidance/non-hazardous-and-inert-waste-appropriate-measures-for-permitted-facilities d) Completion of relevant forms – B4 new bespoke waste operation - https://www.gov.uk/government/publications/application-for-an-environmental-permit-part-b4-new-bespoke-waste-operation e) Updating and inclusion of this activity in all relevant management plans such as the Odour management plan, accident management plan, residue management plan etc. a) Provide written procedures which describes the site's contingency 	
vaste water emissions during storm overflow conditions at the WwTW	12	 a) Provide which procedures which describes the site's contingency arrangements to prevent digestate and effluent being discharged off site while the WwTW are in storm conditions. b) Provide a description of the buffer storage proposals to control or hold emissions to the event of storm overflow conditions at the WwTW. c) Should any contingency arrangements use storage tanks to act as a buffer, provide evidence that demonstrates the waste waters or digestates can be held in this storage during the period of storm overflows 	 Process liquors and effluent from the STC are returned to the process downstream of storm separation. Returns come in downstream overflow and flow cannot physically escape down the storm route. The digestate and effluent must pass through treatment before going out to the environment. If the end of the inlet was to block there could potentially back up flows and go to storm but there would be alarms generated and pumps would be turned off. Return pumps are always turned off when the end of the inlet is racked, which is done weekly. Southern Water will provide a wastewater and digestate buffer storage plan (listed in regard to BAT 4 in the Implementation Plan document reference 790101_MSD_Implementation Plan December 2023). The Plan's purpose is to propose and describe site contingency arrangements to provide appropriate storage capacity or other appropriate measures to prevent or minimise emissions of wastewater or digestate being discharged off site during any occasions when the receiving wastewater treatment works is in storm overflow operating conditions. It is understood the Plan will be required to include, but not be limited to: Proposals for additional storage capacity with secondary containment within the site boundary for wastewater and/or other digestate during any occasions when the receiving wastewater treatment works is in storm overflow operating conditions. Procedures to cease discharges during these conditions. Calculation of a reasonable contingency capacity of waste water and/or other digestate during any occasions when the receiving wastewater treatment works is in storm overflow operating conditions. A description and design specification of the buffer storage

Commented [SS1]: Table to be split when approved, due to formatting issues

7

Topic of relevancy	Question no.	Question	Response	Cor
CDONALD			 shall be completed by an appropriately qualified engineer and secondary containment shall be designed in line with CIRIA C736. A program of works with timescales for the implementation and construction of the buffer storage. A preventative maintenance and inspection regime. 	
Waste acceptance and pre- acceptance	13	Provide a waste pre-acceptance and acceptance procedure for imported and indigenous sludge that meet the requirements of BAT 2.	The waste pre-acceptance and acceptance procedure for imported and indigenous sludge are provided in doc ref 790101_WasteAcceptance_CAN September 2024, and supersedes 790101_MSD_DutyofCare_CAN February 2024	
Standby generator	14	 a) For the specified generator explain using the RGN2 DAA test why the generators meets the criteria of a DAA. b) If it does not meet the requirements of a DAA remove this from your permit application and amend your site plans to reflect this a) Update Table 6.3 in '709101_MSD_Main_CAN' to include all emissions. b) Update your emission point plan to ensure all that all indirect emissions to water are included, and clearly explain which emission point includes which waste water stream. c) Provide a written statement with a commitment to undertake the sampling and analysis in line with BAT3. 	 Southern Water do not have information available, at present, to confirm whether the generators are directly associated activities. Therefore, supporting documents within application have been amended to remove reference to these generators. a) All emission points to sewer have been reviewed and Table 6.3 in the main supporting document has been updated to reflect the Site Layout Plan (doc ref 790101_MSD_Main_CAN September 2024). b) The site layout plan (doc ref 790101_SiteLayoutPlan_CAN September 2024) has been updated to include all indirect emission points for emissions to water and identifies the waste water streams. c) A sampling proposal is provided in a separate document with a written statement to undertake the sampling and analysis in line with BAT3, doc ref 790101_Sampling proposal_CAN September 2024. 	
Application EPR/NP369 8HN/V006	16	 Please provide: a) Evidence that you are currently accepting the new waste codes identified. (Note: This can be a single waste transfer note demonstrating that this waste stream has been accepted at site.) b) If you are not currently accepting the EWC code identified, provide an assessment of the fate and impact on the receiving waters in line with the Environment Agency's risk assessment guidance. 	Waste Transfer Notes is provided in 790101_MSD_WasteTransferNotes_CAN September 2024	

mmented [SS1]: Table to be split when approved, due to matting issues

8

Topic of relevant	Question no.	Question	Response	Commented [SS1]: Table to be split when approved, due t formatting issues
CIPONALD works In- direct emission point	17	 a) Provide a summary of the sampling and analysis methodology of the effluent discharged and specify the likely pollutants in the effluent (guidance here Monitoring discharges to water: guidance on selecting a monitoring approach - GOV.UK (www.gov.uk) and Surface water pollution risk assessment for your environmental permit - GOV.UK (www.gov.uk)). b) Provide a written statement with a commitment to undertake the sampling and analysis in line with the 'Non-hazardous and inert waste: appropriate measures for permitted facilities' c) Provide a written statement with a commitment that those undertaking the sampling and analysis will be by accredited to MCERTs or provide evidence of equivalent standards. d) Provide a revised site plan which identifies the effluent sampling point and emission point for the effluent discharge from the head of works activity. 	 Document reference 790101_Sampling proposal_CAN September 2024 is provided to address the following, in relation to the request for import at post digestion (activity requested via the Part B4 form): a) Summary of the sampling and analysis methodology of the effluent discharged and specify the likely pollutants in the effluent. b) Written statement with a commitment to undertake the sampling and analysis in line with the 'Non-hazardous and inert waste: appropriate measures for permitted facilities' c) Written statement with a commitment that those undertaking the sampling and analysis will be by accredited to MCERTs or provide evidence of equivalent standards. d) The Site Layout Plan (document reference 790101_MSD_SiteLayoutPlan_CAN September 2024) has been updated to indicate the monitoring locations. 	
Other amend				
other amend	ments			
Firewater	ments		The Environmental Risk Assessment has been updated to address firewater management, in the Risk Assessment Table in Appendix B. (Document reference 790101_ERA_CAN September 2024)	
	ments		management, in the Risk Assessment Table in Appendix B. (Document	
Firewater Pressure Relief	ments		management, in the Risk Assessment Table in Appendix B. (Document reference 790101_ERA_CAN September 2024) Pressure relief valves are subject to an existing maintenance routine but	
Firewater Pressure Relief	ments		management, in the Risk Assessment Table in Appendix B. (Document reference 790101_ERA_CAN September 2024) Pressure relief valves are subject to an existing maintenance routine but enhancements are required to fully meet BAT 14. Discussions are ongoing with Southern Water's specialist advisor with respect	
Firewater Pressure Relief	ments		management, in the Risk Assessment Table in Appendix B. (Document reference 790101_ERA_CAN September 2024) Pressure relief valves are subject to an existing maintenance routine but enhancements are required to fully meet BAT 14. Discussions are ongoing with Southern Water's specialist advisor with respect to implementation of periodic recertification for leak rates.	

9

M

Question Question no.

Response

relevation MOTT MACDONALD screening sludge tanks

Topic of

Documents updated to refer to post screened sludge storage tanks (previously stated as pre-thickened sludge storage tank)

Document	Related questions	Document Reference	Edited sections
Process flow diagram	Question 1 Question 11	790101_MSD_Schematics_CAN September 2024	Updated to show clarification of the IED boundary, inclusion of the acceptance of wates at post digestion, and coverage of the Odour Contro Units
Form C2.5	Question 2	790101_App_PartC2.5_CAN September 2024 and 790101_CombustionPlant_CAN September 2024	New submission
Site Condition Report	Question 3 Question 14	790101_MSD_SCR_CAN September 2024	 Clarification on the scope of the SCR is amended throughout. Reference to generator is removed. Retained in site walkover notes for context.
Envirocheck report	Question 3	790101_MSD_SCR_CAN_AppB_Envirocheck	New submission
Drainage Plan	Question 4	790101_MSD_DrainagePlan_CAN	Not applicable
Directors	Question 4	790101_MSD_Directors February 2024	To be sent by Southern Water directly
Odour Management Plan	Question 5 Question 6 Question 6 Question 9 Question 11 Question 14	790101_ERA_OdourMP_CAN September 2024	 Section 2.1 has been amended to reflect the acceptance and storage of raw and digested cake Figure 1 updated to the latest site layout plan Reference to generators are removed Table 7 includes hydrogen chloride and TVOC as parameters Appendix B process flow has been updated Waste codes updated, as shown in Appendix C
Secondary containment	Question 7	790101-MMD-IED-CAN-CA-C-001-ADBA Canterbury P03	Supersedes: • 790101-MMD-IED-CAN-CA-C-001-IED Risk Register-Canterbury • 790101 -MMD-IED-CAN-SIM-M-102 • 790101 -MMD-IED-CAN-SIM-M-104

Commented [SS1]: Table to be split when approved, due to formatting issues

10

Document	Related questions	Document Reference	Edited sections
IT CDONALD			 790101-MMD-IED-CAN-SIM-M-105 790101-MMD-IED-CAN-SIM-M-106 790101-MMD-IED-CAN-SIM-M-107 790101-MMD-IED-CAN-SIM-M-108 790101-MMD-IED-CAN-SIM-M-101
Site Layout Plan	Question 7 Question 15 Question 17	790101_SiteLayoutPlan_CAN September 2024	 Includes the containment solution within the permit boundary. Added sewer emission points, and monitoring points. Reference to generators are remover
Annual throughout	Question 8	790101_AnnualThroughput_CAN September 2024	New submission
Main supporting document	Question 8 Question 9 Question 11 Question 14 Question 15	790101_MSD_Main_CAN September 2024	 Reference to generator is removed Table 1.3 amended to reflect change in documents . Table 2.3 updated with for summary submission. Annual throughput and indigenous an imported quantities stated in Table 6 Section 6.1 and Appendix A. Section 6.3 updated to refer to appropriate measures Table 6.2 amended to reflect the air emissions align with the Site Layout Plan Table 6.3 emissions to sewer are updated Waste codes in Appendix A
Bioaerosol risk assessment	Question 11	790101_ERA_BioRA_CAN September 2024	Section 4.3 amended to refer to post screened sludge storage tanks (previously stated as pre thickened sludge storage tank
Residue Management Plan	Question 11 Question 14	790101_MSD_ResidueMP_CAN September 2024	 Section 1.1 has been amended to reflect the acceptance and storage o raw and digested cake. Section 2.3, Table 2.2, reference to diesel generator has been removed. Table 2.3 updated
Part B4 form	Question 11	790101_App_PartB4_CAN September 2024	New submission

	Related questions	Document Reference	Edited sections	
IOT ^{Waste acceptance}	Question 13	790101_WasteAcceptance_CAN September 2024	Supersedes 790101_MSD_DutyofCare_CAN December 2023.	
Air quality risk assessment	Question 14	790101_AQRA_CAN September 2024	Section 1.2 has been updated to state generator is for context only.	
Sampling proposal	Question 15 Question 17	790101_Sampling proposal_CAN September 2024	New submission	
Waste transfer notes	Question 16	790101_WasteTransferNotes_CAN September 2024	New submission	
Environmental Risk Assessment		790101_ERA_CAN September 2024	 Page 27 amended to refer to post screened sludge storage tanks (previously stated as pre-thickened sludge storage tank Page 33 amended to include 	
			management of firewater	