Appendix C. Site Condition Report – H5

SITE CONDITION REPORT TEMPLATE

For full details, see H5 *SCR guide for applicants* v2.0 4 August 2008

COMPLETE SECTIONS 1-3 AND SUBMIT WITH APPLICATION

DURING THE LIFE OF THE PERMIT: MAINTAIN SECTIONS 4-7

AT SURRENDER: ADD NEW DOC REFERENCE IN 1.0; COMPLETE SECTIONS 8-10; & SUBMIT WITH YOUR SURRENDER APPLICATION.

1.0 SITE DETAILS	
Name of the applicant	Thames Water Utilities Limited
Activity address	Beckton Sludge Treatment Centre Beckton Sewage Treatment Works Jenkins Lane Barking Essex IG11 0AD
National grid reference	NGR: TQ 44990 81681

Document reference and dates for Site Condition Report at permit application and surrender	Environmental Permit Variation Application – Beckton Sludge Treatment Centre. Document number: TW_STC_EPR_15a_BKN_ASD, EPR/ PB3238RK/V003 Date: December 2023

Document references for site plans (including location and boundaries)	Please see site plans in Appendix A

Note:

In Part A of the application form you must give us details of the site's location and provide us with a site plan. We need a detailed site plan (or plans) showing:

- Site location, the area covered by the site condition report, and the location and nature of the activities and/or waste facilities on the site.
- Locations of receptors, sources of emissions/releases, and monitoring points.
- Site drainage.
- Site surfacing.

If this information is not shown on the site plan required by Part A of the application form then you should submit the additional plan or plans with this site condition report.

2.0 Condition of the land at permit issue	
Environmental setting including: • geology	The Beckton STC installation is mainly found in the south-western area of the wider STW site. The River Thames runs from west to east along the southern boundary of the site and the River Roding runs from north to

• hydrogeology • surface waters	south (into the River Thames) along the eastern boundary of the site. Beckton Creekside Nature Reserve is found to the north-east of the site. According to the Environment Agency's online flood maps, the STC installation is mostly at very low risk of flooding from both rivers and the sea with some areas at a higher risk but still considered to be low risk. The whole site is protected from flooding by flood defences. The majority of the site and installation is at a very low risk of flooding from surface water The geology of the site is a mixed bedrock of: • London Clay Formation – clay, silt and sand sedimentary bedrock from deep sea origins. • Lambeth Group clay, silt and sand sedimentary bedrock from swamps, estuaries and deltas • Thanet Formation sand sedimentary bedrock from shallow marine in origin. The superficial geology is one of alluvium clay, silt, sand and peat that are fluvial in origin from river deposits. The site lies outside any Groundwater Source Protection Zones. Bedrock deposits are classified as Secondary A and superficial deposits are classified as Secondary (undifferentiated).
Pollution history including: • pollution incidents that may have affected land • historical land-uses and associated contaminants • any visual/olfactory evidence of existing contamination • evidence of damage to pollution prevention measures	The site is located on the northern bank of the River Thames in an industrial area of east London. To the south and west are retail and commercial premises and the old Beckton Gas Works. Further retail and commercial premises are found the north and east. Near to the entrance of the wider site are a cinema, recreation/leisure space and a household waste and recycling centre. To the north and east are a mixture of industrial, commercial and residential properties. The A13 and the A1020 can be found the north and the west, respectively. The installation activities at the site are part of a wider TWUL operated sewage treatment works which handles and treats material which is similar in composition and makeup to the wastes treated within the installation.

	Separately there is a permitted sludge powered waste incinerator at the site and a desalination plant which are both operated by Thames Water. The first mention of the industrial use of the site is in the 1860s when there was a record of sluice gates, irrigation dams, the Northern Outfall Reservoir and Norther Outfall Sewer. Previously the areas were undeveloped within the East Ham Levels. A sewage works is present from the 1890s within the existing site, close to other developments including 'The Gas Light and Coke Company' Gas Works, an engine shed and a railway station. The areas have been developed since the 1890s including numerous rail and tram lines to a wharf and jetty. A significant development of the site took place within the 1950s/60s including of assets that are still present within the site and by the 1970s the site covered a very similar extent to the present day. The sludge incinerator was built in the 1990s. Offsite, the gas works and associated railways/tramways diminished in size and extent from the 1960s with redevelopment of the area taking place from the 1990s onwards. According to Environment Agency information there have been seven pollution incidents associated with the wider site. Six of the events have been associated with final effluent and were all classified as Category 2 (Significant) on water. The seventh incident was a Category 1 (Major) on water incident associated with sewage materials from storm sewage.
Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)	Unknown – although the works was operated as a sewage works in its earliest phase, the site will therefore be contaminated with sewage related compounds, including *E. coli* and heavy metals.
Baseline soil and groundwater reference data	None collected. Substances that may be present by storage and use within the newly permitted installation are listed within the Tables of the Residue Management Plan (as previously supplied). These substances (or similar substances used in the same processes) have been used historically at the site since it

	first operated. The following substances may be relevant hazardous substances. • Diesel • Oil • Grease • Anti-freeze • Boiler chemicals These substances are stored in and around the boiler house and CHP engines and are used in their routine operation and maintenance. All other hazardous substances have been removed from assessment as they are not considered relevant. This is because storage and use are controlled at the site. Substances are stored within suitably engineered containers/with containment and volumes are small enough for spillage to be contained prior to reaching a sensitive environment. Use of substances is carefully managed to minimize the likelihood of an accidental release.
Supporting information	• Source information identifying environmental setting and pollution incidents • Historical Ordnance Survey plans • Site reconnaissance • Historical investigation / assessment / remediation / verification reports • Baseline soil and groundwater reference data

3.0 Permitted activities

Permitted activities	Operation of an anaerobic digestion plant for sewage sludge waste and imported sewage sludge wastes and combustion of biogas within CHP engines to generate electricity for use on site. Imports of waste to the works inlet for treatment via the UWWTD route.
Non-permitted activities undertaken	Discharging of waste Storage of waste Storage of biogas

	Physical blending of wastes Storage of raw materials
Document references for: • plan showing activity layout; and • environmental risk assessment.	Please see the Technical Summary in Chapter 2 of the main application document

Note:

In Part B of the application form you must tell us about the activities that you will undertake at the site. You must also give us an environmental risk assessment. This risk assessment must be based on our guidance (*Environmental Risk Assessment - EPR H1*) or use an equivalent approach.

It is essential that you identify in your environmental risk assessment all the substances used and produced that could pollute the soil or groundwater if there were an accident, or if measures to protect land fail.

These include substances that would be classified as 'dangerous' under the Control of Major Accident Hazards (COMAH) regulations and also raw materials, fuels, intermediates, products, wastes and effluents.

If your submitted environmental risk assessment does not adequately address the risks to soil and groundwater we may need to request further information from you or even refuse your permit application.

4.0 Changes to the activity	
Have there been any changes to the activity boundary?	**If yes, provide a plan showing the changes to the activity boundary.** **Please see drawing B22849AM-JAC-BKN-DR-0002 which shows the new active boundary for this variation application**
Have there been any changes to the permitted activities?	**If yes, provide a description of the changes to the permitted activities** **Changes to permitted activities are as a result of a change of interpretation of the UWWTD by the Environment Agency.** **Activities are the site are existing activities that were not previously permitted.** **Previously, permitted activities included:** **CHP Plant and THP boilers;** **Emergency standby diesel generators;** **Combustion equipment with net rated thermal input less than 1 MW each;** **Biogas storage, biogas boosters, activated carbon scrubber and associated pipelines;** **Operation of emergency flares** **Oil storage** **Drainage – surface water, condensate, boiler blowdown** **Demineralisation plant** **Under the current variation, the boundary is extended to the west and, south to include assets associated with biological treatment of wastes which includes:** **Waste Import Points** **Sludge thickening assets** **Sludge storage tanks** **THP plant** **Primary Digestion tanks** **Sludge Dewatering assets** **Digested Sludge Cake storage in a cake barn**
Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a result of	**If yes, list of them** **n/a**

the permitted activities?	
Checklist of supporting information	• **Plan showing any changes to the boundary (where relevant)** • **Description of the changes to the permitted activities (where relevant)** • **List of 'dangerous substances' used/produced by the permitted activities that were not identified in the Application Site Condition Report (where relevant)**

5.0 Measures taken to protect land	
Use records that you collected during the life of the permit to summarise whether pollution prevention measures worked. If you can't, you need to collect land and/or groundwater data to assess whether the land has deteriorated.	
Checklist of supporting information	• **Inspection records and summary of findings of inspections for all pollution prevention measures** • **Records of maintenance, repair and replacement of pollution prevention measures**

6.0 Pollution incidents that may have had an impact on land, and their remediation	
Summarise any pollution incidents that may have damaged the land. Describe how you investigated and remedied each one. If you can't, you need to collect land and /or groundwater reference data to assess whether the land has deteriorated while you've been there.	
Checklist of supporting information	• **Records of pollution incidents that may have impacted on land** • **Records of their investigation and remediation**

7.0 Soil gas and water quality monitoring (where undertaken)	
Provide details of any soil gas and/or water monitoring you did. Include a summary of the findings. Say whether it shows that the land deteriorated as a result of the permitted activities. If it did, outline how you investigated and remedied this.	
Checklist of supporting information	• **Description of soil gas and/or water monitoring undertaken** • **Monitoring results (including graphs)**

8.0 Decommissioning and removal of pollution risk

Describe how the site was decommissioned. Demonstrate that all sources of pollution risk have been removed. Describe whether the decommissioning had any impact on the land. Outline how you investigated and remedied this.	
Checklist of supporting information	• **Site closure plan** • **List of potential sources of pollution risk** • **Investigation and remediation reports (where relevant)**

9.0 Reference data and remediation (where relevant)	
Say whether you had to collect land and/or groundwater data. Or say that you didn't need to because the information from sections 3, 4, 5 and 6 of the Surrender Site Condition Report shows that the land has not deteriorated. **If you did collect land and/or groundwater reference data, summarise what this entailed, and what your data found. Say whether the data shows that the condition of the land has deteriorated, or whether the land at the site is in a "satisfactory state". If it isn't, summarise what you did to remedy this. Confirm that the land is now in a "satisfactory state" at surrender.**	
Checklist of supporting information	• **Land and/or groundwater data collected at application (if collected)** • **Land and/or groundwater data collected at surrender (where needed)** • **Assessment of satisfactory state** • **Remediation and verification reports (where undertaken)**

10.0 Statement of site condition
Using the information from sections 3 to 7, give a statement about the condition of the land at the site. This should confirm that: • **the permitted activities have stopped** • **decommissioning is complete, and the pollution risk has been removed** • **the land is in a satisfactory condition.**