

Lower Thames Crossing Tunnels & Approaches Tilbury Landfill Site Operating and Waste Acceptance Procedures 2026

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Lower Thames Crossing

Tilbury Landfill Site Operating and Waste Acceptance Procedures 2026

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1 Introduction

1.1 Summary of the scheme

- 1.1.1 The A122 Lower Thames Crossing ('LTC' and the scheme) is a new road that will connect the A2 and M2 in Kent to the A13 in Thurrock and Junction 29 of the M25 in the London Borough of Havering (Figure 1-1). The scheme is a nationally significant infrastructure project which is authorised by Development Consent Order (DCO).
- 1.1.2 It will be approximately 23 kilometres long, with approximately 4.2 kilometres of new tunnel under the Thames. The tunnel portals will be located to the east of the village of Chalk on the southern side of the Thames, and to the west of East Tilbury on the northern side.
- 1.1.3 The project has been divided into three zones; Roads North, Tunnel and Approaches and Kent Roads.

Figure 1-1 Tunnels and Approaches package



1.2 Scope and objectives

- 1.2.1 National Highways is seeking approval for a new Environmental Permit to continue landfilling and Pulverised Fuel Ash (PFA) recovery at the former

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Tilbury Ash Disposal Site (formerly Environmental Permit EPR/GP3733DZ). National Highways wishes to create the required development levels for the LTC scheme using waste derived from the adjacent Goshems Farm Deposit for Recovery site (formerly Environmental Permit EPR/WP3094EP).

- 1.2.2 The site was formerly permitted to operate as a non-hazardous landfill receiving inert waste soils under the conditions of an Environmental Permit, with the most recent variation (EPR/GP3733DZ/V007) issued on 09 December 2025. This new permit application proposes to continue the disposal of inert waste soils at the site and the recovery of PFA, as previously permitted. The proposal has been developed in consultation with the EA.
- 1.2.3 This Site Operating and Waste Acceptance Procedures document for Tilbury Landfill has been prepared by the Arup and Mott MacDonald Design Joint Venture (AMJV) on behalf of National Highways, who will be the permit holder and legal operator of the landfill. Day to day operation of the landfill will be undertaken by the Bouygues-Murphy Joint Venture (BMJV) on behalf of National Highways. This document provides an updated Site Operating and Waste Acceptance procedure for the new permit, reflecting the intention to continue the waste deposit and recovery activities authorised under the former permit.
- 1.2.4 The purpose of this Site Operating and Waste Acceptance Procedure is to ensure that the site only accepts waste that is:
- suitable for the activity;
 - is allowed by the permit; and
 - has been considered appropriate by an environmental risk assessment.
- 1.2.5 The Site Operating and Waste Acceptance Procedure also ensures the activities do not cause pollution by preventing the receipt and deposit of unauthorised materials.
- 1.2.6 This Site Operating and Waste Acceptance Procedure has been prepared in line with the Environment Agency guidance “Landfill operators: Environmental Permits – Accept the right waste”¹ and “Dispose of waste to landfill”² .

1.3 Supporting documents

- 1.3.1 This report should be read in conjunction with the following documents which have been submitted as part of the permit application:
- Environmental Permit Application Form parts A, B2, B4, F1;

¹ [Landfill operators: environmental permits - Accept the right waste - Guidance - GOV.UK](#)

² [Dispose of waste to landfill - GOV.UK](#)

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- Tilbury Landfill Environmental Setting and Installation Design Report (HE540039-BMJ-EAC-TA_SNZ_ZZ-RP-GS-000005) [22];
- Tilbury Landfill Management Systems and Procedures (HE540039-BMJ-EAC-TA_SNZ_ZZ-RP-GS-000013) [15];
- Tilbury Landfill Dust and Emissions Management Plan (HE540039-BMJ-EAC-TA_SNZ_ZZ-RP-GS-000008) (DEMP) [10];
- Tilbury Landfill Hydrogeological Risk Assessment (HE540039-BMJ-EAC-TA_SNZ_ZZ-RP-GS-000011) [9];
- Tilbury Landfill Closure and Aftercare Management Plan (HE540039-BMJ-EAC-TA_SNZ_ZZ-RP-GS-000007) [11];
- Tilbury Landfill Stability Risk Assessment (HE540039-BMJ-EAC-TA_SNZ_ZZ-RP-GS-000010) [20]; and
- Tilbury Landfill Environmental Risk Assessment (HE540039-BMJ-EAC-TA_SNZ_ZZ-RP-GS-000006) [16].

1.3.2 In addition to the environmental controls required under the Environmental Permit, the work will be carried out in accordance with the Environmental Management Plan (EMP2) for LTC, which includes a suite of control documents as follows:

- Environmental Management Plan 2, North Portal Surface Works - Work no. 5/CA5 (in part) and Utilities (HE540039-BMJ-EGN-TA_S07_ZZ-PL-ZZ-000001) [23]
- Site Waste Management Plan - North Portal Surface Works (Work no. 5) (HE540039-BMJ-EMW-TA_S07_ZZ-PL-ZZ-000002) [24]
- Materials Handling Plan - North Portal Surface Works (Work no. 5) (HE540039-BMJ-EMW-TA_S07_ZZ-PL-ZZ-000001) [25]
- Noise and Vibration Management Plan- North Portal Surface Works (Work no. 5) (HE540039-BMJ-ENV-TA_S07_ZZ-PL-ZZ-000001) [26]
- Air Quality Management Plan - North Portal Surface Works (Work no. 5) (HE540039-BMJ-EAQ-TA_S07_ZZ-PL-ZZ-000001) [27]
- Ecology Management Plan - North Portal Surface Works (Work no. 5) (HE540039-BMJ-ECO-TA_S07_ZZ-PL-ZZ-000001) [28]
- Soils Management Plan - North Portal Surface Works (Work no. 5) (HE540039-BMJ-EGT-TA_S07_ZZ-PL-ZZ-000001) [29]
- Contaminated Land Management Plan - North Portal Surface Works (Work no. 5) (HE540039-BMJ-EMW-TA_S07_ZZ-PL-ZZ-000003) [30]
- Substances Hazardous to Health Management Plan - North Portal Surface Works (Work no. 5) (HE540039-BMJ-EMW-TA_S07_ZZ-PL-ZZ-000004) [31]
- Pollution Prevention Management Plan - North Portal Surface Works (Work no. 5) (HE540039-BMJ-EMW-TA_S07_ZZ-PL-ZZ-000005) [32]

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- 1.3.3 The information in this document is intended to align with the appropriate control documents. It will be kept on site along with the suite of other permit documents and updated as required in line with the EMP2 and control documents.

2 Site details

2.1 Site location

- 2.1.1 Tilbury Ash Disposal Site is was a non hazardous landfill east of Tilbury, Essex, centred on national grid reference TQ671763. The 80ha site was split into seven areas A1 to A3, B1 and C1 to C3.
- 2.1.2 This new Tilbury Landfill permit application covers some of the area included in the previous permit boundary, but also includes additional areas to the north and east which form part of the LTC project, which are included to allow the land to be raised in these areas. Some areas of the previous permit boundary are not included in the new permit boundary as they lie outside the DCO order limits and the land is not required for LTC. The previous environmental permit boundary (the site) and the proposed boundary for the new permit are shown on Figure 2-1.
- 2.1.3 The site is bounded by agricultural land to the north and west, with Port of Tilbury land also bounding the site to the west. The land to the east comprises a mix of agricultural land and Goshems Farm DfR. The land to the south comprises Goshems Farm DfR site and a wildlife area created from former landfill.
- 2.1.4 The main access to the site for commercial vehicles is from the former Tilbury Power Station area to the west. A second access point is located in the north of the site via Station Road, but this access is for use only by staff vehicles.

2.2 Background information

The site was originally permitted in April 2007 (permit EPR/GP3739BQ) as Tilbury Ash Disposal Site to accept pulverised fuel ash (PFA) from Tilbury B Power Station until its closure in 2013. The permit was transferred to Ingrebourne Valley Limited (IVL) in May 2017 (EPR/GP3733DZ/T001), with a variation granted in October 2017 to facilitate the restoration of site using imported inert wastes to a maximum elevation of nine metres above ordnance datum (mOD). The site formerly operated under permit variation EPR/GP3733DZ/V007.

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Figure 2-1 Former Tilbury Ash Disposal Site Permit boundary and proposed new Tilbury Landfill permit



The red line represents the proposed new permit boundary. The seven coloured areas represent the former permit boundary.

3 General considerations

3.1 Hours of operation

- 3.1.1 Tilbury Landfill will be operated during normal working hours between 08:00 and 18:00 weekdays (excluding bank holidays) and 08:00 to 13:00 on Saturdays.
- 3.1.2 No operations shall take place on Sundays or public holidays unless previously agreed with the Environment Agency and local authority (Thurrock Council).
- 3.1.3 When the site operates during the hours of darkness during the winter months BMJV will provide portable electric lighting to:
 - Ensure safe working conditions.

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- Enable all waste deposited to be properly identified.

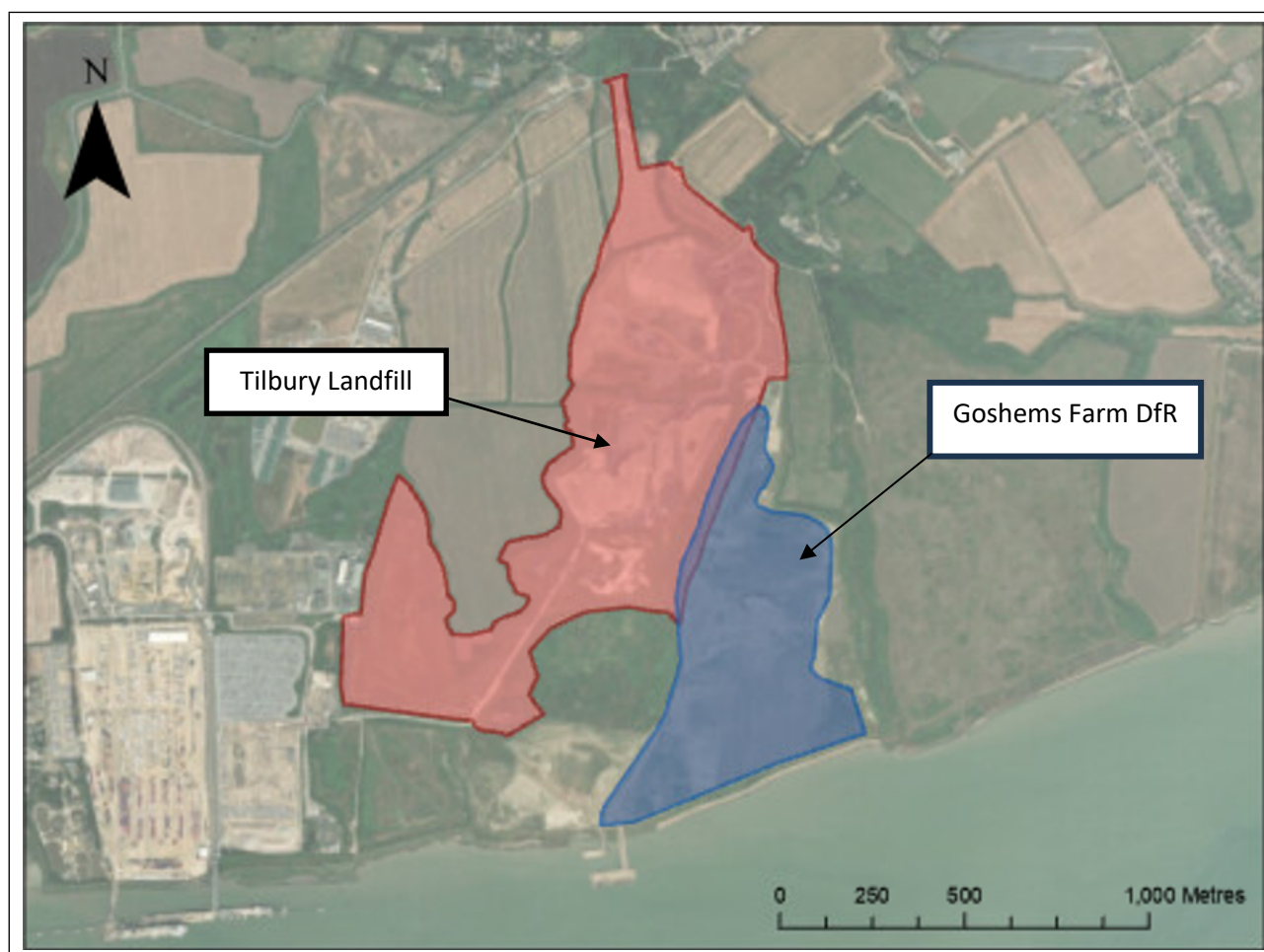
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4 Waste quantities and waste acceptance procedure

4.1 Background and basic characterisation

- 4.1.1 The purpose of the waste placement in Tilbury Landfill is to achieve the pre-construction ground levels required to facilitate LTC.
- 4.1.2 At the proposed Tilbury Landfill facility, all waste deposited will be sourced from within the Order Limits of LTC (see Figure 1-1), from within the former Goshems Farm DfR site, which encroaches into the southeast of the proposed new permit boundary as shown in Figure 4-1.

Figure 4-1 Goshems Farm DfR and Tilbury Landfill areas



- 4.1.3 The DfR material previously deposited within Goshems Farm has already undergone characterisation of the waste stream prior to its original deposition under the previous permits (reference EPR/WP3094EP) and again as part of intrusive ground investigations carried out for LTC. This information is summarised in the Environmental Scheme for the partial

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surrender of Goshems Farm DfR permit (HE540039-BMJ-EAC-TA_S07_ZZ-RP-GS-000002) [1] and is briefly summarised below:

- Occasional values were detected above the waste acceptance criteria defined in the Goshems Farm Environmental Permit for antimony, sulphate, total dissolved solids and total organic carbon, but the means of the samples tested were all below the limit values for inert waste.
- Asbestos was detected in <4% of samples (16 samples). All quantification results were at or below 0.01% w/w which is a very low quantity as defined by the descriptions provided within the CAR-SOIL™ Joint Industry Working Group (JIWG) Decision Support Tool.

- 4.1.4 This information has enabled Bouygues-Murphy Joint Venture (BMJV) to determine that the waste is suitable for acceptance in Tilbury Landfill.
- 4.1.5 The new Tilbury Landfill permit is predominantly located within the boundary of the former Tilbury Ash Disposal Site (EPR/GP3733DZ) as shown in Figure 2-1. The new permit includes an additional area to the north and excludes an area of the former permit boundary to the south. Reprofilling of the waste is required within the former permit area to facilitate LTC.
- 4.1.6 No other waste is envisaged to be deposited within the facility at this stage, as there is sufficient suitable material within the former Tilbury Ash Disposal Site and Goshems Farm DfR site to create the landform required to construct LTC.

Waste quantities

- 4.1.7 The landfilling operations at Tilbury Landfill are anticipated to begin in June 2026 and will continue for up to 2 years, until the required LTC landform is achieved.
- 4.1.8 Up to 1,000,000m³ of inert material will be imported from Goshems Farm DfR site to Tilbury Landfill. Tilbury Ash Disposal Site is still being used for the extraction of Pulverised Fuel Ash (PFA) at the time of writing this procedures document, therefore the available void space within the landfill is constantly increasing. PFA extraction operations will continue following the granting of the new permit. The exact quantity of material to be deposited will be determined based on a topographical survey which will be completed once the site has been vacated by the existing permit holder, Ingrebourne Valley Limited (IVL) in May 2026.
- 4.1.9 It is anticipated material movements will take place six days per week within the agreed working hours. It is proposed that up to 50,000m³ of material per week will be deposited in Tilbury Landfill once the permit has been granted for disposal.

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4.2 Permitted waste types

Acceptable wastes

- 4.2.1 The former Tilbury Ash Disposal Site, which partially lies within the new Tilbury Landfill boundary, was permitted to accept a variety of inert materials plus historically, PFA. Any materials deposited under previous environmental permits will be reprofiled within the new permit boundary. PFA will be excavated and stockpiled where encountered during reprofiling.
- 4.2.2 The new permit will allow inert materials previously deposited for recovery within Goshems Farm to be reused within Tilbury Landfill to create the required landform for LTC.
- 4.2.3 The proposed waste types for acceptance are listed in Table 4-1 and comprise the list of wastes previously accepted in Goshems Farm under the DfR permit, together with the reclamation of PFA and the use of waste for restoration. These waste types have been derived from those authorised under the existing permit and refined as necessary to reflect the activities proposed under the new permit.
- 4.2.4 Table 4-1 Acceptable waste types for Tilbury Landfill

Waste code(s)	Summary description
Waste for disposal in Tilbury Landfill (previously permitted for deposit in Goshems Farm DfR)	
01 01 02	Wastes from non-metalliferous excavation
01 04 08	Waste gravel and crushes rocks other than those mentioned in 01 04 07
01 04 09	Waste sand and clays
10 12 08	Waste ceramics, bricks, tiles and construction products (after thermal processing)
17 01 01	Concrete
17 01 02	Bricks
17 01 03	Tiles and ceramics
17 01 07	Mixtures of concrete, bricks, tiles and ceramics
17 05 04	Soil and stones (including sand, clays and chalks)
17 05 06	Dredging spoil other than those mentioned in 17 05 05
17 05 08	Track ballast, soil and stones other than those mentioned in 17 05 07
19 12 09	Minerals (for example sand, stones)
19 12 12	Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
20 02 02	Soil and Stones

Waste code(s)	Summary description
Permitted waste types for treatment/reclamation	
10 01 01 10 01 02	Bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04) and coal fly ash
Permitted waste types for restoration	
17 05 04 20 02 02	Soil and stones (including excavated soil from contaminated sites), stones, dredging spoil (other than those mentioned in 17 05 03) and garden and park wastes (excluding topsoil and peat).

4.2.5 In accordance with the Council of the European Union Decision 2003/33/EC which sets out the requirements for characterisation of waste to be accepted in landfills, soils and stones can be admitted without testing providing that they do not originate from contaminated sites (EWC code 17 05 04) [2], they are a single source of waste type, and there is no suspicion of contamination.

4.2.6 Wastes listed in Table 4-1 are assumed to fulfil the criteria of inert waste and therefore can be accepted without testing. It is anticipated that the waste stream will comprise a single waste type from a single source (i.e. excavated materials placed under the Goshems Farm DfR permit), which has been well characterised and described already [1].

Materials for restoration

Wastes for restoration

4.2.7 The waste materials deemed acceptable for use for restoration are presented in Table 4-1.

Topsoil and subsoil

4.2.8 Some existing subsoil and topsoil will be stripped from the northern part of Tilbury Landfill permit boundary, which is currently agricultural land. Topsoil stripped from the site is to be temporarily stockpiled in accordance with the Soils Management Plan [3].

4.2.9 It is likely that there will be insufficient indigenous subsoil and topsoil available from within the permit boundary for restoration. Consequently, suitable restoration material will be imported from within the LTC Order Limits to complete the restoration of the site. Topsoil and subsoil which has been stripped and stockpiled in accordance with the Soils Management Plan is not a waste and therefore will be reused for restoration under a Contaminated Land: Applications in Real Environments (CL:AIRE) Definition of Waste: Development Industry Code of Practice (DoWCoP, to be renamed Soil Passport Scheme at some point in the future) Materials Management Plan (MMP).

4.2.10 All soil handling will be carried out in accordance with the Soil Management Plan [3] for LTC which is designed to control soil handling and storage in areas outside the landfill permit boundary and all

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restoration works will be carried out in accordance with the Restoration and Recovery Plan for the landfill.

4.3 Waste acceptance criteria

4.3.1 Waste acceptance criteria (WAC) were previously developed by SLR Consulting Limited for the Tilbury Ash Disposal Site [7]. As the nature of the waste to be deposited will remain the same as allowed under the previous landfill permit and the existing WAC derived by SLR will be adopted for the new permit application.

4.3.2 The agreed WAC are included in Appendix A of this document and will be submitted as part of the permit application [33]. As routine testing of waste is not proposed, these WAC will only be used to verify materials suitability where unauthorised materials are noted, or where there is suspicion of contamination being present, using the process described in Section 4.4.

4.4 Waste acceptance and control

Pre-acceptance procedure

4.4.1 A pre-acceptance procedure will be in place at the excavation site in the former Goshems Farm DfR site, as described in the Site Waste Management Plan [4] which forms part of the Environmental Management Plan for the North Portal Surface Works [5] and the Remediation Strategy for the North Portal [6].

4.4.2 The procedure will ensure that only suitable waste placed under the DfR permit is excavated for disposal to Tilbury Landfill and will comprise visual and olfactory checks of the excavated material by the Site Foreman, prior to transport via dumper truck to the Tilbury Landfill area. Visual or olfactory evidence may consist of but is not limited to:

- discoloured soil (e.g. indicative of chemical residues)
- odours (e.g., hydrocarbon odour)
- evidence of asbestos containing materials (e.g. cement, tile)
- presence of foreign objects (e.g., bottles, paper, wood)
- soil contaminated with invasive plant species.

4.4.3 These checks will ensure that the waste being delivered to the site as an inert waste which is suitable for disposal at the site.

4.4.4 In the event that material is suspected as not being suitable for placement within the Tilbury Landfill area, it will not be approved for transport but will be placed in a quarantine area for further checks and testing, following the process in Section 4.4.13.

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Waste acceptance procedure – onsite verification

Procedures at the construction area

- 4.4.5 On delivery of waste to Tilbury Landfill, the Waste Acceptance Procedure (WAP) implemented by Site Operatives is intended to ensure compliance by:
- conducting a visual inspection of loads that have been approved on leaving the excavation area;
 - rejecting or quarantining any loads that fail to meet site acceptance criteria; and,
 - ensuring only wastes approved through the pre-acceptance procedure are received.

Visual inspection of pre-approved loads

- 4.4.6 All waste vehicles arriving at the Tilbury Landfill area will undergo a visual inspection before disposal in the construction area. The purpose of this check is to identify any non-approved or unauthorised materials such as those listed in Section 4.4.2.
- 4.4.7 No waste will be deposited or disposed of at the site unless a visual inspection has been undertaken.
- 4.4.8 On arrival at the construction area, the Site Foreman will direct the vehicle to the designated area for tipping. Each waste load will be monitored by the Site Foreman during unloading. At the point of discharge, a visual inspection will be carried out to confirm that no unauthorised materials are present within the load.
- 4.4.9 Once the Site Operative is satisfied that the waste is acceptable, it will be placed onto the working face. Where unauthorised waste is observed or suspected, it will be managed in accordance with the quarantine procedure in Section 4.4.13.
- 4.4.10 The Site Foreman in the construction area will remain in direct mobile phone contact with the Site Foreman in the excavation area, enabling the immediate communication of the receipt of non-compliant loads. This will ensure that excavation can cease or be reviewed to prevent further non-compliant materials from being sent to the landfill.

Documentation requirements

- 4.4.11 As the waste to be received at Tilbury Landfill will be part of a multiple consignment, being a single waste source from the former Goshems Farm DfR site, waste transfer notes will not be required for every load of material brought into the site but will instead operate using an Annual Waste Transfer Note or 'season ticket'.

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4.4.12 Loads will only be accepted in the construction area where the material is suitable for direct use without treatment once the Site Foreman is satisfied that the acceptance requirements have been met.

Quarantine procedure

4.4.13 As set out in Section 4.1, routine waste acceptance testing of material delivered to Tilbury Landfill is not required.

4.4.14 Should there be doubts as to the suitability of the material, for example if it is excavated and displays visual or olfactory signs of contamination, or if on arriving at the construction area a visual inspection reveals that the material may not be suitable for disposal, BMJV shall quarantine the load and perform verification testing to demonstrate compliance with the site's WAC, as set out in Appendix A. Verification testing shall be carried out at a minimum frequency of one per 1,500m³.

4.4.15 Material selected for verification testing will be retained in a designated quarantine area, where the material will be stored while samples are obtained and until laboratory results are received.

4.4.16 Sampling of waste for verification by BMJV will be carried out in accordance with the following procedure:

- the separated load will be sampled from at least nine sub sample locations using a stainless-steel trowel or spade after removal of the exposed surface of the tipped load;
- the sub samples will be selected as representative of the waste mass as a whole and include a range of grain sizes, where appropriate;
- the sub samples will be mixed thoroughly;
- the sample tub or jar will then be filled from this mixed material and sealed as soon as practicable to prevent loss of volatiles or sample deterioration; and,
- the trowel will be washed with distilled water and dried between the sampling of each waste load.

4.4.17 An analysis request form will be completed and samples will be labelled with the following information:

- Site name;
- sample number;
- sample description;
- date sample was taken; and
- name of sampler.

4.4.18 Following collection, samples will be placed in appropriate containers, comprising as a minimum one 2kg plastic tub, a 250ml amber glass jar and a volatiles vial, and stored and transported under chain of custody procedures. A chain of custody record will accompany each sample to the

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laboratory, which should hold MCERTS accreditation for the testing where appropriate, documenting sample identification, handling, transfer, and receipt. Samples will be stored and transported under conditions appropriate to the determinands being analysed, including cool and temperature-controlled conditions where required.

- 4.4.19 BMJV will test the sample to confirm that the delivery meets the WAC listed in Appendix A.
- 4.4.20 Waste will be analysed in accordance with the analytical methods set out in the Council of the European Union Decision Annex Section 3³, where the analytical laboratory must follow the leaching test method in British Standard BS EN 12457-2 to 12457-4. This method requires a 2kg sample.
- 4.4.21 Once the analysis has been received, the results will be compared against the site's WAC. Where verification testing indicates that the waste does not meet the site's WAC, this will be recorded and the rejection procedures set out in Section 4.4.23 will be initiated.
- 4.4.22 Where verification testing confirms that the waste meets the site's WAC, the load will be released from the quarantine area and delivered to the construction area for deposit.

Waste rejection procedure

- 4.4.23 In instances where a load is found to be non-compliant with the WAC, the procedure in this section will be followed.
- 4.4.24 This rejection procedure is intended to ensure that all waste found to be non-compliant is removed from site, and that suitable measures can be implemented to avoid a repeat occurrence.
- 4.4.25 Non-conforming waste may be detected by the Site Foreman in the excavation area or at the landfill. Such waste may be identified by visual and olfactory assessment (such as those characteristics listed in Section 4.4.2), or through unsuccessful verification sampling and testing and comparison of the results against the WAC in Appendix A.

Rejection by Site Operatives

- 4.4.26 The Site Operatives will refuse acceptance of waste where visual or olfactory checks of the material identify, or suggest the presence of, contamination or other unauthorised materials.
- 4.4.27 Where this occurs, the load will be directed to the quarantine area and the excavation area notified immediately, to ensure no further non-compliant loads are delivered.
- 4.4.28 Where unauthorised waste is identified by a Site Operative in the landfill, either during placement or after deposition, it will be managed as follows:

³ [Decision - 2003/33 - EN - EUR-Lex](#)

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- Bins are to be provided in the construction area for the segregation of any unauthorised items. Small quantities of unauthorised material (e.g. paper, wood) will be picked out and placed into the skip by the machine operator.
- If a significant quantity of unauthorised material is identified and it is not practicable to pick it out, the material will be isolated until it can be reloaded into a suitable vehicle and removed to an authorised landfill.
- For all instances where unauthorised waste is identified (excluding minor quantities of paper, wood etc.), the incident will be notified immediately to the excavation area and measures taken to prevent further loads of material being delivered. A record of the incident will be made by the Site Control Office, together with a record of the measures taken to prevent further deliveries. These will be made available for inspection by the EA.
- A log will be maintained of the number of loads of unauthorised waste removed from site, including the date of removal.

4.4.29 Verification sampling and testing will be carried out on the unauthorised material in the quarantine area, to determine an appropriate disposal facility for the waste. The waste will remain within the quarantine area until a suitable alternative facility has been identified.

4.4.30 Where waste is required to be disposed of to an alternative facility, it will be transported using a registered waste carrier. The alternative facility will be appropriately regulated.

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5 Record keeping

5.1.1 Records will be maintained of all waste transactions relating to Tilbury Landfill. Records will comprise the following:

5.2 Waste transfer notes

5.2.1 As all the waste being deposited at the site comprises a single source (the former Goshems Farm DfR site), waste transfer will be done under a season ticket rather than individual Waste Transfer Notes for each load, in accordance with the Duty of Care Regulations.

5.2.2 A vehicle tracking system will be used to record movements of lorries from Goshems Farm DfR to Tilbury Landfill, to record the volumes of material deposited.

5.2.3 Non-compliant wastes delivered to the landfill will require individual Waste Transfer Notes to be issued. Records of all non-compliant wastes removed from site will be kept by BMJV.

5.3 Records of quantity received

5.3.1 A log of the quantities and characteristics of waste accepted at the site will be maintained through written records held on site by BMJV. These records will document:

- the nature of the waste, i.e. solid;
- waste type, see Table 4-1;
- quantity (tonnes or m³), volume established from surveys;
- dates received, and,
- date accepted, if different from received.

5.3.2 A summary record of the waste types accepted and removed from the site will be made for each quarter of the financial year and will be submitted to the Environment Agency within one month following the end of the quarter. The format of the summary record will be agreed with the Environment Agency.

5.3.3 The site diary shall be used to document additional information relating to the acceptance or rejection of waste, including any communications with the Environment Agency.

5.4 Waste analysis records

5.4.1 Copies of all information relating to the analysis of waste will be stored as a digital record by BMJV.

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5.5 Security and availability of records

Security of records

5.5.1 All records which are required to be made under the conditions of the permit and the environmental management system will be maintained and kept secure from loss, damage or deterioration as detailed below:

Written records

5.5.2 The following records and documents will be available for inspection at the site office:

- Visitors Book.
- Site Diary.
- Environmental Permit.
- Daily inspection reports.
- Site Operations Manual.
- Site Monitoring Plan.
- Maintenance records.
- Copies of all the Environment Agency visit or inspection reports.
- Company Safety Policy.
- Company Tilbury Landfill inspection forms.
- Emergency procedures.
- Daily intake forms (records of materials accepted at the Tilbury Landfill).
- Rejected waste forms and subsequent waste transfer notes.

5.5.3 With the exception of the visitor book, all records will be kept in secure, lockable filing cabinets or cupboards when the office is unattended.

Availability of records

5.5.4 All records which are required to be made under the conditions of the Environmental Permit will be made available for immediate inspection when required by an authorised officer of the Environment Agency.

5.5.5 A noticeboard will be maintained in the office with up-to-date versions of the following prominently displayed:

- Plan of method and direction of working signed and dated by the Site Manager.
- Certificate of employer's liability insurance.
- Emergency telephone numbers.

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- The conditions of acceptance of waste. (Printed copies will be available for issue should these be required).
- The site safety rules for customers/visitors. (Printed copies will be available for issue should they be required).

5.5.6 Records of wastes that are accepted at the site, records of waste that are rejected and despatched from site and site diary records will be kept for a minimum of seven years, in line with the requirements of the Environmental Permitting Regulations 2016. Environmental monitoring records will be kept until a certificate of completion is issued for the land.

5.6 Site diary

5.6.1 A site diary will be maintained by the Site Manager and will be kept secure. The site diary will be available for inspection when required by an authorised officer of the Environment Agency.

5.6.2 The diary will include a record of the following:

- Weather conditions.
- Unacceptable waste details.
- Complaints received.
- Operational functions (visits for gas monitoring, water monitoring, plant services, etc).
- Observations made during daily site inspections.
- Any unusual circumstances.
- Changes to procedures.

Daily inspection checklist

5.6.3 To assist in the completion of the diary, the Site Manager will refer to the “daily inspection check list”. The daily inspection may comprise of the following checks:

- That radios are working properly.
- All site plant is operating and maintained according to schedules.
- Any high environmental monitoring readings reported.
- That the spray system and water bowser are in use if dust suppression is necessary.
- If litter is a problem.
- Any signs of leakage or spillage from vehicles.
- If any unacceptable waste has been delivered. If so, ensure segregation, removal and reporting in Site Diary.
- The standard of haul roads and whether any repairs are required.

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- Potential pests, birds, weeds etc.
- Cleanliness of access road (between entrance and office).
- Cleanliness of site entrance – mud on road, etc.
- Cleanliness of site office and surrounds.
- Condition of grass and vegetation both inside and outside the site.
- Condition of signs and notice boards.
- Covering of areas awaiting restoration.
- Covering of current working area.
- Damage to fences and gates.
- Any fly tipping.
- Presence of bubbles in standing water.
- Signs of discoloration of surface water.
- Signs of standing water.
- Standard of operation.
- Vandalism of onsite equipment.
- Completion of the site diary.

5.7 Reporting environmental performance

- 5.7.1 Specific requirements for the monitoring and reporting of dust and emissions are included in the DEMP [10] included in the permit application. The DEMP obligations are secured through the conditions of the environmental permit, making implementation of the DEMP a mandatory requirement for site operations.
- 5.7.2 BMJV will prepare a review of environmental monitoring data every year during the operational life of the site and during the post closure phase, on behalf of the permit holder National Highways and will undertake a review of the Hydrogeological Risk Assessment [9] in accordance with the permit. The reports will be submitted to the Environment Agency at the frequency required in the permit, or as otherwise agreed with the Environment Agency. A completion report will be prepared at the end of the site completion phase.
- 5.7.3 The report will include the following information:
- an analysis and review of the environmental monitoring results recorded for the site, with an interpretation of the results against background and trigger levels; and
 - a review of the risk management systems provided for the site.

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6 Site preparation

6.1 Surface preparation

- 6.1.1 Most of the site is an existing non-hazardous landfill. The ground surface comprises either PFA (deposited historically), or natural Alluvium, which is exposed where the PFA has been excavated.
- 6.1.2 The land in the north of the permit boundary is agricultural land which has never been landfilled. Topsoil and subsoil will be stripped from the ground prior to the commencement of landfilling and will be stockpiled in accordance with the Soils Management Plan [3] within the LTC Order Limits for later use in site restoration.
- 6.1.3 A small area of land in the west of the permit is completed landfill (Area A2 of Tilbury Ash Disposal Site) which has been restored with soil and is vegetated. Any topsoil and subsoil will be stripped from this area prior to placement of fill and stockpiled in accordance with the Soils Management Plan for later use.
- 6.1.4 The existing site surface is very variable in level, having been worked to extract PFA, therefore some reprofiling of the site will occur prior to the import of waste from the Goshems Farm DfR site. The reprofiling will comprise the excavation and stockpiling of suitable PFA for later use to form ecological mitigation habitats. The PFA is to be stockpiled within the permit area, in the location shown in Drawing 1.
- 6.1.5 PFA which is not required to be recovered will be reprofiled and compacted to form a suitable working surface on which inert waste can be placed.

6.2 Surface water management

- 6.2.1 Surface water drainage is to be managed during landfilling under an Environmental Permit for discharge, reference EPR/XP3720SC. A plan showing the proposed site drainage system is provided in Appendix B.
- 6.2.2 The temporary surface water drainage system comprises six attenuation ponds, each with an outfall to an existing drainage ditch. The attenuation ponds will settle out a large quantity of the silt, additionally Siltbusters will be used to further manage the silt ahead of discharge into the drainage network.
- 6.2.3 On completion of landfilling, a permanent surface water drainage system will be installed. The detailed design of the permanent drainage system is being developed as part of LTC and will be communicated to the Environment Agency once the design has been finalised.

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6.3 Gas and leachate management

- 6.3.1 The site does not have an engineered barrier, instead benefitting from the natural barrier provided by the underlying low permeability Alluvium deposits.
- 6.3.2 As the wastes deposited within the landfill are non-biodegradable and of low permeability, there is no leachate management requirement or landfill gas management required to be installed.

6.4 Maintenance

- 6.4.1 The drainage system will be subject to an inspection and maintenance regime, ensuring it is regularly cleaned and maintained and operating to the appropriate design standard.

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7 Waste deposit and placement

7.1.1 After inspection, acceptable wastes will be incorporated into the waste mass within the current working phase of the Tilbury Landfill.

7.2 Waste deposit

7.2.1 Material placement will be completed in a single phase to avoid double handling of the waste.

7.2.2 The waste will be compacted after placement in order to limit future settlement of the ground, as LTC is to be constructed over the landfill. The material will be compacted in layers no greater than 300mm thick, in accordance with the LTC Specification for Earthworks North of the River [21].

7.2.3 The Stability Risk Assessment [20] has determined that the waste placement should incorporate hold periods to allow for the dissipation of excess pore water pressures in the Alluvium. Elevated pore pressures are attributed to variations in landfill fill thickness, which result in fluctuations in groundwater levels within the Alluvium between approximately +0.5 mAOD and +6.0 mAOD. Waste placement slopes will be constructed at gradients no steeper than 1v:3h, with maximum slope elevations expected to be around 8.5 mAOD.

7.3 Waste selection

7.3.1 Waste will be excavated from the nearby Goshems Farm DfR site. All wastes accepted will be characterised as inert following the procedures outlined in Section 4.4.

7.4 Method

7.4.1 On arrival at the working face, the load will be deposited as directed by the machine driver.

7.4.2 The Operative(s) will inspect the waste before and during deposition. If any unacceptable waste is discovered, it will be dealt with in accordance with the procedure detailed under quarantine storage and rejection of waste.

7.4.3 Materials will be placed ahead of the advancing face in order to provide adequate working space for inspection of wastes. The fill shall be spread out in layers no more than 300mm thick and compacted by repeated passes of earthmoving equipment in accordance with LTC Specification for Earthworks North of the River [21].

7.5 Use of daily and intermediate cover

7.5.1 The wastes to be deposited at the site will be inert soils and are unlikely to give rise to unacceptable odours, aerial emissions, or wind-blown litter,

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nor are they likely to attract vermin, scavengers, corvids, or gulls. Consequently, the use of daily and intermediate cover is not required.

7.6 Removal of residual wastes from site

7.6.1 In the event that the site operation ceases permanently, any residual wastes on the site will be removed to a suitably permitted facility in accordance with current applicable waste management legislation.

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8 Site completion

8.1 Capping system

- 8.1.1 The landfill is to be provided with a final capping, to comprise at least 1m of low permeability material to minimise water infiltration into the waste. The capping will be installed to meet the engineering standards required and a Construction Quality Assurance report prepared.
- 8.1.2 The final contours of the landfill are shown in Drawing 2 and comprise a series of construction platforms from which LTC will be built.

8.2 Final landform

- 8.2.1 On completion of capping, the landfill is to be restored as part of LTC. Restoration will comprise the construction of new roads and highways infrastructure, together with areas of soft landscaping. Further details of the final landform and future construction of LTC are provided in the Closure and Aftercare Management Plan [11] that accompanies this permit application.

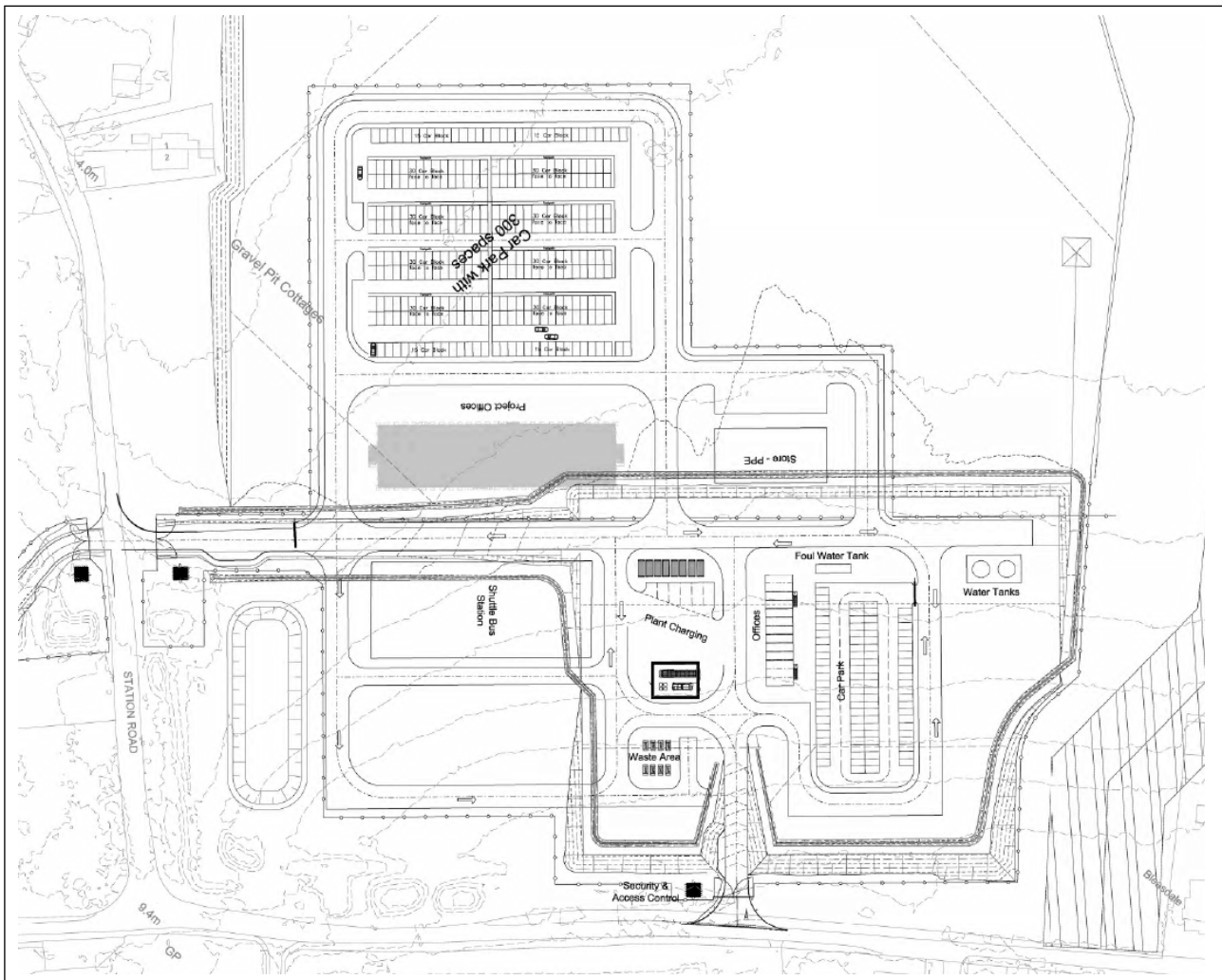
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9 Site infrastructure

9.1 Proposed infrastructure

9.1.1 Site offices including welfare facilities, a canteen and car parking will be sited outside the permit boundary at Station Road, as shown in the layout in Figure 9-1. This arrangement differs to the previous permit, but has been chosen in order to share welfare facilities with wider LTC construction activities.

Figure 9-1 Layout of Station Road construction compound



9.1.2 The site infrastructure present within the permit area of Tilbury Landfill is shown in Drawing 1 and includes:

- site entrance gate from Tilbury Dock to the west, with wheel wash;
- site entrance gate from the Station Road compound to the north;
- HVO refuelling tank;
- waste collection area;
- road sweeper (water bowser) storage area;

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- PFA stockpile area;
- traffic flow management with clearly demarked in/out routes and segregated pedestrian routes and areas;
- road signing and lighting as required;
- internal haul roads, principally used by plant and equipment associated with the site; and,
- surface water drainage system comprising temporary attenuation ponds and discharge points to an existing surface water drainage network.

9.1.3 The location of the site infrastructure is shown on the layout in Drawing 1. The exact locations of site infrastructure will change as construction progresses, but changes will be made in consultation with the EA.

9.2 Provision of site identification board

General

9.2.1 A notice board will be erected at the site entrance. The notice board will be constructed from durable materials and will display the following details:

- Name and address of the waste facility.
- Statement that the site is permitted by the Environment Agency and the permit reference number.
- Name, address, and telephone number of the permit holder.
- The Environment Agency’s national numbers for general enquiries and emergencies.
- National Highways Customer Contact Centre number, enquiries and complaints procedure, out of hours contact details and information on the works.
- Days and hours that the site is to be operational.

Maintenance

9.2.2 The notice board will be inspected on a daily basis and checked for integrity and accuracy of the information. Repairs/alterations will be carried out as soon as possible after any defect is noted.

9.3 Site security

General

9.3.1 Access to the active areas of the Tilbury Landfill will be restricted using fencing, gates, security cameras and a full-time security presence to prevent vehicular access and discourage casual visitors.

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9.3.2 The site entrance gates will be sufficient height to prevent easy access. The gates will be kept locked at all times outside working hours and both gates (port entrance in the west and compound entrance to the north) will have 24-hour security. At the end of each working day the site will be checked to ensure it is secure and regular security patrols will be made of the perimeter to ensure the integrity of fencing is maintained.

9.3.3 All mobile plant will be parked securely at the end of each working day.

Fencing/hoarding

9.3.4 The site area is to be secured by BMJV. The type of perimeter fencing will vary depending in the security risk, but the proposed initial fencing layout is shown in Drawing 3. This initial fencing layout will be updated as the works progress.

9.3.5 The following measures will be applied when installing and maintaining the site perimeter fencing or hoarding, as appropriate:

- Use of appropriate fencing or hoarding, which ensures the site is identifiable as a National Highways site, taking into consideration the outcomes of security risk assessment, construction activity and existing landscape.
- Where possible sustainable materials may be used for such equipment and solid wooden hoardings are to be attached to all highway-facing boundaries, including footways, bridleways and byways.
- Hoardings may be topped with anti-climb measures based on the risk assessment.
- Hoardings to be of a type or design and managed so postering and graffiti is minimised.

9.3.6 All boundary fencing will be inspected daily and any necessary repairs put in hand. Any damage that exposes members of the public to significant risk or that allows unauthorised vehicular access to the site will be made good with a temporary repair until a permanent repair can be made.

9.3.7 A note will be made in the Site Diary of when the inspections are carried out and a record will be made of any damage discovered and the remedial action taken.

Buildings

9.3.8 No buildings will be present within the extent of the Tilbury Landfill permit boundary.

Property

9.3.9 Keys giving access to the site will only be kept by persons authorised to do so by the Tilbury Landfill Site Manager.

9.3.10 A key register will be compiled and maintained for all properties.

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- 9.3.11 Key-holders will be notified to the local police station and this information kept up to date.
- 9.3.12 Wherever possible, one person should be made responsible for locking up and where applicable setting the burglar alarm.

Vehicles and mobile plant

- 9.3.13 All vehicles and mobile plant are to be locked when not in use. Windows will be of toughened glass or protected by screens at night.
- 9.3.14 A record of serial numbers should be maintained for all mobile plant. Spare parts will be kept in a secure store and records maintained.
- 9.3.15 Clamping is desirable for cars, vans, and trucks left on site overnight.

Documents

- 9.3.16 Information will be stored in line with BMJV’s information security arrangements. There will be no delay in reporting breaches of information security to the Environment Agency.

Fuel storage

- 9.3.17 Hydrotreated Vegetable Oil (HVO) will be stored in a secure (lockable) integrally bunded fuel tank within the re-fuelling area on site shown in Drawing 1. This will be positioned a minimum 10m from surface water features and will include secondary containment.
- 9.3.18 Before delivery of HVO, a responsible employee must record the tank reading.
- 9.3.19 Gravity fed tanks will have the inlet and drain plugs secured with good quality, close-shackle padlocks. Gate valves to the outlet pipe will be similarly secured in the off position when not in use.
- 9.3.20 The nozzle of the outlet pipe will be similarly secured.
- 9.3.21 Electrically operated pumps will have the electrical switchgear adequately safeguarded and switched off at night.

Visitors

- 9.3.22 Unauthorised persons are not allowed onto the site.
- 9.3.23 Visitors must call at the site office based at Station Road, identify themselves and state the nature of their business. Unless the caller is known he/she MUST NOT be allowed to find their destination unaccompanied.
- 9.3.24 Individuals will not be allowed to go onto the site to remove material(s) unless authorised in writing.
- 9.3.25 Once authorised waste is deposited in the permitted area it becomes the property of the company and unauthorised removal is therefore theft.

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Report of thefts

9.3.26 Supervisors must immediately inform their site manager or nominee and security of any occurrence of:

- breaking and entering of company's premises;
- vandalism;
- theft from company's premises;
- any act or suspected act of dishonesty; and,
- stock or cash deficiencies.

9.3.27 Where an outside element is suspected the police will be called without delay.

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10 Environmental nuisance control

10.1 Introduction

10.1.1 The environmental nuisance control measures described below should also be read in conjunction with the Management Systems and Procedures [15] and separate Dust Emission and Management Plan (DEMP) [10] and Environmental Risk Assessment [16].

10.2 Dust control

Prevention and control of releases of dust, fibres, and particulates

10.2.1 Dusts, fibres, and particulates are found in wastes with a fines content and soils. They are generated during periods of dry weather in combination with windy conditions.

10.2.2 The focus of the DEMP is to control dust generation and movement at source. The main sources of dust at the site are likely to be from the internal haul road and from the surface of the already deposited wastes during periods of dry weather. Deposition of individual loads is considered to be less significant in terms of potential for dust generation, as the waste to be delivered to the site will be mainly clay or clay bound material which is cohesive in nature. The addition of lime may be required where the material is too wet to achieve the required compaction, which may generate dust.

10.2.3 The DEMP [10] for the Tilbury Landfill facility details the risk-based assessment and management of dust and emissions during the lifecycle of the facility. This includes control measures during the transportation of materials.

Control measures during deposition and placement of materials

10.2.4 The following measures will be implemented and maintained throughout the operational life of the site, the objective of which will be to prevent and minimise the release of airborne dusts, fibres and particulates arising from the permitted waste management operations in such quantities or concentrations that are likely to cause pollution of the environment or harm to human health.

- The waste deposit involves the movement of waste from Goshems Farm DfR site into Tilbury Landfill. All materials movement will be completed using internal haul roads. Only unacceptable materials will be taken offsite.
- Water-assisted sweepers will be used on the access road and local roads to remove material tracked out of site.
- Vehicles entering and leaving site will be securely covered.
- Wheel washes will be used for vehicles leaving the site.
- Internal haul roads will be kept in good repair.

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- Generation of stockpiles will be minimised as far as practicable.
- Dust suppression will be implemented, including water spraying in dry weather and covering stockpiled material.
- Dusty materials, bulk cement and other fine powders will be stored with suitable emission control systems to prevent escape.

Measures to minimise impacts on air quality

- The waste deposit involves the movement of waste from Goshems Farm DfR site into Tilbury Landfill. All materials movement will be completed using internal haul roads.
- All on-road heavy goods vehicles will comply with the standards set within the London Low Emission Zone (LEZ) for the relevant class of vehicle.
- All Non-Road Mobile Machinery (NRMM) net power 37kW to 560kW will comply with the engine emission standards set by London’s Low Emission Zone for NRMM. NRMM will be required to meet emission standard Stage IV as a minimum.
- All vehicles and plant on site should not be left running or idling unnecessarily.
- Low emission vehicles and plant fitted with catalysts, diesel particulate filters or similar devices where reasonably practicable.
- Use ultra-low sulphur fuels in plant and vehicles where reasonably practicable.
- Keep vehicles and plant well maintained, routine servicing is to be completed in accordance with the manufacturer’s guidance and records maintained for the work undertaken.

Management procedures

10.2.5 The Site Manager, or their nominee, will exercise day-to-day control on site at all times. They will have particular responsibility for ensuring full compliance with the conditions attached to the permit. Specifically, the Site Manager will assume control, either personally or by delegation to suitably trained and responsible staff, of:

- vehicle movements;
- all loading, tipping, and materials handling operations;
- operation of dust suppression measures; and,
- inspection, cleaning and maintenance of all plant and equipment.

10.2.6 BMJV operates an externally audited Environmental Management System (EMS) which is certified to ISO 14001 [15].

10.2.7 Staff at all levels will receive the necessary training and instruction in their duties relating to the control of all operations and the potential sources of dust emissions. Particular emphasis will be given to dealing with plant

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malfunctions and abnormal conditions. Site staff will inform the Site Manager whenever visible dust emissions are observed or appear likely to occur, as a result of any site operation.

- 10.2.8 The continuing effectiveness of this dust management scheme will be reviewed regularly in the context of the monitoring results.

Monitoring of dust, fibres, and particulates

- 10.2.9 The air quality assessment identified that continuous, real-time dust monitoring is not required.
- 10.2.10 Daily visual inspections will be carried out by BMJV, comprising a site walk with observations of any dust emissions. Particular attention will be paid to any areas where professional experience suggests that current operations have a higher than normal risk of dust emissions. Dust soiling checks will be carried out weekly.
- 10.2.11 Dust suppression measures will be required to ensure that no visible dust leaves the facility.
- 10.2.12 The focus of the dust control strategy is to control dust generation and movement at source. Therefore, no receptor-specific dust monitoring will be undertaken. The requirement for receptor-specific dust monitoring will be reviewed at regular intervals.

Dust, fibres, and particulates action plan

- 10.2.13 In the event that significant dust is identified beyond the site boundary, a Dust Event Form will be completed and investigation/remedial action taken, in line with the procedure set out in the DEMP [10].
- 10.2.14 If exceptional dust emissions occur, or any complaints are received, they will be investigated by BMJV.

Complaints procedure

- 10.2.15 Complaints may be notified by a member of the public either directly to the site management, or indirectly through the regulator. National Highways Customer Contact Centre receives all public complaints and enquiries for National Highways nationwide through a phone line and email account 24 hours a day, seven days a week.
- 10.2.16 The complaints procedure ensures that any nuisance being caused to local residents is dealt with effectively. A register of complaints will be kept on-site to record all concerns made either directly to the Site Manager or via the regulatory authorities.
- 10.2.17 Each complaint will be investigated. The Site Manager will report the findings and the action taken to the Environment Manager. The Environment Agency (and any other relevant regulatory authority) will be advised in writing within two weeks of any dust complaint received together with the findings of the investigation and any corrective action taken.

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10.3 Odour control

- 10.3.1 The types of waste to be processed or disposed of at the site are not likely to give rise to unacceptable odours.
- 10.3.2 In the event that odorous materials are delivered to the site, they will be assessed further in line with the procedures set out in Section 4.4.14.
- 10.3.3 Odour management, monitoring and action plans are not considered necessary.

10.4 Control of mud and debris

Overview

- 10.4.1 No waste will be delivered to site via external roads, as the material to be deposited is located within Goshems Farm DfR site, which is accessed via internal haul roads.
- 10.4.2 Mud may be dropped from vehicles leaving the site. Internal haul roads will be subject to maintenance and repair to reduce mud.
- 10.4.3 Vehicles leaving the site do so via a wheel wash located at the western access to the site, via Port of Tilbury land.
- 10.4.4 Local roads will be cleaned using a road sweeper to be kept on site.

Road sweeping

- 10.4.5 The site entrance and access road will be inspected twice daily to check whether it is clean and tidy. A road sweeper will sweep the site entrance and the access road if the daily inspection indicates it is necessary.
- 10.4.6 Road cleaning will be undertaken within 2 hours of an inspection indicating that mud levels are unacceptable. If road cleaning cannot be undertaken within 2 hours, the Site Manager will review the situation and movement of vehicles on or off the site will be restricted as necessary.
- 10.4.7 Additional inspections will be included as necessary in response to comments from the general public or during and following periods of particularly heavy rainfall.

Internal haul roads

- 10.4.8 The delivery of the waste to the site mud and debris from articulated dump trucks will be limited to internal haul roads only.
- 10.4.9 Internal site roads will be maintained in useable condition, fit for purpose, and kept free from mud by regular grading, good drainage, and the use of hard-core as necessary.

Litter control

- 10.4.10 The type of waste to be used within the site comprises soil and stones, rather than household or construction waste. The waste has been through

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waste acceptance procedures prior to deposit within Goshems Farm DfR or Tilbury Ash Disposal Site and is not expected to contain significant quantities of litter-generating material.

- 10.4.11 Waste acceptance procedures will continue to ensure only waste with a low litter generation potential is delivered to site.
- 10.4.12 Any litter generating waste will be collected and placed in containers as described in Section 4.4.28 before disposal offsite.

10.5 Pest/vermin control

Pest infestations

- 10.5.1 The proposed waste types accepted on site will not change from previous activities and strict waste acceptance procedures will ensure only permitted materials are delivered to site.
- 10.5.2 The inert and low risk non-hazardous nature of the waste handled on site means that the site is unlikely to attract birds, vermin and insects.
- 10.5.3 Regular inspections will be undertaken to check for signs of infestation, and control measures implemented if necessary. A record of the inspections and their findings will be kept in the Site Diary. A specialist contractor will be employed to control pests if required. If remedial action is required, a note of any treatment supplied will be made in the Site Diary.

Control of scavenging birds and other scavengers

- 10.5.4 The types of waste to be processed or disposed of at the site are unlikely to attract birds or other scavengers, consequently, control measures are not considered necessary.

10.6 Noise control

General procedures

- 10.6.1 A Noise and Vibration Management Plan has not been prepared as part of the permit application for this site. This is because such a plan was not required under the existing environmental permit for the site, and the activities proposed under this application are not expected to result in any change to the nature or magnitude of noise or vibration emissions.
- 10.6.2 However, in order to mitigate the impact of noise and vibration and in line with the LTC Code of Construction Practice, BMJV will adopt the Best Practical Means (BPM) outlined in the Environmental Management Plan [5] and the Noise and Vibration Management Plan for the North Portal Surface Works [17].
- 10.6.3 The following BPM will be adopted at the site:
 - Site operations will be restricted to the hours specified in Section 3.1.

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- Site haul roads will be kept in good condition with condition assessments carried out to inspect for defects such as potholes.
- Hoarding will be installed and maintained around areas where noise is likely to be generated that causes nuisance.
- Plant and machinery will be turned off when not in use.
- All vehicles and mobile plant will be maintained such that loose body fittings or exhausts do not rattle or vibrate.
- Silenced equipment will be used where available, in particular silenced generators.
- No music or radios will be played for entertainment purposes outdoors on site.
- Site layout will be planned to ensure that reversing is kept to a practicable minimum.
- Reversing maneuvers will be supervised by a trained banksman/vehicle marshal to ensure they are conducted safely and concluded quickly.
- BMJV will proactively engage with the local community to let them know of any upcoming noisy/vibratory works and provide contact details.
- Noise and vibration monitoring will be carried out in accordance with the Noise and Vibration Management Plan prepared as part of the Environmental Management Plan for North Portal surface works [5].
- The Site Manager will be responsible for implementing risk management measures.

10.7 Potentially polluting spillages and leaks

Potentially polluting spillages and leaks of waste

- 10.7.1 Potentially polluting wastes will not be accepted at the site (see Section 4). Therefore, control measures and action plans are not considered necessary.

Potentially polluting spillages and leaks of raw materials

Fuels and oils

- 10.7.2 The site will be operated in accordance with the Pollution Prevention Management Plan (PPMP) [18] for the North Portal Surface Works.
- 10.7.3 HVO is to be stored and dispensed in a designated area within the site, shown on Drawing 1. Fuel will be stored appropriately bunded tanks in line with the Control of Pollution (Oil Storage) (England) Regulations 2001, Oil Storage Regulations⁴ and other materials such as cement or lime will be stored in silos in a designated area.

⁴ <https://www.gov.uk/topic/environmental-management/oil-storage>

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- 10.7.4 All site vehicles are to be maintained to prevent leaks from occurring.
- 10.7.5 Oil interceptors will be provided in areas of hardstanding and roadways/haul routes.
- 10.7.6 Groundwater and surface water quality is to be monitored in accordance with the monitoring requirements of the new permit.
- 10.7.7 Refuelling of plant will be undertaken in the designated refuelling area which is shown on Drawing 1. This area will be demarked with appropriate signage. Oil absorbent booms will be kept on site for use in the event of any accidental spillage or release of oil/fuel to watercourses, spill kits and fire extinguishers will also be provided in this area.

Restoration materials

- 10.7.8 Potentially polluting materials will not be used as restoration materials. Therefore, control measures and action plans are not considered necessary.

10.8 Fires on site

Waste disposal areas

- 10.8.1 No wastes will be burned on site.
- 10.8.2 The proposed activities under this permit are not considered to increase the risk of fire on site compared to the previous permit. Consequently, the management techniques in place are considered sufficient to manage the risk on site.
- 10.8.3 All site plant and machinery will be operated and maintained in accordance with manufacturer’s specifications.

Mobile plant

- 10.8.4 All mobile plant will carry a fire extinguisher and will be inspected and maintained in accordance with the plant maintenance schedule to mitigate any potential fires.
- 10.8.5 In the unlikely event that a fire does occur that cannot be safely dealt with using the onsite equipment, the local fire service will be called using 999.

10.9 Flooding

- 10.9.1 A flood risk assessment was completed as part of the Environmental Statement prepared for the LTC scheme [19]. This did not identify any increased risk of flooding as part of the proposed ground levels to be created under this permit.
- 10.9.2 The proposed activities under this new permit are the same as under the previous permit, in that they comprise a land raise above original ground level.

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- 10.9.3 Surface water drainage from the site will be controlled under an Environmental Permit for discharge to surface water. A series of attenuation ponds is to be constructed within the site which will be sized appropriately to contain rainfall events.

11 Reference Documents

Document title	Document number /Link
[1] Lower Thames Crossing Tunnels and Approaches. Draft Environmental Scheme, Goshems Farm DfR. ENVTRK/WASTE/00003	HE540039-BMJ-EAC-TA_S07_ZZ-RP-GS-000002
[2] Technical Guidance WM3: Waste Classification – Guidance on the classification and assessment of waste (2021)	https://www.gov.uk/government/publications/waste-classification-technical-guidance
[3] Lower Thames Crossing Tunnels and Approaches. Soils Management Plan – North Portal Surface Works (Work No. 5)	HE540039-BMJ-EAC-TA_S07_ZZ-RC-ZZ-000003
[4] Lower Thames Crossing Tunnels and Approaches. Site Waste Management Plan – North Portal Surface Works (Work No. 5)	HE540039-BMJ-EMW-TA_S07_ZZ-PL-ZZ-000002
[5] Lower Thames Crossing Tunnels and Approaches. Environmental Management Plan 2, North Portal Surface Works (Work no. 5)	HE540039-BMJ-EGN-TA_S07_ZZ-PL-ZZ-000001
[6] Lower Thames Crossing Tunnels and Approaches. North Portal EMP2 Risk Assessment and Remediation Strategy	HE540039-BMJ-EGT-TA_SNZ_ZZ-RP-GS-000005
[7] SLR Consulting Ltd (2019). Derivation of Waste Acceptance Criteria	19083 416.01526.00054
[8] SLR (2017) Waste Acceptance Procedure	427.01526.00
[9] Lower Thames Crossing Tunnels and Approaches. Tilbury Landfill Hydrogeological Risk Assessment.	HE540039-BMJ-EAC-TA_SNZ_ZZ-RP-GS-000011
[10] Lower Thames Crossing Tunnels and Approaches. Tilbury Landfill Dust and Emissions Management Plan.	HE540039-BMJ-EAC-TA_SNZ_ZZ-RP-GS-000008

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Document title	Document number /Link
[11] Lower Thames Crossing Tunnels and Approaches. Tilbury Landfill Closure and Aftercare Management Plan.	HE540039-BMJ-EAC-TA_SNZ_ZZ-RP-GS-000007
[12] SLR (2021) Environmental permit variation application	2 416.01526.00076
[13] Environmental Agency (2016) Notice of variation and consolidation with introductory note.	Variation application number: EPR/GP3733DZ/V007
[14] 2003/33/EC: Council Decision	2003/33/EC: Council Decision of 19 December 2002 establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC
[15] Lower Thames Crossing Tunnels and Approaches. Tilbury Landfill Management Systems and Procedures 2026	HE540039-BMJ-EAC-TA_SNZ_ZZ-RP-GS-000013
[16] Lower Thames Crossing Tunnels and Approaches. Tilbury Landfill Environmental Risk Assessment 2026	HE540039-BMJ-EAC-TA_SNZ_ZZ-RP-GS-000006
[17] Lower Thames Crossing Tunnels and Approaches. Noise and Vibration Management Plan- North Portal Surface Works (Work no. 5).	HE540039-BMJ-ENV-TA_S07_ZZ-PL-ZZ-000001
[18] Lower Thames Crossing Tunnels and Approaches. Pollution Prevention Management Plan - North Portal Surface Works (Work no. 5).	HE540039-BMJ-EMW-TA_S07_ZZ-PL-ZZ-000005
[19] Lower Thames Crossing. 6.3 Environmental Statement Appendices. Appendix 14.6 – Flood Risk Assessment – Part 10.	https://nspip-documents.planninginspectorate.gov.uk/published-documents/TR010032-005260-National%20Highways%20-%20Other-%206.3%20ES%20Appx%2014.6%20-%20Flood%20Risk%20Assessment%20-%20Part%2010_v2.0_clean.pdf
[20] Lower Thames Crossing Tunnels and Approaches. Tilbury Landfill Stability Risk Assessment 2026	HE540039-BMJ-EAC-TA_SNZ_ZZ-RP-GS-000010
[21] Lower Thames Crossing Tunnels and Approaches. Specification for Earthworks North of the River.	HE540039-BMJ-SGT-TA_SNZ_ZZ-SP-GE-000001

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Document title	Document number /Link
[22] Lower Thames Crossing Tunnels and Approaches. Tilbury Landfill Environmental Setting and Installation Design Report.	HE540039-BMJ-EAC-TA_SNZ_ZZ-RP-GS-000005
[23] Environmental Management Plan 2, North Portal Surface Works - Work no. 5/CA5 (in part) and Utilities	HE540039-BMJ-EGN-TA_S07_ZZ-PL-ZZ-000001
[24] Site Waste Management Plan - North Portal Surface Works (Work no. 5)	HE540039-BMJ-EMW-TA_S07_ZZ-PL-ZZ-000002
[25] Materials Handling Plan - North Portal Surface Works (Work no. 5)	HE540039-BMJ-EMW-TA_S07_ZZ-PL-ZZ-000001
[26] Noise and Vibration Management Plan- North Portal Surface Works (Work no. 5)	HE540039-BMJ-ENV-TA_S07_ZZ-PL-ZZ-000001
[27] Air Quality Management Plan - North Portal Surface Works (Work no. 5)	HE540039-BMJ-EAQ-TA_S07_ZZ-PL-ZZ-000001/ <i>will</i>
[28] Ecology Management Plan - North Portal Surface Works (Work no. 5)	HE540039-BMJ-ECO-TA_S07_ZZ-PL-ZZ-000001
[29] Soils Management Plan - North Portal Surface Works (Work no. 5)	HE540039-BMJ-EGT-TA_S07_ZZ-PL-ZZ-000001
[30] Contaminated Land Management Plan - North Portal Surface Works (Work no. 5)	HE540039-BMJ-EMW-TA_S07_ZZ-PL-ZZ-000003
[31] Substances Hazardous to Health Management Plan - North Portal Surface Works (Work no. 5)	HE540039-BMJ-EMW-TA_S07_ZZ-PL-ZZ-000004
[32] Pollution Prevention Management Plan - North Portal Surface Works (Work no. 5)	HE540039-BMJ-EMW-TA_S07_ZZ-PL-ZZ-000005
[33] Tilbury Landfill Waste Acceptance Criteria 2026	HE540039-BMJ-EAC-TA_SNZ_ZZ-RP-GS-000012

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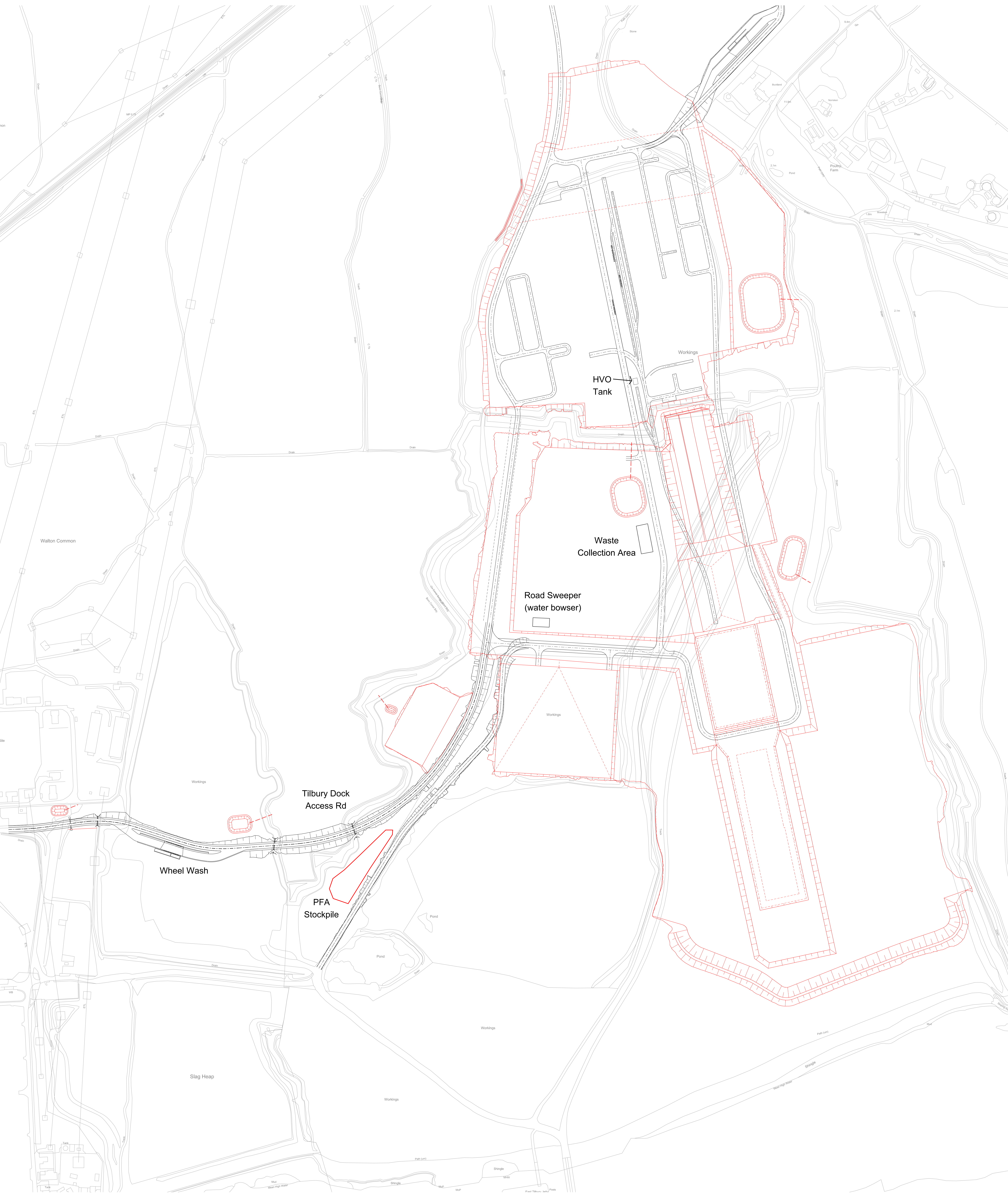
Drawings

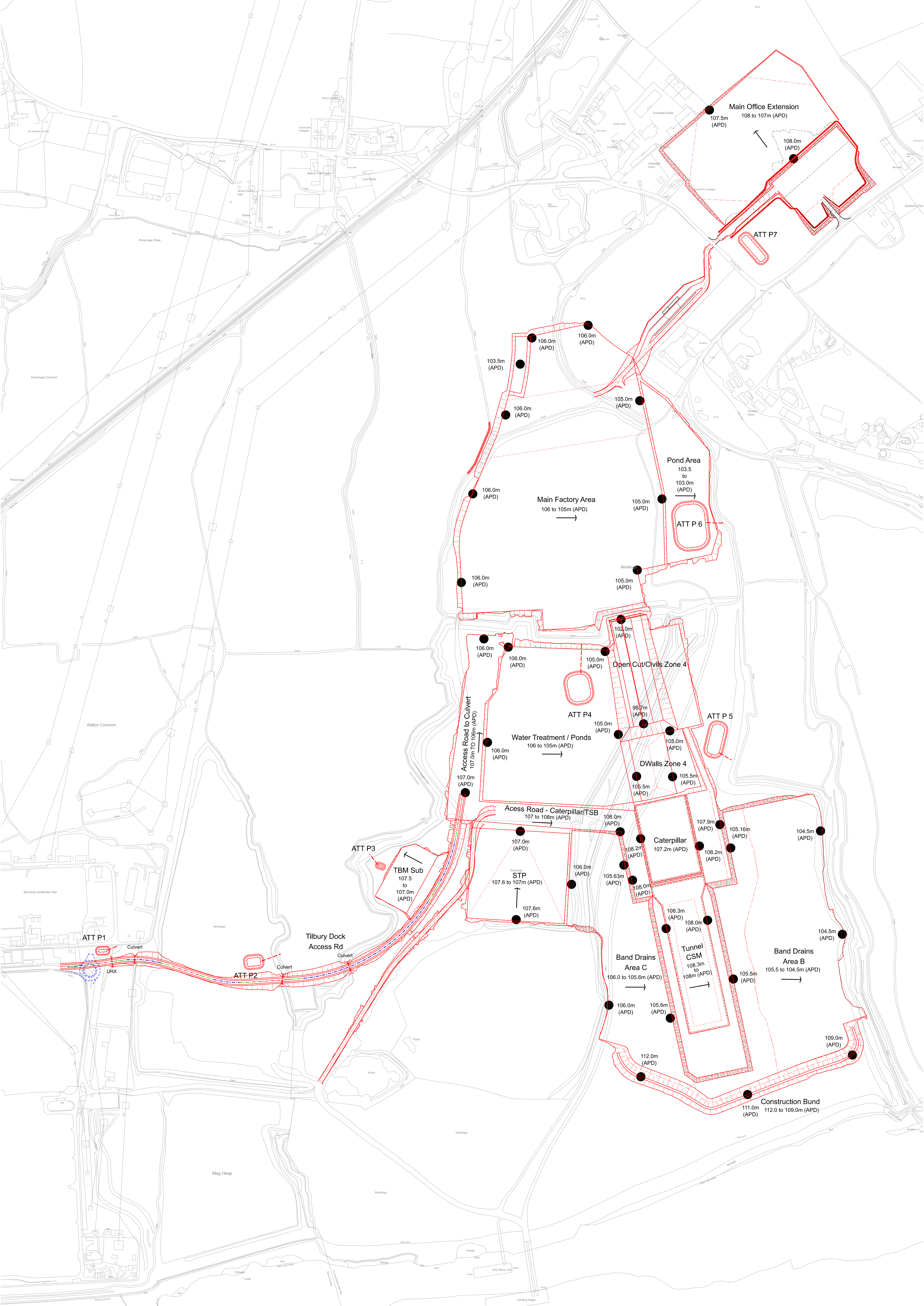
Drawing 1 Site layout

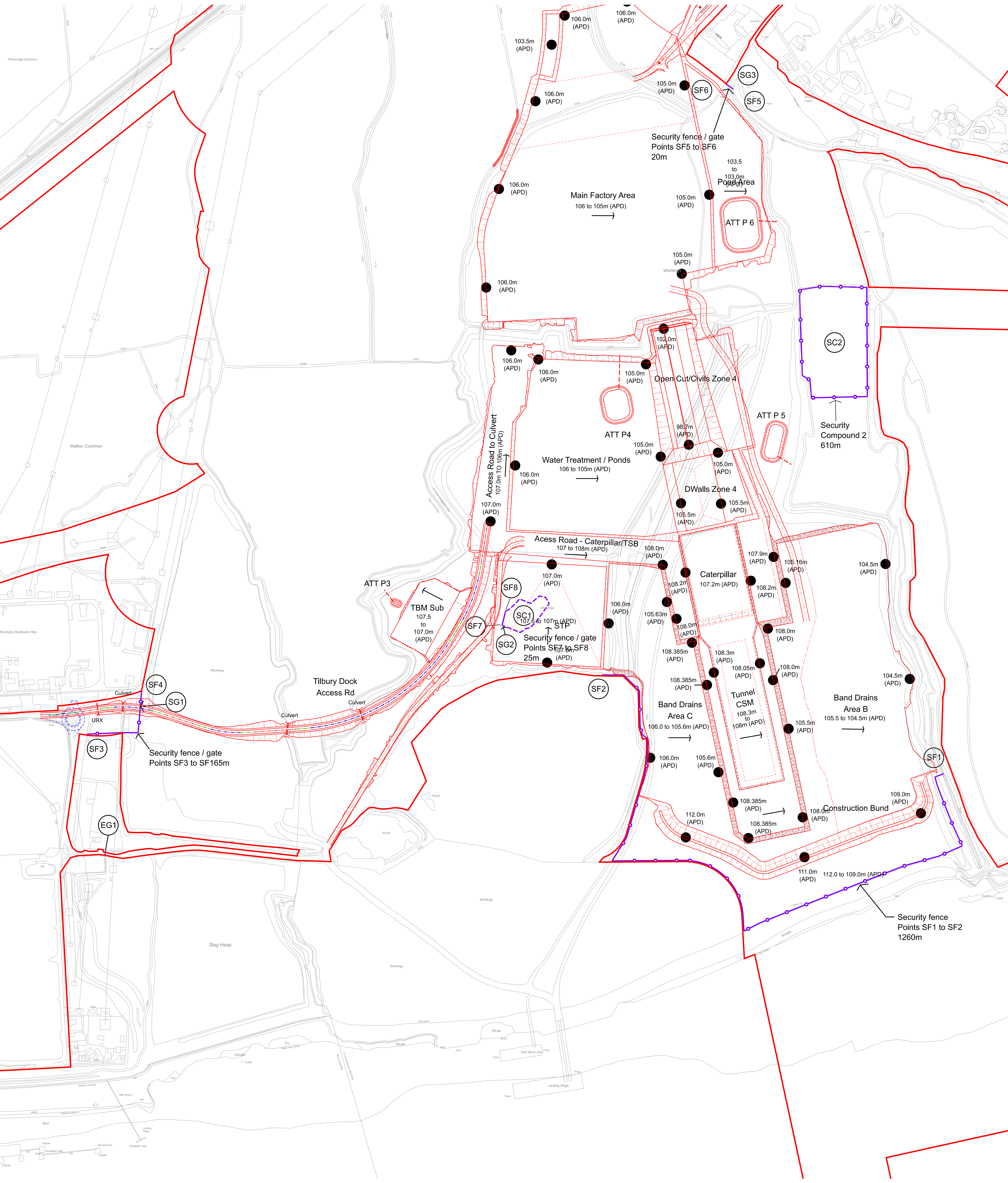
Drawing 2 Final contours

Drawing 3 Phase 1 Fencing

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Main Factory Area
106 to 105m (APD)

Security fence / gate
Points SF5 to SF6
20m

Access Road to Culvert
107.0m to 106m (APD)

Access Road - Caterpillar/TSB
107 to 108m (APD)

ATT P 3

TBM Sub
107.5
to
107.0m
(APD)

Tilbury Dock
Access Rd

Security fence / gate
Points SF3 to SF165m

Security fence / gate
Points SF7 to SF8
25m

Band Drains
Area C
106.0 to 105.6m (APD)

Band Drains
Area B
105.5 to 104.5m (APD)

Security fence
Points SF1 to SF2
1260m

Appendix A – Waste Acceptance Criteria

- A.1.1 Wastes rejected at either the source or within the landfill and placed in quarantine will require testing to determine whether the waste stream could be accepted, applying the limits for parameters identified in Tables A-1 and A-2.
- A.1.2 These WAC limits were previously agreed for Tilbury Ash Disposal Site under the permit held by IVL (EPR/GP3733DZ). This permit seeks to continue the disposal of inert waste started by IVL and therefore the previously agreed WAC are considered to be appropriate.
- A.1.3 A derogation from WAC limits for certain parameters were agreed for London Clay due to the naturally elevated concentration of these substances within this material. The derogation for Total Dissolved Solids (TDS), sulphate and selenium is set at three times WAC as highlighted below.

Table A.1 Summary of waste testing leaching limit values for wastes in quarantine

Determinant	Inert waste	Derogated waste stream
Arsenic	0.5mg/kg	0.5mg/kg
Barium	20mg/kg	25mg/kg
Cadmium	0.04mg/kg	0.04mg/kg
Total Chromium	0.5mg/kg	0.5mg/kg
Copper	2mg/kg	2mg/kg
Mercury	0.0mg/kg	0.01mg/kg
Molybdenum	0.5mg/kg	0.855mg/kg
Nickel	0.4mg/kg	0.4mg/kg
Lead	0.5mg/kg	0.5mg/kg
Antimony	0.06mg/kg	0.187mg/kg
Selenium	0.1mg/kg	0.948mg/kg
Zinc	4mg/kg	4mg/kg
Chloride	800mg/kg	1,980mg/kg
Fluoride	10mg/kg	135mg/kg
Sulphate ¹	1,000mg/kg	3,000mg/kg
Phenol index	1mg/kg	1.3mg/kg
Dissolved Organic Carbon ²	500mg/kg	500mg/kg
Total Dissolved Solids ³	4,000mg/kg	12,000mg/kg

1 – This limit value for sulphate may be increased to 6,000 mg/kg, provided that the value of C0 (the first eluate of a percolation test at L/S = 0.1 l/kg) does not exceed 1,500 mg/l. It will be necessary to use a percolation test to determine the limit value at L/S = 0.1 l/kg under initial equilibrium conditions.

2 – If the waste does not meet this value for Dissolved Organic Carbon (DOC) at its own pH value, it may alternatively be tested at L/S = 10 l/kg and a pH between 7.5 and 8.0. The waste may be considered

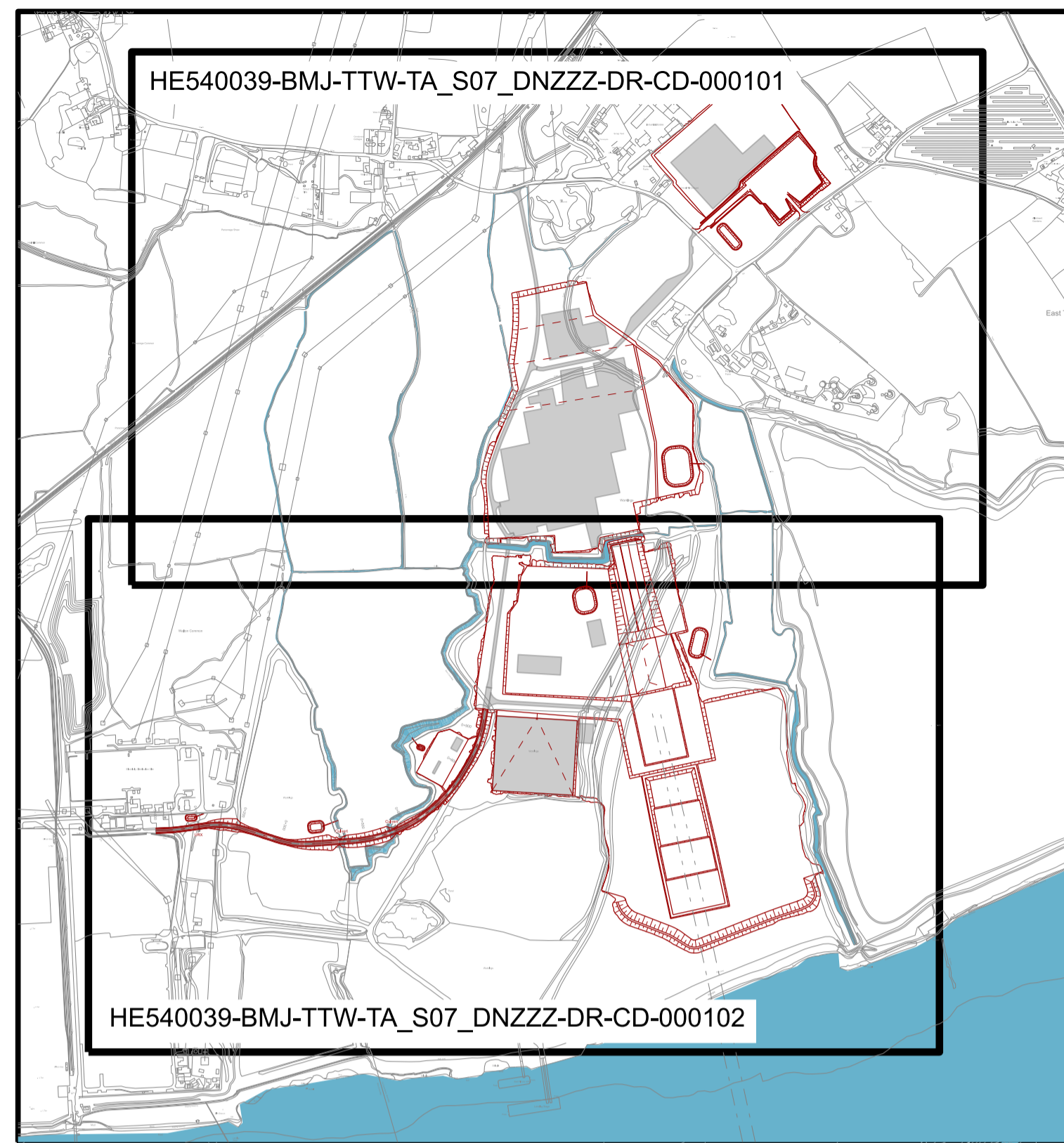
Determinant	Inert waste	Derogated waste stream
as complying with the acceptance criteria for DOC, if the result of this determination does not exceed 500 mg/kg.		
3 – The value for Total Dissolved Solids can be used alternatively to the values for Sulphate and Chloride.		

Table A.2 Limit values for total content of organic parameters for wastes in quarantine

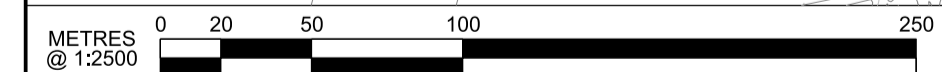
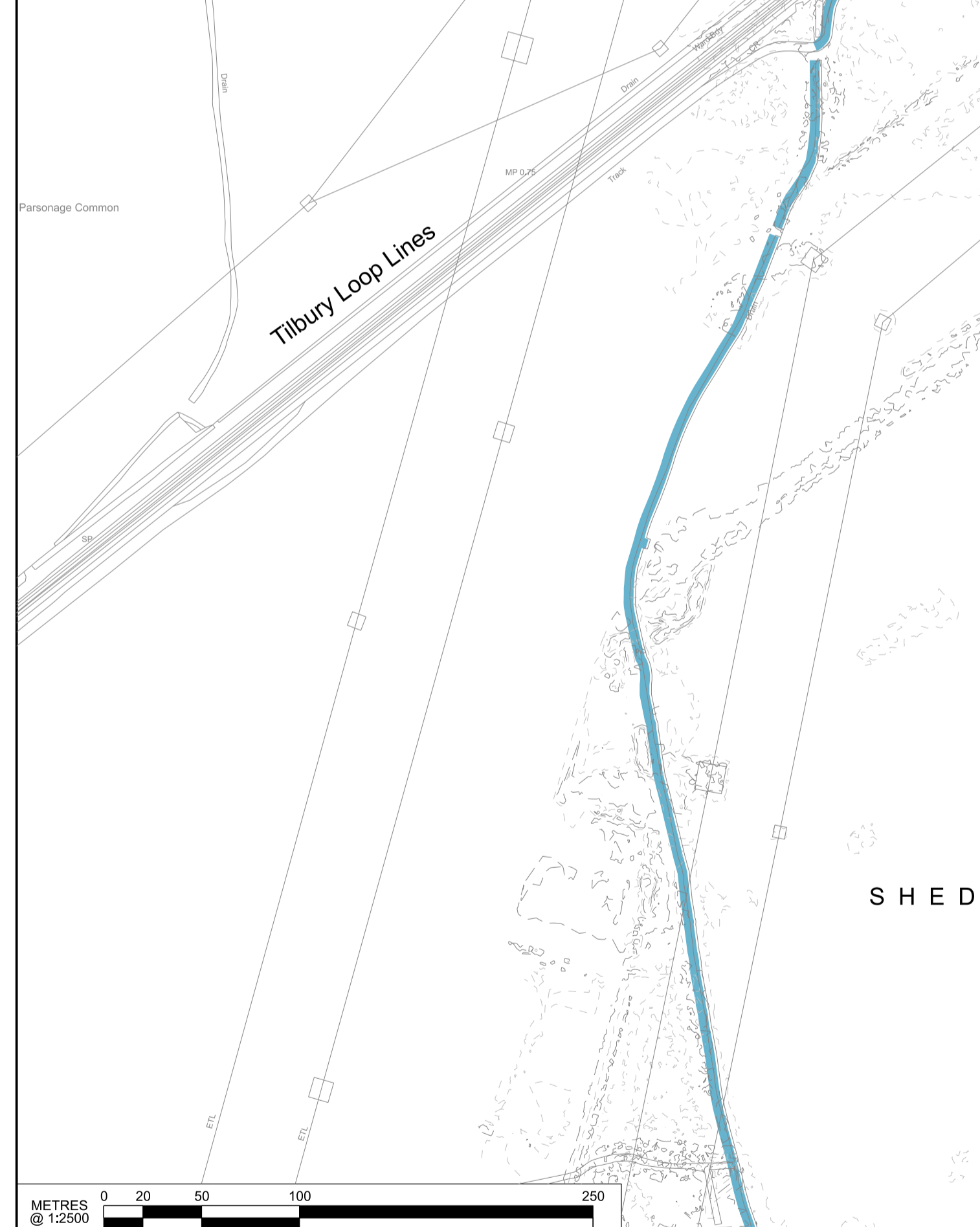
Parameter	Value (mg/kg)
Total Organic Carbon (TOC) ^(a)	30,000
BTEX compounds (benzene, toluene, ethyl benzene & xylenes)	6
Polychlorinated biphenyls (PCBs) (7 congeners)	1
Mineral oil (C10 to C40)	500
PAHs (Polycyclic aromatic hydrocarbons) (Total of 17)	100
<p>(a) In the case of soils, a higher limit value may be permitted by the Environment Agency, provided a Dissolved Organic Carbon value of 500 mg/kg is achieved at L/S 10 l/kg at the pH of the soil or at a pH value of between 7.5 and 8.0</p>	

Appendix B – Surface Water Management

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KEYPLAN
Not to Scale



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- Notes
- All dimensions are in metres unless noted otherwise.
 - Only written dimensions shall be used, do not scale.
- Legend
- Areas of handstanding
 - Existing Watercourses
 - Flow Direction
 - Drainage Ditch

Safety, Health and Environmental Information

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (reference shall also be made to the design hazard log)

Phase	IB	AP	AP
Construction			
Maintenance			
Operation			
Demolition			

Rev.	Status	Rev. Date	Revision Purpose	Author	Check	Review	Appr.
P01	S2	26/11/25	Issued For Approval				

	Client	Status	Revision
	Lower Thames Crossing Tunnels and Approaches LTC Compound, Pilgrims Lane, Grays RM16 6RL	S2 - Suitable For Information Classification PM_40_40_01 Scale 1:2500	P01 Original A1
Project Title	Description (Title)	CDE QR Code	
Project Stage 5 - Construction Preparation	Design Release Container Name (Number) HE540039-BMJ-TTW-TA_S07_DNZZZ-DR-CD-000101		

Continued on Drawing No. HE540039-BMJ-TTW-TA_S07_DNZZZ-DR CD-000102

