North London Waste Authority (NLWA) on behalf of LondonEnergy Ltd

TEMPORARY BULKY WASTE RECYCLING FACILITY (TBWRF), EDMONTON ECOPARK

Environmental Permit, Surrender Site Condition Report

UK0040909.4846 – 62282829 NLHPP – TBWRF SSCR_I1
JANUARY 2026

PUBLIC

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1 INTRODUCTION AND SITE DETAILS

WSP UK Limited (WSP) was commissioned by North London Waste Authority (NLWA), on behalf of LondonEnergy Ltd (LEL), to prepare the Surrender Site Condition Report (SSCR) for the Temporary Bulky Waste Recycling Facility (TBWRF), Edmonton EcoPark, London ('the installation') operated by LEL in accordance with the Environmental Permitting (England and Wales) Regulations 2016, as amended ('the Regulations').

LEL has ceased TBWRF operations and wishes to surrender the TBWRF permit to operate (Permit No. EPR/YP3500LS) under the Regulations. The TBWRF stopped receiving waste in February 2023 and went into decommissioning then demolition phases, both of which are now complete.

The TBWRF occupies an area of approximately 1.7ha in the northwest of the EcoPark, hereinafter referred to as 'the TBWRF site'. The EcoPark, including the TBWRF site, is regulated under a 'super permit', Permit No. EPR/LB3301HL, as varied.

The TBWRF was needed to provide bulky waste management arrangements (including shredding, and manual sorting or separation of bulky waste) during site preparation works for construction of a new Energy Recovery Facility (ERF), as part of the North London Heat and Power Project (NLHPP). To facilitate the NLHPP, waste processes formerly carried out under Permit No. EPR/YP3197NR at the Bulky Waste Recycling Facility (BWRF), a separate installation in the north of EcoPark, had to be temporarily relocated to a new location (the TBWRF site) to enable redevelopment of the wider EcoPark and construction of the permanent facility for bulky waste management.

The TBWRF was constructed on the site of former in-vessel composting operations (IVC) installation operated by LEL, and a former incinerator bottom ash (IBA) recycling area, operated by Blue Phoenix[1]. The former IVC installation is also in the process of going through permit surrender. The TBWRF only operated for waste management purposes for a short period from April 2022 to February 2023 (with ash storage continuing until June 2023).

The purpose of the SSCR is to enable LEL to assure the regulator (the Environment Agency) that reasonable steps to protect the land and groundwater from contamination have been undertaken during the lifetime of the installation and that the site will be left in a 'satisfactory state'[2]. The relevant reports to support this assessment are included or referenced in this SSCR.

[1] The in-vessel composting (IVC) installation was originally licensed under Waste Management Licence Ref. WML80714, 2005, it is also going through Permit Surrender but remains licensed under Environmental Permit No. EPR/UPLB3301HL/V003 which covers the EcoPark, as varied and consolidated in 2019. BluePhoenix has surrendered the Environmental Permit for the IBA facility. No ground investigation or remediation was required as part of that Permit Surrender.

[2] The Regulations require that for the regulator to accept a permit surrender application it must be satisfied that the necessary measures to return the site of the regulated facility to a 'satisfactory state', having regard to the state of the site before the facility was put into operation, have been taken.

1.1 STRUCTURE OF THIS REPORT

This SSCR has been prepared in general accordance with Environment Agency H5 Guidance: Site Condition Reports (v3, April 2013), which sets out a staged approach to Site Condition Reports: Sections 1 to 3 are completed for permit application, Sections 4 to 7 are completed during operations, and Sections 8 to 10 are completed for permit surrender application. Site Condition Reports are intended to be live documents which are updated and reviewed throughout the operation of the installation. They should provide a centralised location for the recording of relevant land quality data on the site condition.

An Application SCR (ASCR) was produced for the TBWRF in November 2020, this presented information on the baseline ground conditions at the site, including details of the historical land use on and surrounding the TBWRF site, and soil and groundwater chemical analysis data.

To support LEL's application to surrender the TBWRF permit and demonstrate that the TBWRF site is in a 'satisfactory state' this SSCR, therefore, includes a review of the site's environmental setting, historical development and sensitivity, and a summary of the process and pollution prevention measures that were in place during operations, reported in Sections 1 to 3.

Sections 4 to 8 have been completed using information obtained from LEL and a review of relevant site records held by WSP.

Sections 9 and 10 have been completed to provide information on the ground conditions at the point of permit surrender and present the evidence to confirm that the site is in a 'satisfactory state'.

1.2 SITE DETAILS

Table 1.1 provides the site details and references figures showing the site location and TBWRF site boundary.

Table 1-1 – Site Details

Item	Details
Name of the Applicant	London Energy Ltd
Activity address	EcoPark Advent Way Edmonton London N18 3AG The site location is shown in Figure 1.1.
Ordnance Survey National Grid reference and elevation	The site is situated at National Grid reference 535665, 192858. The site is generally flat and lies at an elevation of approximately 11.0m above Ordnance Datum (AOD).
Document reference and dates for Site Condition Report at permit application and surrender	• The TBWRF is regulated under Permit No. EPR/YP3500LS, this permit has not been varied since issued by the Environment Agency in December 2021.

Item	Details
	• The ASCR, including baseline soil and groundwater chemical analysis data, was completed in November 2022[3]Error! Bookmark not defined.. • Reports detailing the site condition following cessations of TBWRF activities, decommissioning and demolition are as follows: o DSM (2023) Contractor Completion Report – TBWRF Zone 2, NP-DSM-41XX-XXX-RP-WA-000002, May 2023 o DSM (2023) Contractor Completion Report – TBWRF Zone 1a, NP-DSM-41XX-XXX-RP-WA-090045, June 2023
Document reference for site plans (including location and boundaries)	The site location and current site layout are also shown in this report on the following figures: • Figure 1.1 EcoPark and TBWRF site location and installation boundary • Figure 1.2 TBWRF operational layout Drainage layout plans (Appendix A)

[3] Wood (2022) LondonEnergy Ltd, LondonEnergy, Temporary Bulky Waste Recycling Facility (TBWRF), Edmonton EcoPark Environmental Permit Application Site Condition Report, November 2022. (Doc. Ref. 39889-WOD-41-XXX-RP-O-0029-P01.2).

Figure 1.1 Site location and installation boundary

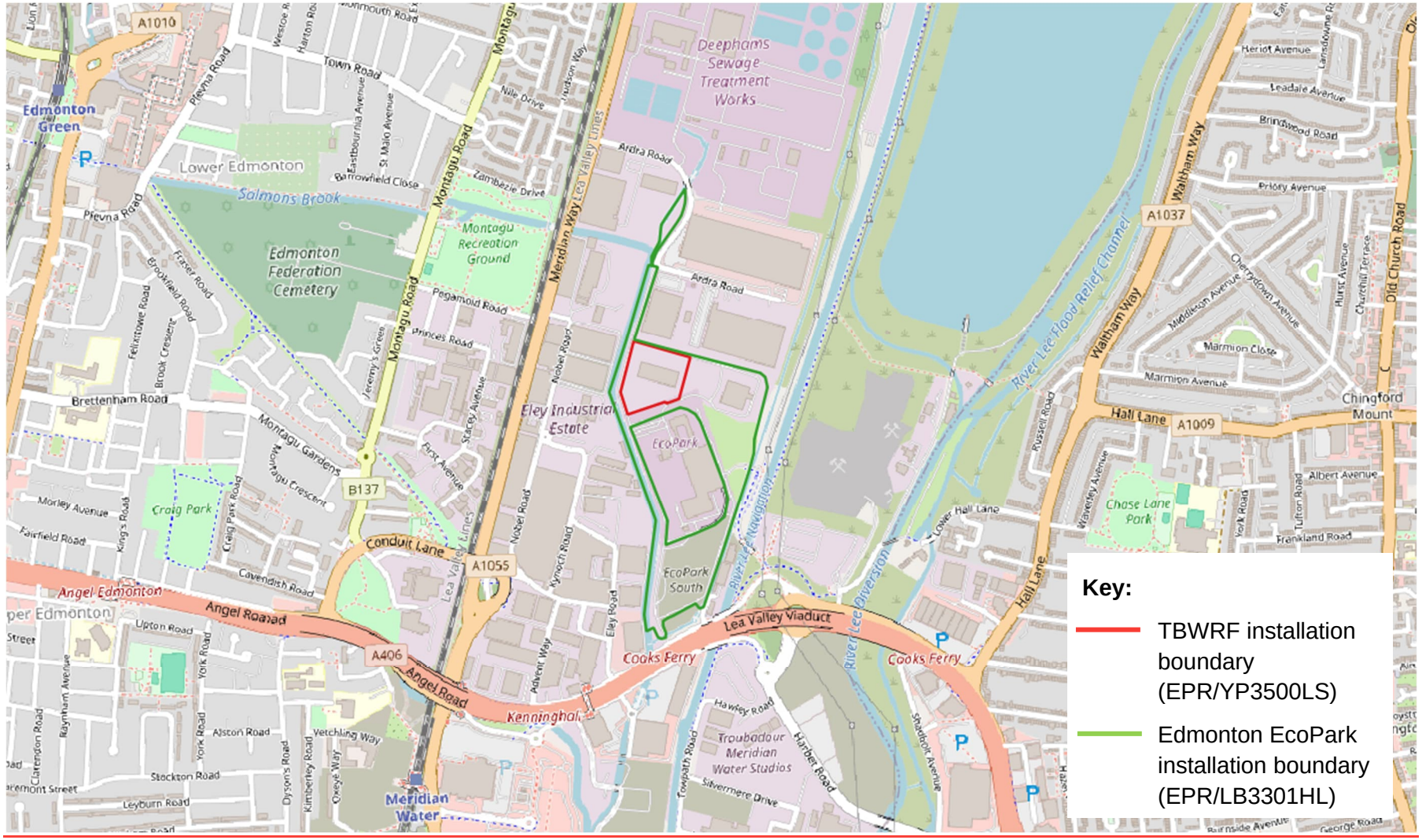
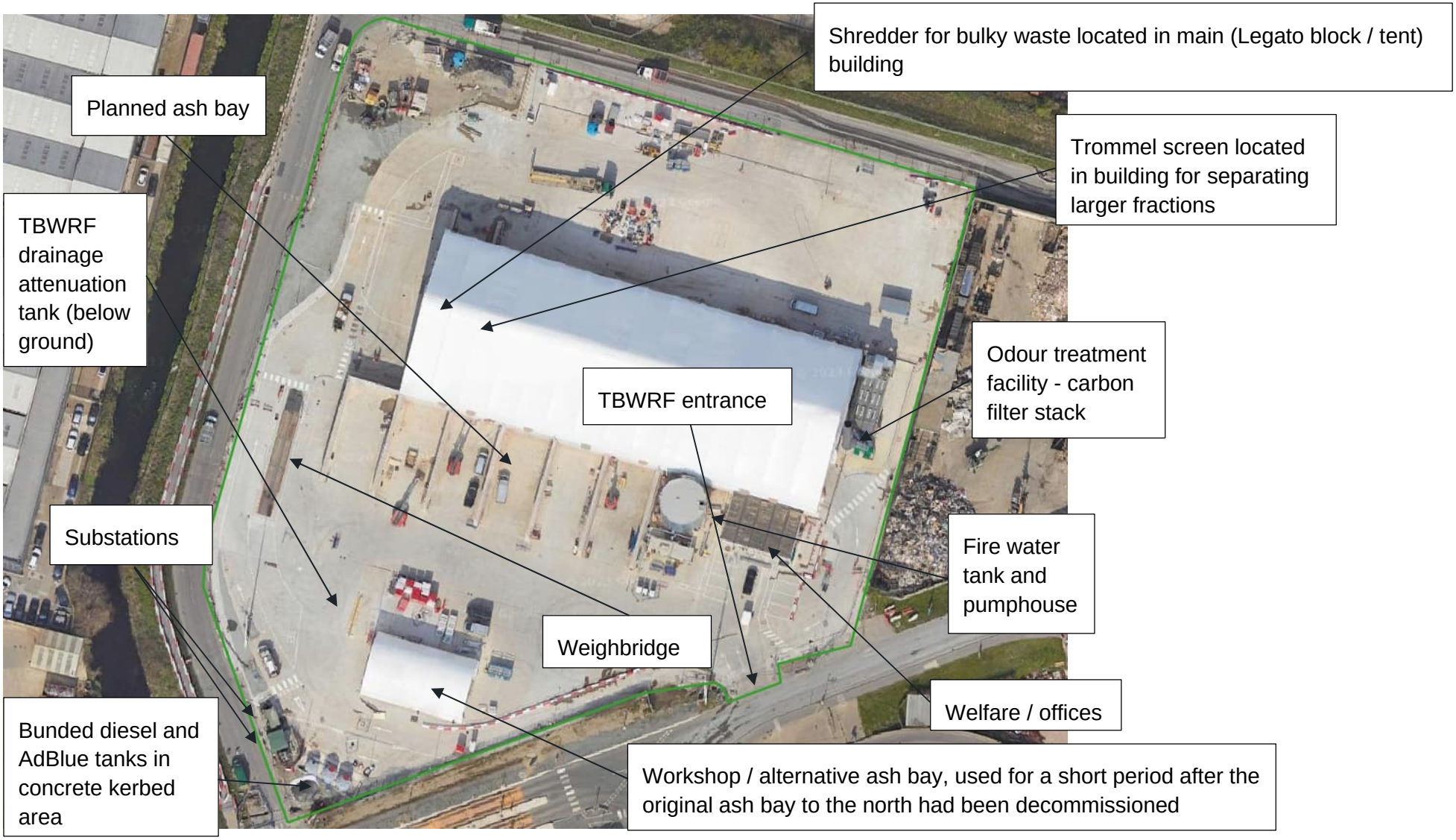


Figure 1.2 – TBWRF operational layout



2 CONDITION OF THE LAND AT PERMIT ISSUE

2.1 INTRODUCTION

This section summarises the desk-based information available to describe the condition of the land and groundwater.

ENVIRONMENTAL RISK ASSESSMENT

In accordance with UK Government Guidance, when applying for an Environmental Permit the Operator is required to assess potential environmental risks by identifying the risks, assessing significant risks, and employing appropriate control measures. The risk assessment must include potential impacts on soil or groundwater and must identify the risks that could occur and what the environmental impact could be. These include:

- Any discharge, for example sewage or trade effluent to surface or groundwater.
- Accidents.
- Uncontrolled or unintended ('fugitive') emissions, for which risks include dust, litter, pests, and pollutants that shouldn't be in the discharge.

The environmental risk assessment for the TBWRF in relation to risks to soil and groundwater from the TBWRF operational activities is presented in Table 4.9 of the Supplementary Technical Information Report submitted with the TBWRF Environmental Permit application. This identified no risks of moderate or above to ground / groundwater receptors (a classification of 'moderate' overall risk, or above, is considered not to be acceptable and requires possible further remedial measures / control mechanisms to mitigate the overall risk to an acceptable level). The potentially polluting substances associated with the TBWRF operations as detailed in the Supplementary Technical Information Report, the ASCR, and as recorded to have been present on the TBWRF during the operational phase, which could potentially be released to soil or groundwater, are summarised in Table 2.1.

Table 2-1 - Summary of potentially polluting substances associated with the TBWRF

Permit area	Activities	Associated potentially polluting substances
All areas	Waste handling, storage, treatment of waste: • Green waste • Wood • Bulky waste • Plastic • Food • Ferrous metal • Non-ferrous metal • Clinical waste (sharps waste) • Hardcore Tyres	Ammonium, chloride, metals, other inorganics, pesticides, phenol, hydrocarbons, other organics, pathogens

Permit area	Activities	Associated potentially polluting substances
Diesel tank	2 x 15,000 litre diesel and 1 x 6,000 litre AdBlue integrally bunded tanks in a reinforced concrete kerbed area draining to oil interceptor	Diesel AdBlue (urea and water mixture)
Workshop, TBWRF loading hall, external areas	Small-scale oil storage (205 litre drums or smaller) for vehicle maintenance, maintenance of non-road mobile machinery and hydraulic systems Plant and vehicles operated around the TBWRF site	Mineral oils, Lubricating oils, Hydraulic oils, Coolants
Odour control / treatment	Carbon filter material	Spent carbon filter material
Welfare / offices	Small-scale storage of cleaning chemicals (15 litre drums or smaller)	Surfactants
All areas	Fire-fighting water	Fire-fighting water

Given LEL's environmental management system, the containment measures in place, including complete coverage of the operational areas with competent hardstanding and a dedicated drainage system serving the TBWRF, and no variations to the Environmental Permit being required during the operational phase, no updates to the environmental risk assessment have been needed.

BASELINE DATA

The H5 guidance recommends that the Operator should take samples of the soil and groundwater to record a baseline of contamination levels where:

- There is evidence that existing contamination is or could be present.
- The ASCR identifies existing contaminants that may be coincidental with potential pollutants released by the installation.
- There are potential pathways by which pollutants from the installation may be released to the land or groundwater.

Although the TBWRF operations presented limited risk to soil or groundwater, the TBWRF site is located on land where existing contamination is known to be present. Baseline data for the TBWRF was presented in the ASCR. Summaries of the TBWRF site's environmental setting, and its pollution history, updated as required since the ASCR was completed[4], are presented in Table 2.2 and Table 2.3 below, respectively.

[4] The TBWRF was not constructed at the time of completion of the Application SCR and some design details were still to be confirmed.

2.2 SOURCES OF INFORMATION

The sources of information reviewed to provide information on the condition of the land and the site setting for the purposes of the SSCR are as follows:

- Wood (2022) LondonEnergy Ltd, LondonEnergy, Temporary Bulky Waste Recycling Facility (TBWRF), Edmonton EcoPark Environmental Permit Application Site Condition Report, November 2022. (Doc. Ref. 39889-WOD-41-XXX-RP-O-0029-P01.2).
- Wood (2020), North London Heat and Power Project, Northern Area - Controlled Waters Detailed Quantitative Risk Assessment (NLWA Ref. NP-WOD-41AX-XXX-RP-EN-09000, 1Wood Ref. 39889-WOD-41-XXX-RP-O-0012).
- British Geological Survey (BGS), GeoIndex, https://www.bgs.ac.uk/map-viewers/geoindex-onshore/, accessed December 2025.
- Environment Agency Catchment Data Explorer, http://environment.data.gov.uk/catchment-planning/, accessed December 2025.
- Landmark Envirocheck Report (Reference 33818613_1_1), February 2011 (Historical maps are included in Appendix B in the ASCR).
- Defra, Multi Agency Geographic Information for the Countryside (MAGIC) Interactive Map Viewer, https://magic.defra.gov.uk/MagicMap.html, accessed December 2025.
- Environment Agency Flood Mapping https://flood-map-for-planning.service.gov.uk/.
- Landmark Envirocheck® (Order ref. 33818613_1_1, 9 February 2011) (Appendix B in the ASCR).

The environmental setting of the site is summarised in Table 2.2 and the pollution history in Table 2.3.

Table 2-2 – Environmental Setting

Item	Details
Surface cover	For the operational phase, the TBWRF site was covered by an impermeable concrete slab. It should be noted that the slab has been removed during the site decommissioning and demolition process as part of 'Northern Area Clearance Works' which are the site clearance and ground works, including remediation if / as required, to prepare the northern area of the EcoPark for redevelopment as part of the NLHPP. The 'Northern Area' includes the TBWRF site and surrounding land to the north, east and south of the TBWRF within the EcoPark.
Geology	**Made Ground** The BGS GeoIndex shows no artificial ground on the TBWRF site, however, made ground is known to be present, including infilled sludge lagoons, and made ground associated with the construction of the waste management facilities.
	Superficial geology The 1:50,000 scale geology mapping and borehole records viewed on the BGS GeoIndex, record the geological sequence on the TBWRF site as made ground overlying superficial deposits of alluvium (clay, silt, sand, and gravel). The alluvium is underlain by the Kempton Park Gravel Member (river terrace deposits of sand and gravel, locally with lenses of silt, clay or peat), which rests on the underlying bedrock of London Clay.
	Bedrock Geology The BGS GeoIndex shows the TBWRF site and surrounding area are underlain by the London Clay Formation (clay, silt and sand). The London Clay overlies the Harwich

Item	Details			
	Formation (typically comprising glauconitic silty or sandy clays, silts and fine to coarse-grained glauconitic sands, some of which are gravelly, varying to flint gravel beds), which overlies the Thanet Formation (glauconite-coated, nodular flint at base, overlain by pale yellow-brown, fine-grained sand that can be clayey and glauconitic), which overlies the White Chalk Subgroup (formerly Upper and Middle Chalk). BGS records for boreholes extended into the chalk are available in the vicinity of the site. The chalk is recorded at 33m below ground level (bgl) in a borehole 430m southwest[5], at 36.5m bgl in a borehole 220m west southwest[6], at 43m bgl in a borehole approximately 175m northwest[7] and at 42m bgl in a borehole approximately 590m southeast[8].			
Geological sequence beneath the site:	**Unit**	**Thickness range**	**Average thickness**	**Description**
	Made Ground	1.0 to 7.5m	2.95m	Intermixed non-contiguous anthropogenic deposits of clayey gravels, sands, clays and gravelly clays. Gravels comprise variable proportions of flint, brick, concrete, wood, plastic, ash, clinker and metal. Occasional cobble-sized obstructions of the same materials. Clay layers are often reworked alluvial deposits or London Clay fill, with no discernible pattern.
	Alluvium	0.0 to 2.7m	1.11m	Mottled brown, orange and grey clays and sandy silty clays, with very rare flint gravel. Frequently includes pockets and beds of pseudo-fibrous to amorphous peat and organic clay.
	Kempton Park Gravel Formation	1.8 to 4.5m	3.04m	Rounded to angular fine to coarse flint and occasional quartzite and ironstone gravels, sandy gravels and sand and gravel deposits. Locally rare thin clay bands.
	Unit	**Thickness range**	**Average thickness**	**Description**
	London Clay	> 6m	Proven to 15m	Towards the base of the London Clay it becomes sandier and the boundary between this stratum

[5] BGS, GeoIndex, Borehole Records, BGS Reference: BGS ID: 13088726 : BGS Reference: TQ39SE454, British National Grid (27700) : 535330,192450. Available at: https://api.bgs.ac.uk/sobi-scans/v1/borehole/scans/items/13088726, BGS ID: 794660. Accessed December 2025.
[6] BGS, GeoIndex, Borehole Records, BGS ID: 794660 : BGS Reference: TQ39SE346, British National Grid (27700) : 535390,192730. Available at: https://api.bgs.ac.uk/sobi-scans/v1/borehole/scans/items/794660. Accessed December 2025.
[7] BGS, GeoIndex, Borehole Records, BGS ID: 794529 : BGS Reference: TQ39SE215, British National Grid (27700) : 535600,193130. Available at: https://api.bgs.ac.uk/sobi-scans/v1/borehole/scans/items/794529. Accessed December 2025.
[8] BGS, GeoIndex, Borehole Records, BGS ID: 794404 : BGS Reference: TQ39SE90, British National Grid (27700) : 536050,192370. Available at: https://api.bgs.ac.uk/sobi-scans/v1/borehole/scans/items/794404. Accessed December 2025.

Item	Details			
				and the underlying Harwich Group is difficult to define. The London Clay forms a laterally continuous, low permeability layer.
	Harwich Group	Not defined	Not defined	BGS describes as: glauconitic silty or sandy clays, silts and fine- to coarse-grained glauconitic sands, some gravelly, varying to flint gravel beds.
	White Chalk Subgroup (formerly Upper and Middle Chalk)	Not defined	Not defined	Expected to lie below 30m bgl on the site.
Hydrogeology	The Environment Agency aquifer classifications[9] relevant to the site are tabulated below along with observations of the recorded groundwater conditions onsite from previous investigations, as summarised in the controlled water Detailed Quantitative Risk Assessment (DQRA) (Wood, 2020)[10]. The overall groundwater flow direction is interpreted from the TBWRF site groundwater monitoring data reviewed for the DQRA as being towards the southwest, with local variations. Groundwater vulnerability at the site is classed as low[11]. The London Clay forms a laterally continuous, low permeability layer that separates shallow groundwater in the Kempton Park Gravel from deeper aquifers in the Thanet Sands and Chalk. Given that more than 6m of low permeability clay is present across the site, vertical migration of groundwater and contaminants from the Kempton Park Gravel onsite to underlying aquifers is considered unlikely. Further details are provided in the table below. The TBWRF site falls within an Environment Agency defined groundwater Source Protection Zone (SPZ); most of the TBWRF site is in the SPZ2 (outer protection zone), and the southeast of the TBWRF site is in the SPZ1 (inner protection zone). SPZ1 extends throughout the EcoPark and beyond to the south and southeast of the TBWRF site. Information obtained for a controlled waters Detailed Quantitative Risk Assessment (DQRA) for the northern area of the EcoPark[12], indicates that the SPZ relates to abstractions from the deep Chalk aquifer, the closest of which are Angel Road works, which abstracts for process water, and Coca-Cola, which abstracts for soft drink manufacture. These are both approximately 500m southwest of the site. There are also several abstractions operated by Thames Water, approximately 800m southeast (Lower Hall Lane and Chingford Mill). These form part of North London Abstraction and Recharge			

[9] Defra, MAGIC interactive database, view at https://magic.defra.gov.uk/MagicMap.html. Accessed: December 2025.
[10] Wood (2020), North London Heat and Power Project Northern Area - Controlled Waters Detailed Quantitative Risk Assessment (Ref. 39889-WOD-41-XXX-RP-O-0012, 7 February 2020).
[11] Defra, MAGIC interactive database, view at https://magic.defra.gov.uk/MagicMap.html. Accessed: December 2025.
[12] Wood (2020), North London Heat and Power Project, Northern Area - Controlled Waters Detailed Quantitative Risk Assessment DQRA (NLWA Ref. NP-WOD-41AX-XXX-RP-EN-09000, 1Wood Ref. 39889-WOD-41-XXX-RP-O-0012).

Item	Details		
	Scheme (NLARS), which comprises 48 boreholes in the Chalk aquifer beneath Enfield, Haringey and the Lee Valley. Water is injected into the Chalk aquifer during periods when supply is plentiful for abstraction during drought periods. This means that the NLARS boreholes are only likely to operate intermittently. There are no known groundwater abstractions from the shallow Kempton Park Gravel aquifer in the vicinity of the site.		
	Stratum	**Aquifer classification**	**Groundwater depth and flow**
	Made ground	Not classified	Groundwater has generally not been encountered in made ground. Where encountered, it was limited to isolated occurrences of perched water at elevations of between 8.3 and 11.7m AOD during monitoring. There is no evidence of a laterally continuous waterbody in made ground.
	Alluvium	Secondary 'A' aquifer	During drilling of boreholes in previous investigations, water strikes were rarely observed in this stratum. On encountering the Kempton Park Gravel, the water level commonly rose, indicating that the alluvium, along with overlying low permeability made ground, acts as a confining layer. Limited monitoring information is available for groundwater in the alluvium. Data from BH503A, installed in the alluvium in the northeast of the EcoPark, indicated a water level of approximately 9.3m AOD and little variation over three monitoring rounds.
	Kempton Park Gravel (KPG) Member	Secondary 'A' aquifer	Groundwater levels in the Kempton Park Gravel range from 1.53m to 6.14m bgl, corresponding to 5.94 to 10.51m AOD at an average elevation of 8.75m AOD. The alluvium and made ground act as confining layers to the Kempton Park Gravel, as evidenced by the potentiometric surface in boreholes rising above the top of the Kempton Park Gravel and by water strike behaviour during ground investigations. Groundwater level contours for the Kempton Park Gravel for May 2019 and September 2019 indicated flow towards the southwest, with some local variations within the TBWRF site. In the north of the site, groundwater contours indicated that flow from the northwest (from Salmon's Brook) and northeast converge on the centre of the site.
	Stratum	**Aquifer classification**	**Groundwater depth and flow**
	London Clay Formation	Unproductive Strata	Not monitored to date.
	Harwich Formation	Secondary 'A' Aquifer	Not monitored to date.
	Lambeth Group	Secondary 'A' Aquifer	Monitored on two occasions in 2019.

Item	Details		
	Thanet Formation	Secondary 'A' Aquifer	Not monitored to date.
	White Chalk Subgroup (formerly Upper and Middle Chalk)	Principal Aquifer	Not monitored to date.
Groundwater vulnerability	The MAGIC interactive map[13] reveals that groundwater vulnerability is classified as low at the site.		
Hydrology	**Surface Watercourses** Salmon's Brook is approximately 20m west of the TBWRF site and flows south. Salmon's Brook lies in the surface water catchment of Pymme's Brook and the confluence of the two watercourses is approximately 985m south of the TBWRF site. Pymme's Brook flows to the south and southwest to join the River Lee Navigation and subsequently the River Lee (also referred to as the River Lea). The catchment of Pymme's Brook is largely urban. Salmon's Brook is likely to be in hydraulic continuity with groundwater in the Kempton Park Gravels. In the north-western corner of the TBWRF site, groundwater monitoring has indicated that the groundwater flow changes locally from being generally southwest trending to being towards the southeast, as the river changes from gaining to losing water. It is assumed that this occurs during periods of high water in Salmon's Brook but water level data for the river would be needed to confirm this. Enfield Ditch runs north to south approximately 220m east of the site, and the River Lee Navigation runs parallel to it approximately 260m east of the site. This stretch of Enfield Ditch as it passes the EcoPark is usually dry. The River Lee Navigation is canalised and, therefore, is unlikely to be in hydraulic continuity with groundwater. A manmade pond is present 140m southeast of the TBWRF site, this is also not in hydraulic continuity with groundwater.		
	Surface Water Quality Under the Environment Agency's Water Framework Directive (WFD) water quality monitoring scheme[14], the TBWRF site is in the Thames River Basin District, London Management Catchment, and Lee Lower Rivers and Lakes Operational Catchment. The nearest monitored surface water is Pymme's and Salmon Brooks – Deepham STW to Tottenham Locks (described as a heavily modified river), the overall classification was moderate in 2019 and 2022 (chemical – fail*, ecological – moderate [*chemical parameters are listed as not requiring assessment in 2022]). The nearest downstream river, the River Lee, (Tottenham Locks to Bow Locks/Three Mills Lock), was classed as overall bad in 2019 and 2022 (chemical – fail*, ecological – bad [*chemical parameters are listed as not requiring assessment in 2022]).		
	Surface Water Flooding		

[13] https://magic.defra.gov.uk/MagicMap.html, checked December 2025.
[14] Environment Agency, Catchment Data Explorer, viewed at: https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3275, checked December 2025.

Item	Details
	Environment Agency flood mapping[15] shows the site is in Flood Zone 1, this means that the TBWRF site has a low probability of flooding. This means in any year land has a less than 0.1% chance of flooding from rivers or the sea. The site is considered not at risk of flooding from rivers or the sea. Flood risk areas are shown in the surrounding area to the west and in the southeast of the EcoPark.
Site drainage	The impermeable hardstanding in TBWRF operational areas drained to a TBWRF dedicated sealed drainage system discharging to the public combined sewer flowing to Deephams Sewage Treatment Works. The drainage system included fire water runoff capacity. The layout of the surface water drainage system for the TBWRF, including concrete yard areas, roofs, roads, and the staff car park area, is shown on the plans in **Appendix A**. All potentially contaminated surface drainage was directed to an attenuation tank in the southwest of the TBWRF site prior to discharge via a rising main running southwest to discharge to the public sewer system under a trade effluent consent. A Kingspan Forecourt oil interceptor was located at the surface drains serving the TBWRF diesel tank. Two drainage attenuation tanks remain in the ground in the north of the TBWRF site that were not connected to the TBWRF drainage system. These are associated with former in-vessel composting operations (IVC)[16] undertaken on the TBWRF site historically. The final decommissioned state of the IVC attenuation tanks will be reported in the Permit Surrender application for the IVC site. The TBWRF installation had no direct connection to surface water in Salmon's Brook or other watercourses.
Sensitive land uses	**Areas Designated for Ecological and Geological Conservation** Chingford Reservoirs Site of Special Scientific Interest (SSSI) is located 405m northeast of the TBWRF site and the site is within the SSSI Impact Risk Zone associated with Chingford Reservoirs. The SSSI designation relates to ecological conservation as the reservoirs are one of the major wintering grounds for wildfowl and wetland birds in the London area and hold nationally important numbers of some species. They also form a moult refuge for large populations of wildfowl during the late summer months. The SSSI encompasses a series of drinking water storage basins constructed on the floor of the Lee Valley during the early and middle twentieth century. The site is also within the SSSI Impact Risk Zone associated with Walthamstow Reservoirs SSSI, the SSSI is located approximately 2km south of the TBWRF site. The site and the surrounding area are within a nitrate vulnerable zone (NVZ).

[15] Environment Agency, Flood Map for Planning. Available at: https://flood-map-for-planning.service.gov.uk/, checked December 2025.
[16] , The in-vessel composting (IVC) installation was originally licensed under Waste Management Licence Ref. WML80714, 2005, it is also going through Permit Surrender but remains licensed under Environmental Permit No. EPR/LB3301HL/V003 which covers the EcoPark, as varied and consolidated in 2019.

Table 2-3 – Pollution History

Item	Details
Pollution incidents that may have impacted land	Prior to TBWRF operations, the TBWRF site was used as the IVC facility and the IBA plant. Prior to this, the land was first developed around the 1990s on an infilled former sewage sludge lagoon. Details are provided below in the historical land use section.
Surrounding industrial land uses	**Nearby Industrial Land Use** The TBWRF site is within the wider EcoPark where other waste management operations have taken place for decades. At the time of writing this SSCR, these operations are in various stages of Environmental Permit surrender and / or ground preparation works as part of the NLHPP, and no pollution incidents with potential to have affected the land within the TBWRF site are recorded. The TBWRF site and wider EcoPark are in a commercial land use area with industrial estates and a sewage works to the north, and industrial estates to the south and west. The potential for historical contamination to be present because of historical commercial land uses on the site and in its immediate surroundings is discussed below. No current activities with the potential to significantly affect the land quality on the site have been identified. **Control of Major Accident Hazards (COMAH)** A search of the Health and Safety Executive (HSE) public information on COMAH sites[17] identifies two COMAH sites within 1km of the site: • Thames Water Utilities Limited, Deephams Sewage Treatment Works, approximately 400m north of the TBWRF site. • Calor Gas Limited, Edmonton Calor Centre N18 3PE, approximately 250m west of the TBWRF site.
Historical land uses and contaminants	**Introduction** Earliest available mapping dated 1868 (see Appendix B in the ASCR[18]), shows the TBWRF site as marshland. Development first took place by around 1969, comprising one of several large sludge lagoons associated with the sewage works to the north (which dates from the 1930s), as shown on **Figure 2.1**. The lagoons are known to have been constructed with raised banks with bases extending down to 9.45m above Ordnance Datum (AOD). The Energy from Waste (EfW) facility southeast of the TBWRF site was the first part of the EcoPark to be constructed in the 1970s. Historical mapping shows the lagoon on the TBWRF site was infilled by 1992. Other waste management area serving the EfW facility, including the Fuel Preparation Plant (FPP) and access road around the north of the EcoPark were constructed by 1992. Incinerator bottom ash (IBA) recycling was begun on the IBA site between 1997 and 1998. The IVC plant and the outdoor area of the existing BWRF installation west of the TBWRF site were both constructed by 2004. The processes carried out historically at the IVC and IBA sites are summarised below.

[17] HSE, Public information on establishments subject to COMAH 2015. Available at: https://www.hse.gov.uk/comah/comah-establishments.htm. Accessed August 2023.
[18] Wood (2022) LondonEnergy Ltd, LondonEnergy, Temporary Bulky Waste Recycling Facility (TBWRF), Edmonton EcoPark Environmental Permit Application Site Condition Report, November 2022. (Doc. Ref. 39889-WOD-41-XXX-RP-O-0029-P01.2).

Item	Details		
	• IVC history: Under the IVC permit, municipal green and food wastes were processed to produce compost. Below ground structures included a leachate collection tank and aeration tunnel, and storm water attenuation tanks. The attenuation tanks are currently still in situ, these had to be retained for a period after IVC operations ceased to continue capture some surface drainage other installation areas in the north of the EcoPark. The leachate tank has been decommissioned and the final decommissioned state of the attenuation tanks will be detailed separately in the Permit Surrender Application for the IVC (in progress at the time of writing). • IBA history: IBA recycling began between 1997 and 1998. Aerial photography dated 1999 shows the TBWRF site being used for external storage and stockpiles of possible bottom ash are visible on the IBA site. IBA was held and sorted at the IBA facility to separate non-ferrous and ferrous metals from the ash and remove any unburnt plastics, wood and paper leaving a source of aggregate (IBAA) for use in construction applications. Ash stored in ash bays was treated by controlling its pH and screened to produce different grades of material. The treatment included allowing the IBA to dry, leachate was collected and drained into an adjacent concrete lined lagoon for settlement before being sent to the water treatment plant in the south of the EcoPark. The IBA had a sealed drainage system with a membrane beneath the concrete slab. This site had an impermeable concrete surface and a sealed drainage system flowing to a concrete lined lagoon. A controlled waters DQRA was completed that summarises data on ground and groundwater conditions for the northern area of the EcoPark, including the TBWRF site. The DQRA identifies that hazardous substances and other potentially polluting substances are present in the groundwater underlying the TBWRF site. The potential contamination sources affecting the TBWRF site, including the potentially polluting substances stored and handled during previous operations, are summarised in the table below.		
	Source	**Description**	**Potentially polluting substances**
	Made ground: infilled historical sludge beds	No detailed information available	Metals, hydrocarbons, asbestos, other organic and inorganic contaminants including ammonium, ground gas
	Municipal green and food waste processing to produce compost. Leachate storage (IVC)	Process located on hardstanding with leachate drainage system	Ammonium, chloride, metals, pesticides, phenol
	Historical use of the incinerator bottom ash recycling facility (IBA)	Historically ash stockpiles were present directly adjacent to the site, and they may have extended onto the	Metals, pH, polyaromatic hydrocarbons (PAHs), dioxins

Item	Details		
		site prior to construction of the IVC	
	Made ground perched groundwater	Perched groundwater found in the made ground in the north of the EcoPark has been identified to contain detectable concentrations of potentially polluting substances	Ammonium, dissolved metals, and potential PAH, total petroleum hydrocarbons (TPH), localised phenol and pesticides
	Kempton Park Gravel aquifer	Water in the Kempton Park Gravel aquifer in the north of the EcoPark has been identified to contain detectable concentrations of potentially polluting substances	Ammonium, dissolved metals, phenols, localised pesticides, PAH and TPH.
	Figure 2.1 Historical aerial photograph showing sludge lagoons (c. 1969) 		
Visual and/or olfactory evidence of existing contamination	The TBWRF facility was purpose-built with all operational areas covered by hardstanding and a dedicated new drainage system, no visual or olfactory evidence of land contamination was, therefore, identified during the operations.		
Evidence of damage to pollution prevention measures	The TBWRF facility was constructed with purpose-built pollution prevention measures, no damaged pollution prevention measures were recorded.		

Item	Details
Evidence of historical contamination, for example, historical site investigation, assessment, remediation and verification reports	The TBWRF ASCR presents baseline soil and groundwater data for the TBWRF site at the start of the permitted operations. Although the environmental risk assessment accompanying the Environmental Permit Application for the TBWRF[19] found no risks of moderate or higher in relation to risks of accidental releases to soil and groundwater, it is acknowledged in the ASCR that contaminants are present in the ground and groundwater beneath the TBWRF site due to historical waste management operations, and in some instances these correspond to contaminants that could have been released from the TBWRF. This data is summarised in the ASCR.
Baseline soil and groundwater reference data	See Section 2 of the ASCR.
Supporting information	Relevant referenced reports: • Wood (2020) London Energy Limited, Bespoke Permit Application – Temporary Bulky Waste Recycling Facility / Fuel Preparation Plant Supplementary Technical Information Report, November 2020. (Doc Ref. 39889-WOD-41-XXX-RP-O-0028). • Wood (2022) LondonEnergy Ltd, LondonEnergy, Temporary Bulky Waste Recycling Facility (TBWRF), Edmonton EcoPark Environmental Permit Application Site Condition Report, November 2022. (Doc. Ref. 39889-WOD-41-XXX-RP-O-0029-P01.2). • Wood (2020), North London Heat and Power Project, Northern Area - Controlled Waters Detailed Quantitative Risk Assessment DQRA (NLWA Ref. NP-WOD-41AX-XXX-RP-EN-09000, 1Wood Ref. 39889-WOD-41-XXX-RP-O-0012).

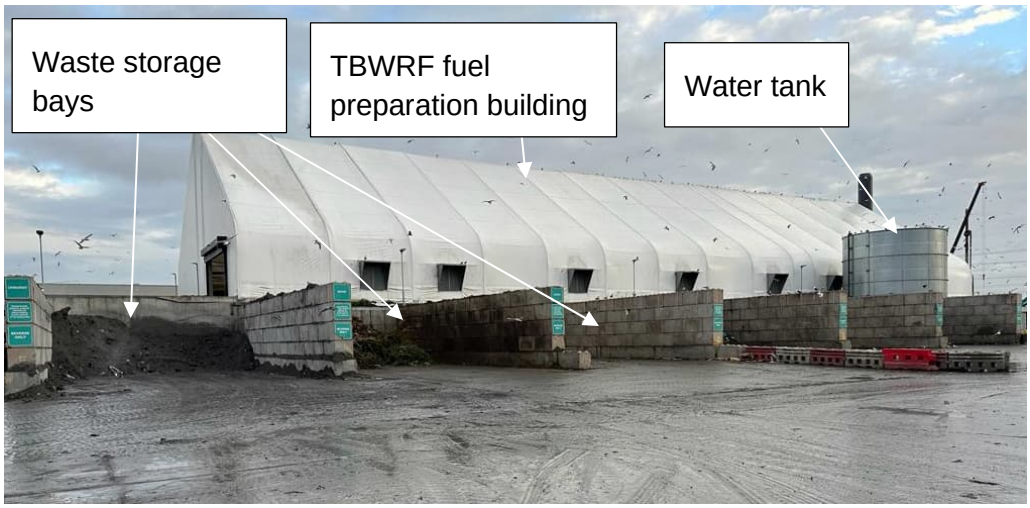
[19] Table 4.9 of the of the Supplementary Technical Information Report: Wood (2020) London Energy Limited, Bespoke Permit Application – Temporary Bulky Waste Recycling Facility / Fuel Preparation Plant Supplementary Technical Information Report, November 2020. (Doc Ref. 39889-WOD-41-XXX-RP-O-0028).

3 PERMITTED ACTIVITIES

In accordance with Environment Agency H5 guidance, Table 3.1 provides information on the activities undertaken at the installation. The activities have now all ceased; however, the sections below describe the activities that took place during the lifespan of the TBWRF facility.

Table 3-1 – Permitted Activities

Item	Description
Introduction and process overview	The primary function of the TBWRF was the sorting and recovery of municipal waste materials for onward distribution to suitably licenced recycling and disposal facilities. The permitted activities at the TBWRF under the Regulations were as follows: Section 5.4 (Disposal, recovery or a mix of disposal and recovery of non-hazardous waste) Part A (1)(a)(ii) activity (shredding, manual sorting or manual separation of non-hazardous, non-metallic waste for size reduction and to aid waste handling prior to off-site disposal through incineration) with two additional waste activities consisting of a household, commercial and industrial waste transfer station and the mechanical treatment of non-hazardous ashes. The TBWRF was only intended to operate for a short period (12-18 months) to serve the existing EfW facility and replace the key functions of the BWRF and FPP in the northern area of the EcoPark, while land in the northern area of the EcoPark was gradually released (though the 'Northern Area Clearance Works') to enable construction of the ERF as part of the NLHPP. Full capacity for the TBWRF was 220,000 tonnes of waste annually. The main activities carried out at the TBWRF comprised: • Waste reception and transfer: reception and bulking of municipal wastes (e.g. bulky waste, street cleaning, fly-tipped, highways waste, construction and demolition) and visual inspection for items unsuitable for combustion or requiring shredding; • Shredder: size reduction, targeted at suitable portions of waste, residual waste, bulky waste, street cleaning, and any other oversized combustible wastes extracted from other incoming residual wastes; • Third party waste transfer: reception and bulking of suitable third-party residual wastes. Minimal pre-treatment was required prior to transfer to the EfW plant, other than visual inspection for items unsuitable for combustion or requiring shredding/sorting; • Organic waste transfer: for deliveries of food, mixed food/garden, kerbside green and other green waste, in a separate transfer area with dedicated drainage and odour control; • Clinical waste transfer: bulking of non-hazardous clinical wastes for transfer to suitable third-party sites, in a separate area with impermeable surfaces that could be regularly cleaned and disinfected; and • Screening: sorting of unburnt and oversized ash into different fractions (in a designated ash bay). Plant operated at the TBWRF facility included: • Shovel loaders and 360º excavators to sort and transfer wastes • Shredder • Screening equipment • Bulky waste picking station (elevated cabin with bulking bays underneath) • Road sweeper • Containers • Roll on-roll off (Ro-Ro) bulker to handle containers

Item	Description
	LEL's procedures for environmental management of the TBWRF included recorded regular inspection and maintenance of storage areas, including drums, vessels, hardstanding in operational areas and bunds to alert site management to signs of damage, deterioration or leakage.
Site description	The layout of TBWRF during the operational phase is shown on Figure 1.2. The TBWRF installation included a covered fuel preparation building, housing a shredder for shredding of large non-recyclables such as mattresses or furniture will take place. Other activities undertaken in the building include bulking of food waste, gully waste, street sweepings, mixed food and garden waste (BIOK) and residual waste, for transfer to the EfW. Waste would either be prepared for incineration at the EfW or bulked and prepared for transfer to an offsite licensed facility when the EfW incinerator was closed. The covered fuel preparation building was entirely above ground and of Legato blocks (pre-fabricated concrete block) construction with a plastic cover. Railway shutter doors were located at the tipping points to allow bioaerosol emissions to be contained during tipping. The TBWRF also had outdoor bays and waste sorting areas, with one bay designated for ash.  Waste types accepted at the TBWRF included: green waste, wood, fly tip, rubble, street cleaning waste, construction waste, bulky waste, tyres, infectious clinical bags and sharps, broken wheelie bins. Waste was delivered to the TBWRF site and tipped by caged vehicles and roll-on, roll-off vehicles into the appropriate clearly labelled waste bays. Residual waste, food waste, BIOK and shredded waste was stored in designated clearly labelled bays within the covered fuel preparation building. The TBWRF included staff offices and welfare facilities, access roads and staff parking area, a vehicle/plant repair workshop (laterally this was used as an ash storage facility when the designated ash storage bay was not available), and vehicle refuelling facilities (bunded diesel and AdBlue storage and pumps in a concrete bund) in the southwest of the TBWRF site. A one-way system was in place for waste vehicles circulating in the TBWRF site. The vehicle refuelling area included an above ground bulk diesel tank with further details provided below.

Item	Description
	The installation had a fire suppression system including a fire water tank and water cannons and a fire water run-off containment system (comprising hardstanding and kerbing, dedicated surface drainage system and an attenuation tank with pumped discharge to combined sewer). The fire water tank was filled using the towns water supply. Minimal water use took place in the TBWRF e.g., for washing down and staff amenity uses. The waste bay sizes were based on the Environment Agency's Fire Prevention Plan guidance document.
Waste storage and handling	**Incoming waste** Waste delivery and waste collection vehicles entered the TBWRF from the southern entrance via the EcoPark and once on the TWBRF were signposted round the one-way system. Waste arriving on site from external suppliers was directed via the weighbridge, where the total waste and vehicle was weighed, and the vehicle was then reweighed on exit from the site, with the difference giving the total mass of the waste deposited for processing. Some bulky waste was via internal transfers from the EfW for additional treatment prior to being returned to the EfW. Waste was only supplied from approved sources in accordance with the acceptance procedure to confirm the characteristics of the waste based on the delivery notes and/or the agreed contracts. All vehicles passed through an automatic number plate recognition system prior to accessing the TBWRF to log the registration and check for approval prior to waste deliveries. From the weighbridge, the incoming vehicles were directed to the appropriate area within the TBWRF, with use of a banksman as needed to direct the traffic. The TBWRF received and sorted a variety of wastes to recover items for re-use, recycling, or further processing. The facility included equipment to remove recyclables from residual and bulky waste and segregate any remaining residual waste suitable for thermal treatment so that it could be transported to the EfW for energy recovery. The facility used push walls to assist with waste segregation. Collected food and garden waste was received and bulked for transport to composting facilities (offsite). Non-recyclable materials and non-combustible waste materials were collected in sealed vehicles and sent for disposal to third parties offsite, where no recovery option was available.
Fuels and oils	**Fuel Storage/ Handling** Two above ground integrally bunded (to 110% of the tank capacity) and interlinked 15,000 litre diesel storage tanks and one integrally bunded (to 110% of the tank capacity) 6,000 litre AdBlue tank were located within a concrete kerbed area in the south of the TBWRF. These were used for refuelling of waste vehicles and site vehicles (see photograph below). The kerbed area was protected by heavy duty crash bollards and drained to an oil interceptor. All pipework was above ground and located within the bund. The filling hoses for the diesel and AdBlue tanks were located within the cabinets attached to the tanks and, therefore, kept within the tank bunds' lockable cabinets when not in use. Refuelling pumps had a valve in the feed line to prevent the tank contents emptying accidentally. Spill kits were held at the refilling area. The refuelling area was surfaced with impermeable hardstanding, with local surface drainage to a Kingspan Forecourt oil interceptor before reaching the attenuation tank.

Item	Description
	 **Vehicle Repair Workshop** A vehicle repair workshop was located in the south of the TBWRF site to enable site vehicles and waste delivery/collection vehicles to be repaired onsite as required. The facility was fully enclosed and of similar construction to the main TBWRF building, based on impermeable concrete hardstanding, with no internal drainage system. Spill kits were held within the workshop. The workshop was used for storage of oils for vehicle maintenance, maintenance of non-road mobile machinery and hydraulic systems, in 205 litre drums or smaller containers (consumption of oil <1 tonne per year). All drums used were 'UN' approved and located on secondary containment (e.g. a drip tray) with a capacity equal to or more than one quarter of the drum, or one quarter of the combined capacity of the drums held.
Chemicals	**Odour control** The TWBRF included an odour treatment facility, using an activated carbon odour filtration system. Activated carbon was stored in a steel silo at the odour control plant at the east side of the main building. The odour control facility was located on impermeable concrete hardstanding. **Cleaning Chemicals** Cleaning chemicals were held on site for cleaning and disinfecting operational areas and for cleaning offices and welfare areas, in small quantities only (15 litre drums or smaller), stored in labelled lockable cupboards and handled in compliance with the Control of Substances Hazardous to Health Regulations 2002, as amended.
Site drainage	The TBWRF had its own surface water drainage system, with all operational areas draining to a buried drainage system served by an attenuation tank, which discharged to the public combined sewer via rising main, as detailed in Table 2-2Error! Reference source not found.. Foul drains serving the office block and welfare facilities discharged to the public sewer to the southeast, via a separate connection connecting to other foul drains in the EcoPark. The TBWRF was designed to enable fire-fighting water in operational areas from sprinklers, water cannons etc., to accumulate within either the building or the outside waste bays and the attenuation tank, to enable fire-fighting water to be tested and

Item	Description
	discharged to the public sewer if in accordance with the existing trade effluent consent, or to be pumped out to vacuum tanker for suitable licensed disposal offsite if not. Prior to TBWRF operations commencing a drainage survey was completed[20], this found some minor improvement works were needed to the system. All required actions are noted as closed (completed) on the drainage report. There were no emissions directly to surface water from the TBWRF. The emissions to sewer were sampled periodically, in accordance with the agreed trade effluent discharge consent in place from Thames Water for the EcoPark. As no process effluent was produced by the TBWRF, no monitoring was required at the point of release from the TBWRF.
Environmental management procedures	LEL's environmental management programme was implemented at the TBWRF facility. This was in accordance with the requirements of a formal EMS, meeting the requirements of a recognised standard and was certified to the ISO 14001:2004 Environmental Management System standard. The comprehensive working plan for the operations of the BWRF/FPP was adapted by LEL as required for the TBWRF. The key aspects of the environmental management programme and arrangements were:- • Operations and maintenance: The environmental management arrangements formed part of the sites Operational Management Plan (OMP) and working plans for the individual operations. These, with associated procedures, described how the facility was operated to comply with permit conditions and avoid or minimise environmental risks and impacts from the normal running of the facility. This included start-up and shut-down of the plant and variations in the waste composition received. The management system also included procedures relating to waste acceptance, the inspection of environmentally critical equipment, and operational logs which supported compliance with permit conditions. • Competence and training: The management system linked the competency of resources to operate the processes in compliance with permit conditions to operational procedures. This addressed requirements including, defining roles and responsibilities, defining competency requirements and assessment, training needs analysis and provision, training records and register, and periodic competency and operational review and assessment. • Accidents, incidents and non-conformance: The safe operation of the Edmonton EcoPark, including the TBWRF, was underpinned by the 'Safety through design' approach, applied to the design of all aspects of equipment, plant and operational plans for the facility. The approach to avoiding accidents incorporated significant mitigation measures and a comprehensive emergency plan to respond to a range of potential emergencies, should an accident have occurred. The accident management plan (AMP) formed the basis of the TBWRF AMP, which formed part of the OMP and included accidents with the potential to impact the environment and result in non-compliance with permit conditions.

[20] Taylor Woodrow (2022) Record Pack, GALLDRIS - Drainage Works (Site Wide), Document No: NP-GLD-41XX-XXX-HD-XA-000034, Rev P02.

Item	Description
	• The emergency plans included detailed responses to potential accident scenarios, linked to the induction plan for each person, and the training requirements to give operators the necessary skills to work safely. • Fire Prevention Plan: Detailed fire prevention plans used in tandem with the site's OMP and working plan.
Non-permitted activities undertaken	None identified.
Document references	The following figures are presented in Appendix A: • TBWRF drainage layout plans, Ref. NP-GLD-41XX-GF0-DR-CE-052002 (two sheets).

4 CHANGES TO THE ACTIVITY

During the latter stages of the operational phase, a minor change to ash storage arrangements was agreed between LEL and the Environment Agency. The ash bay was decommissioned and ash was temporarily stored and sorted in the workshop in the southwest of the TBWRF site. This was a minor change and LEL confirmed with the Environment Agency that this did not necessitate an Environmental Permit Variation. The ash storage ceased in June 2023.

Table 4-1 – Changes to the Activity

Item	Details
Have there been any changes to the activity boundary?	No
Have there been any changes to the permitted activities?	No
Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a result of the permitted activities?	No

5 MEASURES TAKEN TO PROTECT THE LAND

This section details records collected by LEL during the life of the permit to provide evidence of whether pollution prevention measures at the site were effective.

Table 5-1 – Measures taken to protect the land

Item	Details
Checklist of supporting information	LEL operates an environmental management programme for the EcoPark, including the TBWRF, that is in accordance with the requirements of a formal EMS, meeting the requirements of a recognised standard and is certified to the ISO 14001:2015 Environmental Management System standard. This was operated during the TBWRF operations, and key aspects of the environmental management programme and arrangements are as follows:- • Operations and maintenance: The environmental management arrangements form part of the sites Operational Management Plan (OMP) and working plans for the individual operations at the EcoPark, including the TBWRF. These, with associated procedures, describe how the TBWRF was operated to comply with permit conditions and avoid or minimise environmental risks and impacts from the normal running of the facility. A copy of the TBWRF Working Plan is included in **Appendix B**. The plan included procedures relating to waste acceptance, the weighbridge, waste tipping, waste storage, use of the shredder, the unburnt waste process (for the by-products of incomplete combustion at the energy centre including ash), quarantine of non-conforming waste, maintenance and inspection of environmentally critical equipment, health, safety, security and environment (HSSE) procedures. The TBWRF Working Plan referenced LEL's procedure for the storage, handling, use and clean-up of any spillages of oils, diesel and chemicals which was applied at the TBWRF (see **Appendix B**). The plan also included use of a plant daily checklist which would pick up any environmental issues with vehicles such as oil leaks. • The TBWRF had its own Fire Prevention Plan[21], which included waste storage procedures to minimise the risk of a fire and measures for the management of fire-fighting water. • Competence and training: The management system links the competency of resources to operate the processes in compliance with permit conditions to operational procedures. This defines roles and responsibilities, competency requirements and assessment, training needs analysis and provision, training records and register, and periodic competency and operational review and assessment requirements. • Accidents, incidents and non-conformance: The safe operation of the Edmonton EcoPark, including the TBWRF, is underpinned by the 'Safety through design' approach, applied to the design of all aspects of equipment, plant and operational plans for the facility. The approach to avoiding accidents incorporates significant

[21] LEL (2021) Fire Prevention Plan: Temporary Bulky Waste Recycling Facility (TBWRF). Ref. MSP 521V - Issue 1 - April 2022.

Item	Details
	mitigation measures and a comprehensive emergency plan to respond to a range of potential emergencies, should an accident occur. LEL have an accident management plan (AMP), which forms part of the OMP and includes accidents with the potential to impact the environment and result in non-compliance with permit conditions. The pollution prevention infrastructure including hardstanding, waste storage bays, quarantine bay, diesel storage area and drains were subject to regular inspections and maintenance, and LEL holds records of inspection and maintenance actions completed. Examples of completed visual inspections of the TBWRF are included in **Appendix B**.
Document references	• LEL (2022) TBWRF Working Plan, March 2022, Version No.3. (**Appendix B**). • LEL (2022) MSP130: Oil, Diesel and Chemicals – Storage, Handling, Use and Spillages (**Appendix B**). LEL Workplace Inspection Log examples: 30 November 2022, 14 & 19 December 2022. (**Appendix B**).

6 POLLUTION INCIDENTS THAT MAY HAVE AN IMPACT ON LAND, AND THEIR REMEDIATION

This section is intended to describe pollution incidents that may have damaged the land during the permitted operations, and any subsequent investigation and remediation.

LEL has confirmed that its monitoring data and spill records indicate that no significant liquid spills occurred that could have impacted soil or groundwater on the site. Some minor spillage incidents were recorded at the TBWRF site during its operational phase (as detailed in **Appendix C**). These occurred on hardstanding, were small-scale and cleaned up promptly, no requirement for ground investigation has therefore been identified.

A Compliance Assessment Report (CAR) was issued by the Environment Agency on 25 October 2022 following an inspection of the TBWRF. This found some issues with waste storage, which were addressed by LEL, as detailed in Table 6-1Error! Reference source not found., and no potential for impacts to ground were identified.

Table 6-1 - Supporting information in relation to pollution incidents to land

Item	Details
TBWRF – incident log (Appendix C)	Eight minor occurrences and one moderate severity are recorded between March 2022 and January 2023. None of these is identified as having potentially impacted soil or groundwater.
Environment Agency EPR Compliance Assessment Report	The TBWRF was inspected on 25 October 2022 by the Environment Agency. The attending inspector found three non-compliances (rated as C2, C3 and C4). These related to the presence of waste around the site, not in designated areas, due to building constraints, open roller doors on the main building (due to a design fault), and consequent potential for fugitive emissions. LEL was asked to issue regular updates to the Agency on its actions to ensure waste emissions were minimised. In response to the CAR, LEL provided regular information to the Environment Agency to demonstrate that operations were compliant with the Environmental Permit. This included provision of daily photographs showing the condition of the site. LEL engaged a contractor to restore the roller shutter doors function, or, where this was not possible, to permanently close them. None of the non-compliances was found by the Environment Agency or LEL to have potentially impacted soil or groundwater.

7 SOIL, SOIL GAS AND WATER QUALITY MONITORING

The baseline ground condition of the TBWRF site is documented in the TBWRF ASCR[22]. The TBWRF only operated for a short period (a total of 15 months, with most operations having ceased within 11 months) and was operated entirely on hardstanding. No soil monitoring was, therefore, undertaken during operational phase of the TBWRF, nor was soil sampling undertaken during decommissioning, due to the low risk of ground contamination having occurred during its operations. All potentially polluting substances were removed from the TBWRF prior to demolition activities taking place (see **Section 8**).

A network of groundwater monitoring wells at the EcoPark is used for bi-annual groundwater monitoring, sampling and chemical testing to assess whether activities carried out at the EcoPark, including permitted operations at the TBWRF, are having a significant effect on groundwater quality. The latest available report on groundwater monitoring at the EcoPark and including monitoring locations in proximity to the TBWRF is the Edmonton EcoPark Site Protection and Monitoring Programme 2024 Annual Report[23]. This presents the findings of groundwater monitoring completed in 2024, after decommissioning and demolition of the TBWRF.

During this monitoring period it was noted that construction works were ongoing for the new ERF in the north of the EcoPark. Due to the site redevelopment works, a programme of decommissioning and replacement of groundwater monitoring wells has been completed. Table 7-1 summarises the wells relevant to the IVC site, and their locations on the site are shown on Figure 7.1.

Groundwater monitoring was undertaken on a six-monthly basis in accordance with the site monitoring programme agreed with the Environment Agency. This included measurement of groundwater levels and thickness of light and dense non-aqueous phase liquids (LNAPL / DNAPL), if present, using an interface probe, inspection of the well condition, field testing for water quality parameters including pH, conductivity, temperature, dissolved oxygen and redox potential, and groundwater sampling and laboratory chemical analysis for:

- Inorganics and water quality indicators: pH, sulphate, sulphide, chloride, ammonium, nitrate, metals/ metalloids, chemical oxygen demand (COD) and hardness; and
- Organics: polycyclic aromatic hydrocarbons (PAHs), phenols, total petroleum hydrocarbons (TPHs), volatile organic compounds (VOCs), benzene, toluene, ethylbenzene and xylenes (BTEX).

Table 7-1 – Monitoring Well Network at the TBWRF Site (2023 – 2024)

Well ID	Location	Comments
BH101 / BH201R	Northwest (upgradient of all permitted areas including the IVC site)	BH101 replaced by BH201R after May 2023

[22] Wood (2022) LondonEnergy Ltd, LondonEnergy, Temporary Bulky Waste Recycling Facility (TBWRF), Edmonton EcoPark Environmental Permit Application Site Condition Report, November 2022. (Doc. Ref. 39889-WOD-41-XXX-RP-O-0029-P01.2).
[23] WSP (2025) North London Waste Authority, NLHPP, Edmonton EcoPark Site Protection and Monitoring Programme 2024 Annual Report (Ref. NP-XXXX-XXX-RP-EN-100006 P01, July 2025).

Well ID	Location	Comments
BH302R	West of the IVC site	-
BH113	Southwest of the IVC site	-

Groundwater was tested for pH, sulphate, sulphide, chloride, ammonium, nitrate, metals / metalloids, chemical oxygen demand (COD) and hardness, polycyclic aromatic hydrocarbons (PAH), phenols, total petroleum hydrocarbons (TPHs), volatile organic compounds (VOCs), benzene, toluene, ethylbenzene and xylenes (BTEX).

The nearest groundwater monitoring wells to the TBWRF still present / in use are BH302R (replaced BH302), BH101 c.10m northwest of the TBWRF, and BH113 and BH114, approximately 45 to 50m southeast (see **Figure 7.1**).

Summary findings of the 2024 report (which includes comparison of 2024 results with 2023 monitoring) are presented below.

BH302R was not accessible for monitoring in October 2024 but was available for the other monitoring rounds. All other wells in or in proximity to the site, as defined in Table 7-1, were accessible for monitoring.

No LNAPL or DNAPL was identified in the wells around the TBWRF site or elsewhere within the EcoPark during 2023 or 2024 monitoring rounds.

Trigger values are used in the report to provide a point of comparison for the annual groundwater monitoring results.

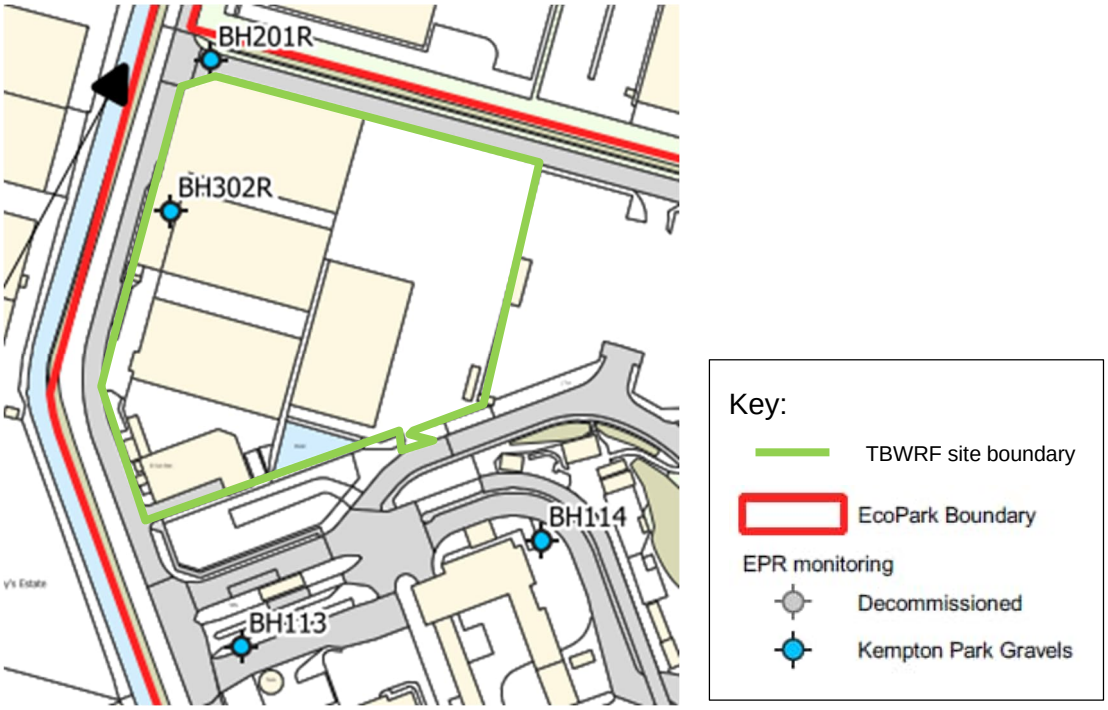
The first monitoring round following completion of decommissioning work at the TBWRF (completed by June/ July 2023 – see Section 8) was in October 2023. There were no trigger value exceedances for inorganic or organic contaminants at any relevant wells.

In 2024, an ‘eggy odour’ was recorded at BH113 and BH114 in the May monitoring round. BH114 also had a fuel odour and possible sheen, however no trigger values were exceeded for hydrocarbons or other organic contaminants in this round. Laboratory testing for BH113 found no sulphide or sulphate above trigger values. Sulphide above the lower trigger value (Trigger 1) was observed in BH114 and BH201R in May 2024. There were also exceedances of the lower trigger value (Trigger 1) for chloride and boron in BH302R in May 2024. All target inorganic contaminants were below the trigger values in the October 2024 monitoring round.

There were no trigger value exceedances for organic contaminants in BH201R, BH302R or BH113 in the 2024 monitoring results. However, during the October 2024 monitoring event, both TPH and PAH compounds were detected at concentrations exceeding Trigger 2 levels in BH114. In BH114, total PAHs measured at 23.5 µg/l and TPH at 580 µg/l, primarily within the aliphatic C12–C21 and aromatic C16–C21 fractions. Following these exceedances, resampling of BH114 was conducted in November and December 2024. No organic contaminants were detected above laboratory limits in these follow-up samples.

The report recommended that the Environmental Monitoring Programme continue as bi-annual (six monthly) sampling, from the same network of monitoring wells.

Figure 7.1 Excerpt from WSP (2025) Edmonton EcoPark Site Protection and Monitoring Programme 2024 Annual Report, Borehole location plan



DSM Demolition Limited (DSM) carried out demolition work on the TBWRF site as part of the Northern Area Clearance Works. No groundwater monitoring was undertaken specifically for these works, however, the bi-annual monitoring of groundwater at the EcoPark continued beyond TBWRF permit surrender. No pollution incidents were recorded during DSM's activities on the TBWRF site and no pollution was encountered by DSM during their ground works within the TBWRF site.

SUMMARY OF SOIL AND GROUNDWATER DATA HELD PRIOR TO SITE DECOMMISSIONING

The regular groundwater sampling data collected on an ongoing basis by LEL during the operation and decommissioning of the TBWRF does not indicate deterioration in groundwater quality local to the TBWRF site due to the TBWRF operations.

No soil sampling was completed for the ASCR for the TBWRF and no soil sampling has been carried out to support the TBWRF Permit Surrender. This is due to the low risk of emissions to ground occurring from the installation given the pollution prevention measures in place and the TBWRF's short period of operation. No evidence of ground contamination caused by the TBWRF operations was encountered by the contractors carrying out the Northern Area Clearance Works within the TBWRF site, which included removal of the concrete slab.

No pollution incidents were recorded to have occurred during the Northern Area Clearance Works undertaken within the TBWRF site by DSM.

8 DECOMMISSIONING AND REMOVAL OF POLLUTION RISK

The TBWRF has been decommissioned and demolished to enable the Northern Area Clearance Works.

To enable the TBWRF closure and decommissioning the following actions were taken by LEL:

- The contents of the diesel tanks and AdBlue tank were used up by site vehicles to empty the tanks prior to the site being handed over to the demolition contractor DSM.
- To divert incoming bulky waste, LEL put in place a waste diversion plan which included the use of two of LEL's offsite waste transfer stations and other suitably licensed third party waste management facilities to divert all incoming waste away from the TBWRF and enable waste to be prepared offsite for incineration at the EcoPark. This enabled LEL to cease waste processing at the TBWRF and the TBWRF site to be cleared of waste by week beginning 13 February 2023, following the last process run and removal of the processed waste.
- Following the last use of the site by LEL (June 2023), the TBWRF attenuation tank was emptied using the existing system i.e. by pumping out to public sewer using the downstream pumping station.
- To enable the Northern Area Clearance Works to progress in the central and northern areas of the TBWRF site, LEL agreed with the Environment Agency that ash could be temporarily stored in the workshop building in the southwest of the TBWRF site. The TBWRF operations ceased in June 2023 once all ash had been removed from the TBWRF site.
- The activated carbon in the odour control unit was removed during removal of the structure by DSM during their demolition work[24]. During their demolition work at the TWBRF, DSM verified all waste carriers and disposal points and all individual duty of care notes and hazardous waste consignment notes were inspected and evidence obtained that materials were taken to the stated disposal point.

Following completion of decommissioning, demolition works have been completed within the TBWRF site as part of the Northern Area Clearance Works. DSM was appointed by the North London Waste Authority to undertake clearance of the TBWRF.

The TBWRF site was divided into three zones for the purposes of the demolition works: Zones 1a, 1b and 2, described below in chronological order of demolition work being undertaken:

- Zone 2 (the eastern portion of the TWBRF site) was accessed by DSM on 1 March 2023 and was handed over to LEL following completion of the required demolition works on 5 May 2023[25].
- Zone 1a (the western half of the TBWRF site, excluding the southwest corner) was accessed by DSM on 6 March 2023 and was handed over to LEL on 16 June 2023.[26]

[24] DSM (2023) Contractor Completion Report – TBWRF Zone 2) NP-DSM-41XX-XXX-RP-WA-000002.
[25] DSM (2023) Contractor Completion Report – TBWRF Zone 2) NP-DSM-41XX-XXX-RP-WA-000002.
[26] DSM (2023) Contractor Completion Report – TBWRF Zone 1a) NP-DSM-41XX-XXX-RP-WA-090045.

- Zone 1b (the southwest corner of the TBWRF site) was accessed by DSM on 26 June 2023 and was handed over to LEL on 14 July 2023.[27]

DSM's work was carried out in accordance with the following specifications produced by Wood / WSP on behalf of North London Waste Authority, which effectively formed the plan for decommissioning and partial demolition of the TBWRF (see **Appendix D**);

- Schedule 3a: Scope: Client's Requirements – Part 2 Site Clearance Works (Issue 02, December 2021) Ref. NP-WOD-E3BX-XXX-CC-ZZ-090029.
- Ref. NP-WSP-E3BX-XXX-CC-ZZ-090045 – details scope changes to the above item.
- Ref. NP-WOD-41XX-XXX-DR-CE-061082 – NAC ZONE 1 AND 2 (TBWRF / FPP) PROPOSED FINISHED LEVELS – plan showing retained structures and works required for TBWRF structures for the Northern Area Clearance Works.

Schedule 3a: Scope: Client's Requirements – Part 2 Site Clearance Works is the document setting out specific requirements relating to soil and groundwater including the protection of infrastructure such as existing groundwater monitoring wells, specific measures for removal of drains to prevent these becoming a pathway for groundwater migration, control of groundwater in excavations, protocols to be followed in the event that contaminated water or other suspected contaminated material was encountered during the works and re-use of excavated soils in compliance with the CL:AIRE "Definition of Waste: Development Industry Code of Practice". Compliance included but was not limited to developing and implementing a Materials Management Plan (MMP).

DSM's scope of works in the eastern portion of the TBWRF site (Zone 2) and in the western half of the TBWRF site, excluding the southwest corner portion of the TBWRF site (Zone 1a) comprised:

- Pre work ecology checks NP.
- Pre work topographic survey.
- Protection to retained assets.
- Dismantle and storage of materials for collection by others.
- Demolition of above ground structures.
- Removal of slabs and hardstanding – Sub-base to remain in-situ where specified.
- Undertake ground penetrating radar (GPR) survey of the site.
- Backfilling and reprofiling of the ground to the specified levels.
- Battered excavations to be used following the clearance of the retaining and push walls to TBWRF – 1.
- Crushing of concrete arisings and stockpiling of resultant 6F2 material (6F2 chemical analysis results are detailed within NP-DSM-41XX-XXX-QA-WA-090016 & NP-DSM-41XX-XXX-QA-WA-090017).
- Post works topographic survey NP-DSM-41XX-XXX-DR-WA-090005, NP-DSM-41XX-XXX-DR-WA-090006, and NP-DSM-41XX-XXX-DR-WA-090007_Ver 1. The

[27] DSM (2023) Contractor Completion Report – TBWRF Zone 1a) NP-DSM-41XX-XXX-RP-WA-090045.

topographic survey plans include details of the residual structures left following decommissioning and demolition (see **Appendix E**).

Within Zone 1b, during DSM's works, the diesel tanks and AdBlue tanks were removed from the TBWRF site. TBWRF drainage was decommissioned, the oil interceptor, was cleaned out and decommissioned, access covers were removed, and the chambers backfilled with 6F2 material.

Due to the recent construction of the TBWRF and further to a visual inspection by DSM's qualified and competent asbestos surveyor, DSM concluded that an asbestos Refurbishment and Demolition survey was not needed prior to the demolition of structures on the TBWRF site due to the absence of known or potential asbestos containing materials (ACMs).

Photographs of the completed demolition works are included in DSM's reports (see **Appendix E**). Photographs of the TBWRF attenuation tank being removed by DSM are presented below.

LEL has confirmed that there are no records of any environmental incidents occurring during the decommissioning works.

Photograph 1: Photograph taken during removal of the TBWRF attenuation tank by DSM, June 2023.

Photograph 2: The reinstated area following backfilling of the void left by attenuation tank removal, June 2023.

9 REFERENCE DATA AND REMEDIATION (WHERE RELEVANT)

The TBWRF was purpose-built for the bulky waste process, with all operational areas covered by reinforced hardstanding and its own dedicated drainage system served by an attenuation tank and an oil interceptor.

The presence of pre-existing soil and groundwater contamination at the TBWRF was detailed in the ASCR[28], the site then underwent remediation works by DSM in 2021 prior to construction of the TBWRF[29] and the remediated site formed the baseline condition for the TBWRF. No ongoing soil sampling was deemed necessary for the TBWRF operational phase, given the intended short timescale of the operations, the pollution prevention measures in place, and the resulting low risk of the TBWRF causing land contamination.

Groundwater monitoring is carried out at least twice yearly at positions around the EcoPark, including some groundwater monitoring wells in proximity to the TBWRF. One monitoring round took place during TBWRF operations and found no indication of contamination arising from activities at the TBWRF or other activities within the EcoPark (see **Section 7**).

LEL operates an EMS which included regular inspections of the TBWRF site's pollution prevention infrastructure and plant operating on the site. No significant issues or potential for land contamination to have occurred were identified during these inspections.

During the demolition works by DSM, some ground disturbance was required. All DSM's works were carried out in accordance with Wood / WSP specifications which included measures for the protection of soil and groundwater, as detailed in **Section** Error! Reference source not found.. No potential contamination requiring further investigation or remediation was identified by DSM.

[28] Wood (2022) LondonEnergy Ltd, LondonEnergy, Temporary Bulky Waste Recycling Facility (TBWRF), Edmonton EcoPark Environmental Permit Application Site Condition Report, November 2022. (Doc. Ref. 39889-WOD-41-XXX-RP-O-0029-P01.2).
[29] DSM Demolition Ltd (2021). Northern Area Clearance, Remediation Verification Report (Ref. NP-DSM-XXXX-XXX-QA-WA-090009), 26 August 2021.

10 STATEMENT OF SITE CONDITION

The permitted activities at the TBWRF site have stopped. All potentially polluting substances have been removed, and decommissioning and demolition has been completed at the TBWRF site. The former IVC attenuation tanks (below ground tanks in the north of the TBWRF site) remain on the TBWRF site, however, the TBWRF had no connection to these tanks and their final state will be detailed in the IVC Surrender Site Condition Report.

The works carried out by LEL during site clearance and decommissioning, the bi-annual EcoPark groundwater monitoring and DSM's implementation of the Northern Area Clearance Works specification within the TBWRF site (Zones 1a, 1b and 1c, as detailed in **Section 8**Error! Reference source not found.**)**, confirm that the site is in a 'satisfactory condition' to allow the surrender of Permit No. EPR/YP3500LS to be granted.

Appendix A

DRAINAGE PLAN (2 SHEETS)

Public

RED LINE DRAWING

	SIGNED	PRINT NAME	COMPANY	DATE
ORIGINATOR	Kajendra Balasingam — Digitally signed by Kajendra Balasingam Date: 2022.03.29 14:37:21 +01'00'	K. BALASINGAM	GALLDRIS	24/03/2022
CHECKED	Oliver Shier	O.SHIER	TAYLOR WOODROW	08/04/2022
CONFIRMED	Nerissa Patel	N. PATEL	TAYLOR WOODROW	08/04/2022

300mm dia. sewer connection from Existing IC SWS 146 to SW01 to be reconstructed as required.

375mm dia. sewer connection from Existing IC SWS 147 to SW02 to be reconstructed as required.

450mm dia. non-return flap valve to be installed in SW05 450mm dia. inlet sewer

TRFI170 - TBWRF Northwest Drainage - Further to TRFI161

TRFI161 - TBWRF - Northwest Drainage and Concrete Breakout

CONNECTION TO EXISTING CHAMBER AS PER RFI'S

SW05 SHIFTED 7m TOWARDS SW04 AS SHOWN. IL REMAINS UNCHANGED. PIPE RUN ADJUSTED TO SUIT. COORDINATES AS PER NP-GLD-41XX-ZZZ-RL-CE-090100

GULLY POSITIONS REVISED AS SHOWN

Proposed ACO S150 drainage channel inside FPP bay (gully waste)

ACO DRAIN EXTENDED TO WEST END OF FPP

Gully waste sump.

Surface mounted pumping station within 750x600mm manhole 1.2m deep discharging to gully waste inspection chamber in the external area. Refer to Emico's drawing.
Heavy Duty Cast Iron Foul pump.
Pump Rate: 4 l/s ; Head 3.5m.
Rising Main: 90mm cast iron

Gully Waste MH 750x600
CL 12.350
IL 11.150 (Ø150)

GULLY WASTE MH 750X600 REPLACED WITH TYPICAL ROAD GULLY

Join Line refer NP-WAT-41XX-GF0-DR-CE-052002

Join Line refer NP-WAT-41XX-GF0-DR-CE-052002

Reference Drawings:

1. Structural layout plan 'NP-WAT-41XX-ZZZ-M3-SE-060120-C01' received from WSL on 24/09/2021.
2. Topographical survey based on drawings NP-WOD-XXX-XXX-SU-ZZ-090001 to 090016 by Wood and '2787-TS01-D02-SF1' by Taylor Woodrow received 22/07/21.
3. Refer 'NP-WAT-41XX-GF0-DR-CE-060002' for proposed design surface contours and levels.

Key

- TBWRF site 'redline' boundary
- Proposed surface water pipe and manhole
- Proposed foul water pipe and manhole
- Proposed surfacewater attenuation tank
- +6.0 FFLs
- Surface water pumping station
- Rainwater downpipe
- Proposed road gully
- Proposed double road gully
- Proposed surface water concrete dished channel with gully and connection.
- Proposed ACO S150 drainage channel with sump unit and connection.
- Proposed Ø150 perforated pipe filter trench

1:250 0 5m 10m 15m 20m 25m
1:1 0 10 20 30 40 50 60 70 80 90 100

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
UNUSUAL SIGNIFICANT HAZARDS

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement.
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:

CONSTRUCTION
1.
2.
3.

MAINTENANCE / CLEANING
1.
2.
3.

DECOMMISSIONING / DEMOLITION
1.
2.

Original Drawing Size - A1 DO NOT SCALE

This drawing should not be scaled. Dimensions to be verified on site.
Any discrepancies should be referred to the Design Consultant prior to work being put in hand.
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Pickfords Wharf Clink Street London SE1 9DG United Kingdom
t +44 20 7928 7888

NOTES:

1. This drawing is to be read in conjunction with all engineer's, architect's or other relevant drawings and specifications.
2. All dimensions and levels are to be checked on site by the contractor prior to preparing any working drawings or commencing on site. this drawing is not to be used for construction.
3. All work is to be carried out in compliance with the requirements of the relevant statutory authorities and regulations.
4. CCTV / drainage survey required to confirm connections to existing sewers.
5. Contractor to provide adequate protection measures to drainage gullies / channels during construction works.
6. Drainage gullies / channels to be capped during construction works with contractor to make own arrangements for disposal of surface water.
7. Drainage infrastructure to be thoroughly vetted / cleaned on completion of construction works.
8. Downpipes within building to be confirmed by m+e engineer.

X01		24.03.22	RED LINE DRAWING	KB	OS	NP
C02	A5	10.02.22	AMENDED TO SUIT TW COMMENTS	SPH	TP	HC
C01	A5	03.12.21	ISSUED FOR CONSTRUCTION (A5)	SPH	TP	HC
P05	S4	12.11.21	DESIGN SURFACE FOR NORTHERN HARDSTAND AND GULLY WASTE / PS REVISED	SPH	TP	HC
P04	S4	01.10.21	DRAINAGE NETWORK UPDATED	SPH	TP	HC
P03	S4	25.08.21	ISSUED FOR STAGE APPROVAL (S4)	SPH	TP	HC
P02	S3	06.08.21	DRAINAGE REVISED	SPH	TP	HC
P01	S3	12.07.21	ISSUED FOR INFORMATION (S3)	AKL	TP	HC
STATUS	DATE	DESCRIPTION		DWN	CHK	APP

SCALES: As indicated

PURPOSE OF ISSUE: STAGE 5

PROJECT TITLE:
Temporary Bulky Waste Recycling Facility (TBWRF)

DRAWING TITLE:
BELOW GROUND DRAINAGE LAYOUT SHEET 1 OF 2

CLIENT:
nlwa north london Heat and Power project

NLWA
1B BEROL HOUSE
25 ASHLEY ROAD
TOTTENHAM HALE
N17 9LJ
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Waterman
Pickfords Wharf Clink Street London SE1 9DG
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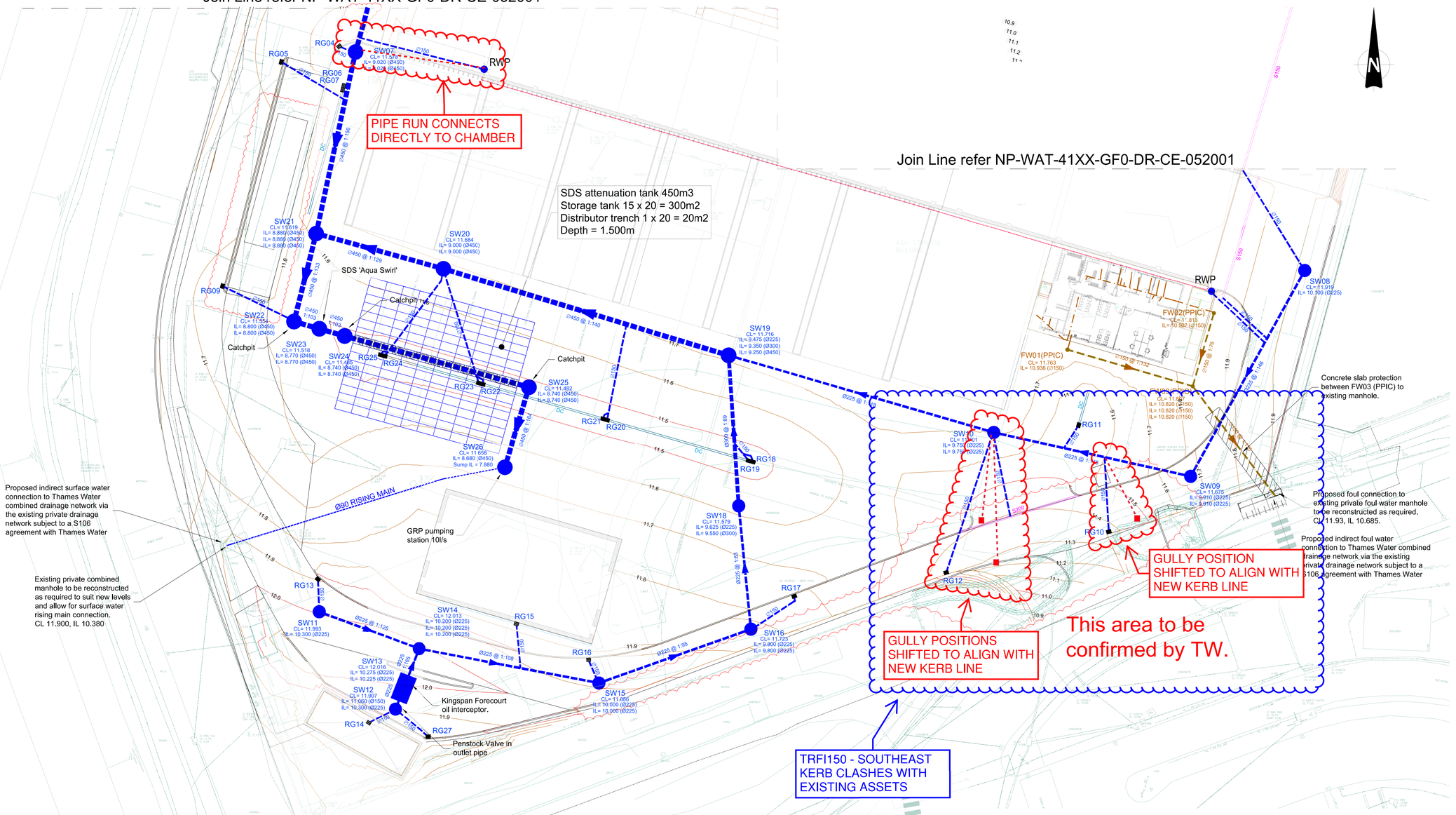
NLWA DWG No. NP-GLD-41XX-GF0-DR-CE-052001
REV. X01

ADVISER / CONTRACTOR DWG No. NP-GLD-41XX-GF0-DR-CE-052001



This drawing should not be scaled. Dimensions to be verified on site.
Any discrepancies should be referred to the Design Consultant prior to work being put in hand.
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Waterman Building Services Limited
Pickfords Wharf Clink Street London SE1 9DG United Kingdom
t +44 20 7928 7888

NOTES:

1. This drawing is to be read in conjunction with all engineer's, architect's or other relevant drawings and specifications.
2. All dimensions and levels are to be checked on site by the contractor prior to preparing any working drawings or commencing on site. this drawing is not to be used for construction.
3. All work is to be carried out in compliance with the requirements of the relevant statutory authorities and regulations.
4. CCTV / drainage survey required to confirm connections to existing sewers.
5. Contractor to provide adequate protection measures to drainage gullies / channels during construction works.
6. Drainage gullies / channels to be capped during construction works with contractor to make own arrangements for disposal of surface water.
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8. Downpipes within building to be confirmed by m+e engineer.

X01		24.03.22	RED LINE DRAWING	KB	OS	NP
C02	A5	10.02.22	AMENDED TO SUIT TW COMMENTS	SPH	TP	HC
C01	A5	03.12.21	WELFARE FOUL WATER DRAINAGE UPDATED, ISSUED FOR CONSTRUCTION (A5)	SPH	TP	HC
P06	S4	12.11.21	GULLY ADDED, WELFARE BUILDING DRAINAGE UPDATED	SPH	TP	HC
P05	S4	01.10.21	DRAINAGE NETWORK UPDATED	SPH	TP	HC
P04	S4	25.08.21	ISSUED FOR STAGE APPROVAL	SPH	TP	HC
P03	S3	11.08.21	FOUL WATER DRAINAGE, WEIGHBRIDGE GULLY ADDED	SPH	TP	HC
P02	S3	06.08.21	DRAINAGE REVISED	SPH	TP	HC
P01	S3	12.07.21	ISSUED FOR INFORMATION	AKL	TP	HC
STATUS		DATE	DESCRIPTION	DWN	CHK	APP

SCALES: As indicated

PURPOSE OF ISSUE: STAGE 5

PROJECT TITLE:
Temporary Bulky Waste Recycling Facility (TBWRF)

DRAWING TITLE:
BELOW GROUND DRAINAGE LAYOUT SHEET 2 OF 2

CLIENT:
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1B BEROL HOUSE
25 ASHLEY ROAD
TOTTENHAM HALE
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mail@watermangroup.com www.watermangroup.com

NLWA DWG No. NP-GLD-41XX-GF0-DR-CE-052002
REV. X01

ADVISER / CONTRACTOR DWG No. NP-GLD-41XX-GF0-DR-CE-052002

RED LINE DRAWING

	SIGNED	PRINT NAME	COMPANY	DATE
ORIGINATOR	Kajendra Balasingam — Digitally signed by Kajendra Balasingam Date: 2022.03.29 14:36:36 +01'00'	K. BALASINGAM	GALLDRIS	24/03/2022
CHECKED	Oliver Shier	O.SHIER	TAYLOR WOODROW	08/04/2022
CONFIRMED	Nerissa Patel	N. PATEL	TAYLOR WOODROW	08/04/2022

Original Drawing Size - A1 DO NOT SCALE

1:250 0 5m 10m 15m 20m 25m
1:1 0 10 20 30 40 50 60 70 80 90 100

Key

- TBWRF site 'redline' boundary
- Ø300 — Proposed surface water pipe and manhole
- Ø225 — Proposed foul water pipe and manhole
- Proposed surfacewater attenuation tank
- +6.0 — FFLs
- GRP — Surface water pumping station
- RWP — Rainwater downpipe
- RG01 — Proposed road gully
- RG21 RG20 — Proposed double road gully
- RG08 DC — Proposed surface water concrete dished channel with gully and connection.
- S150 — Proposed ACO S150 drainage channel with sump unit and connection.
- Ø150 — Proposed Ø150 perforated pipe filter trench

Reference Drawings:

1. Structural layout plan 'NP-WAT-41XX-ZZZ-M3-SE-060120-C01' received from WSL on 24/09/2021.
2. Topographical survey based on drawings NP-WOD-XXX-XXX-SU-ZZ-090001 to 090016 by Wood and '2787-TS01-D02-SF1' by Taylor Woodrow received 22/07/21.
3. Refer 'NP-WAT-41XX-GF0-DR-CE-060002' for proposed design surface contours and levels.

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UNUSUAL SIGNIFICANT HAZARDS

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement.
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:

CONSTRUCTION
1.
2.
3.

MAINTENANCE / CLEANING
1.
2.
3.

DECOMMISSIONING / DEMOLITION
1.
2.

Appendix B

TBWRF WORKING PLAN, PROCEDURES AND EXAMPLES OF INSPECTION LOGS

Public

LondonEnergy

Powering the Circular Economy

Temporary Bulky Waste Recycling Facility (TBWRF) Working Plan

Prepared by: [redacted]

Approved by: [redacted]

Date Issued: March 2022

Version No.: 3

Table of Contents

Appendices	
Appendix A	Site layout

1. Introduction

This Working Plan describes the materials handling, recycling and recovery operations that are carried out by LondonEnergy Ltd (hereinafter called LEL) at the waste management facility at the EcoPark, Advent Way. It includes references to procedures covering operations, health and safety and environmental management.

This Working Plan forms part of the Management System relating to the Bulky Waste Recycling Facility (TBWRF) site operated by LondonEnergy Ltd, under permit number EPR/YP3500LS (held by LondonEnergy Ltd).

The TBWRF is located on an area of land within the LondonEnergy Ltd EcoPark, Advent Way, N18 3AG.

2. Site Description

2.1. The Site

A map showing the site layout is in Appendix A.

The primary activity at the TBWRF is the collection of municipal waste materials, their sorting and recovery for onward distribution to specialist recycling facilities and disposal sites. The site encompasses a waste transfer station building, and an open area for storage and transfer of waste and recyclates. Within the waste transfer station building, mechanical shredding of municipal waste is undertaken, prior to its disposal at the Energy Centre (co-located at the EcoPark).

The site is co-located at the LondonEnergy EcoPark with a number of other recycling and disposal facilities. The site is accessed via a tarmac road from within the EcoPark. The EcoPark is accessed by a secure metal gate, which is staffed with security guards 24 hours a day.

The permitted areas comprise the areas where all waste operations currently take place. These are the only areas of the facility that are permitted for the storage and treatment of waste.

2.2. The Surrounding Area

The site is located in a built-up area, within the M25. The site is bordered by the North Circular Road to the south, with a superstore beyond it. To the east is the River Lee Navigation, with a reservoir and residential properties beyond that. To the west of the site is an industrial estate and residential properties. To the north of the site there is Thames Water sewage works.

2.3. Hours of Operation

The site operates 24 hours per day, 365 days a year, as per the planning permission.

2.4. Waste Types and Quantities

The Temporary Bulk Waste Facility is permitted to accept a maximum of 220,000 tonnes of waste per year, as per the site permit.

No waste will be disposed of or burned on a site.

The waste treatment processes carried out on site are described in Section 3 of this Working Plan. Separate procedures exist for these processes, as referenced in Section 3.

2.5. Site Staff and Management

The minimum staffing levels are shown in the table below:

Period	Number of staff
Monday to Friday, 06:00 to 18:00	10
Weekends and Bank Holidays	4
Monday to Friday 18:00 to 06:00	2

A technically competent person will be available as necessary.

Additional staff employed by LondonEnergy Ltd will also be utilised on site to carry out site maintenance, plant maintenance, administration and record keeping.

2.6. Fit and Proper Person

The facility will be managed by a technically competent person (as certified by the Waste Management Industry and Advisory board).

2.7. Schedule of Vehicles and Plant

Loading Shovels 4

Excavators 4

Shredders 3

Atomiser 1

2.8. Site Engineering and Layout

The site layout is illustrated in Appendix A.

All operational areas of the site are covered by concrete and/or tarmac. This forms an impermeable surface. These areas are regularly inspected and repaired as required.

All drainage from the site enters a self-contained drainage system. The surface water from the operational areas is removed via a drain to an interceptor. From here the surface water enters two storage tanks before being pumped to the Thames Water Sewerage system.

2.9. Site Environmental Risk Assessment

1.Odour

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Odour from green waste bay	Houses in the vicinity	Air	The material is stored only for a short period	The short time span should minimise odour	Likelihood of complaints from residents.	Short storage results in low risk
Odour from food waste bay	Houses in the vicinity	Air	The material is stored only for a short period	The short time span should minimise odour	Likelihood of complaints from residents.	Short storage results in low risk

Odour from residual pile in transfer station building	Houses in the vicinity	Air	The material is stored only for a short period	The short time span should minimise odour	Likelihood of complaints from residents.	Short storage results in low risk

2.Noise and Vibration

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Noise from shredder	Houses in the vicinity	Air	All neighbours located within vicinity are industrial, no residential properties	Level of exposure has not been a problem in the past	Likelihood of complaints from residents.	With no local residential properties, risk is negligible
Noise from picking station	Houses in the vicinity	Air	All neighbours located within vicinity are industrial, no residential properties	Level of exposure has not been a problem in the past	Likelihood of complaints from residents.	With no local residential properties, risk is negligible
Noise from mobile plant and vehicle movements	Houses in the vicinity	Air	All neighbours located within vicinity are industrial, no residential properties	Level of exposure has not been a problem in the past	Likelihood of complaints from residents.	With no local residential properties, risk is negligible

3.Fugitive Emissions

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Rainwater runoff from materials stored outside	Houses in the vicinity	Gravity flow	Interceptor will minimise the amount of solids going into the sewer	Dependent on weather conditions	Pollution of sewers	Interceptor and regular Thames Water monitoring should minimise risk
Dust from shredding	Houses in the vicinity	Air	shredding takes place within waste transfer building, atomiser acts as suppressant	Low, level of exposure has not been a problem in the past	Likelihood of complaints from residents	Low, dust generation will be minimised as within partially enclosed building and atomiser.
Dust from tipping and	Houses in the vicinity	Air	takes place within waste	Low, level of exposure has	Likelihood of complaints	Low-distance to

loading of vehicles			transfer building, adequate distance to nearest neighbours	not been a problem in the past	from residents	neighbours means risk is negligible.

4.Fire

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Combustion in loose materials	Onsite staff	Air	Material stored on site for short period of time. Waste pile is monitored by thermal imaging with fire suppression available	Low- all incoming waste is inspected	Pollution of sewers Air pollution	Low- waste inspection and thermal imaging minimise risk.

3. Operational Procedures

All Operational, Health and Safety, and Environmental procedures are included in Appendix C.

3.1. Waste Acceptance

All waste operations will take place in the licensed areas shown in Appendix B

All incoming waste report to the weighbridge where they are weighed, the waste type and quantity are recorded, and paperwork is checked. The procedures are described in *MSP10 Edmonton Weighbridge Procedure, RAMS 899 Waste Acceptance and Handling at the TBWRF* and *RAMS 977 Tipping Waste at the TBWRF.*

Non-conforming loads are dealt with under separate procedures- *MSP0037 Non-conforming and Unacceptable Waste, Corrective Action and Preventative Action.*

3.2. Waste Tipping

Weighbridge staff will direct vehicles to the TBWRF Traffic Controller. There are defined bays which are suitable for different types of vehicles as described in section 3.3 and illustrated in Appendix A.

This procedure is described in more detail in *RAMS 977 Tipping Waste at the TBWRF.*

3.3. Waste Storage

Wastes are stored in dedicated bays and piles in the operational areas. The table below details the wastes which are stored and a map showing the location of the bays and piles is given in Appendix A.

Waste Stored	Fate	Maximum Height/ Containment

Green waste	Recycling	3.5 metres
Wood	Recycling	3.5 metres
Bulky waste	Recovery/ disposal	3.5 metres
Plastic	Recycling/ disposal	3.5 metres
Food	Recycling	3.5 metres
Mixed green + food waste	Recycling	3.5 metres
Ferrous metal	Recycling	40-yard container
Non-ferrous metal	Recycling	40-yard container
Clinical (sharps waste)	Disposal	X10 1100 litre bins
Hardcore	Recycling	35-yard container
Tyres	Recycling	40-yard container

3.4. Outdoor Recycling and Bulking Operations

On arrival at the recycling area the vehicles are met by the controller who will give the driver a safe and correct tipping area.

The following wastes are received and are stored in dedicated storage bays/ areas:

- **Green waste**
- **Wood waste**
- **Plastics**
- **Clinical waste**

Mixed Municipal Solid Waste (MSW): Received from local authority building / housing /street cleaning departments at the South end of the recycling area. Large recyclable material is removed from the mixed wastes using an excavator with a selector grab. The large bulky non-recyclable items such as mattresses, sofas and other furniture if required for EFW feedstock are transferred internally to the TBWRF tipping hall for shredding. If it is not required, it is sent by road to landfill.

Further details can be found in *RAMS 977 Tipping Waste at the TBWRF.*

3.5. Waste Transfer Station Operations

Mixed MSW is tipped and sorted by material handlers to segregate bulk recyclables, such as wood and metal. Non-Recyclables are stockpiled in bulk according to the operating procedures. Constant throughput of material generally ensures the average residence time is minimised as this should not exceed 24 hours (to prevent odour from any biodegradable content known to be present).

Further size reduction is undertaken by use of a shredder(s) for any non-recyclable bulky material to create a heterogeneous mixed MSW output stream for use at the EFW.

Recyclables are bulked and stored on the wider site area with other materials of the same type/waste code prior to dispatch for final recycling e.g. metals, wood etc.

Source segregated food waste and mixed food and green waste is delivered are held in dedicated bays and transferred out on a daily basis Monday to Saturday for offsite processing`.

Further details can be found in *RAMS 977 Tipping Waste at the TBWRF, RAMS 896 Shredder Operations at the TBWRF* and *RAMS 849 Loading Vehicles and Sheeting*.

3.6. Unburnt Waste Process

By-products of incomplete combustion at the energy centre will be removed out the thermal process and taken into the BWRF. This is referred to as unburnt waste and is a mixture of large size and small dust like particles. Unburnt waste from the energy centre will be temporarily stored at the FPP then screened through a trommel screening machine. This is where larger sized particle are filtered out of the waste pile. The remaining fine ash is sent to ash reprocessing facility and the larger size particles will be sent back into the energy centre.

3.7. Non-conforming Wastes

All loads of waste are visually inspected. Any non-conforming waste that is tipped at the TBWRF will be quarantined in the designated bay until it can be removed to an appropriate facility.

Further details can be found in *RAMS 899 Waste Acceptance and Handling at the TBWRF* and *MSP0037 Non-conforming and Unacceptable Waste, Corrective Action, and Preventative Action.*

3.8. Outgoing Vehicles and Waste

Procedure *MSP0010 Edmonton Weighbridge Procedure* describes:

- Despatch of vehicles containing waste for disposal or recycling
- Procedure for vehicles which have tipped and are leaving empty

3.9. Site Diary

A site diary is kept in the Site Managers Office. This diary is used to record day to day events and is kept up to date by the Site Manager and Site Supervisor. It contains the following information:

- Daily waste management activities/ hours
- Maintenance
- Emergencies
- Breakdowns
- Problems with waste received and action taken
- Site inspections
- Technically competent management attendance
- Weather conditions
- Complaints

3.10. Maintenance Procedure

LondonEnergy Ltd.'s equipment is checked daily before use and regularly serviced. Daily plant checklists can be found in Appendix F.

Further details on maintenance requirements can be found in *RAMS 902 Maintenance of Mobile Plant.*

3.11. Contingency

In the event of a breakdown of any plant used for the treat or handle waste, waste will continue to be accepted where possible. The plant will be repaired as soon as possible.

In the event that the TBWRF has to be closed waste will be diverted to the Energy Centre Tipping Apron as per *RAMS 752 Contingency Use of the ECTA when TBWRF is Not Available.*

3.12. Information Provision

Key documents and pieces of information are displayed on notice boards throughout the site. The amount and type of information provided depend on the location of the notice board, and whether it is intended for internal or external use.

The site records detailed throughout this Working Plan are maintained in the site office and are available for inspection. The list below details the relevant site documents.

- Waste management licence
- The working plan
- Site diary
- Visitors book
- Environment Agency inspection reports
- Site inspection sheets (daily and weekly check sheets)
- Duty of care waste transfer notes
- Hazardous waste consignment notes
- Waste input, output and non-conformance forms

3.13. Site Inspection

Daily and weekly site inspections are completed by a person who is familiar with the requirements of the working plan and licence for the site. Copies of the daily site inspection form can be found in the Site Office.

4. Health and Safety Procedures

4.1. Contractors and Visitors

All visitors to the site, including any contractors engaged in site or plant maintenance, will be signed into the visitor's book. Depending on the work being done, a permit for work may be required.

Prior to coming on site contractors and visitors are inducted on site rules by watching a video and completing a questionnaire.

Appropriate PPE must be worn at all times when on site.

4.2. Site Safety and PPE

All operations on site will be carried out in accordance with the relevant legislative requirements. Site safety rules are made available to all visitors to site and are included as an Appendix (see *OSG0025 Waste Management Facilities Site Rules).*

4.3. Fires on Site

Fire safety practices are in *MSP 521V TBWRF Fire Prevention Plan* (not in this document) and *MSP522A Emergency Procedures Manual* (not in this document) details emergency evacuation procedures.

4.4. Site Security

The permitted facility is within an area bounded by a fence that is inspected regularly and maintained as necessary.

The main entrance is through a gate controlled by Security Staff. The gate is lockable and staffed 24 hours a day.

CCTV is employed to increase security surveillance throughout the site. Footage is retained for 30 days.

5. Environmental Procedures

5.1. Environmental Management

LondonEnergy Ltd has implemented a formal environmental system (EMS) that is certified to ISO 14001:2004 and covers all operations across the company.

5.2. Nuisance

The control of nuisance, including pest control, noise, dust, odours and mud on the road, is described in *MSP 139 Nuisance Procedure* (can be found in Appendix E).

5.3. Drainage

All surface drains from the permitted area are channelled towards an interceptor. Water discharges from here into a storage tank. Surface water is then pumped from here to foul sewer. The interceptor is monitored on a weekly basis according to the site checklist.

At six monthly intervals (or more frequently if necessary), the interceptors are emptied, and a comprehensive cleaning of the site drains is completed. Materials removed from the interceptors and drains are disposed of as hazardous waste by a suitably licenced contractor.

Also, at regular intervals the pumps in the storage tanks are serviced and maintained.

The site drainage plan can be found in Appendix D.

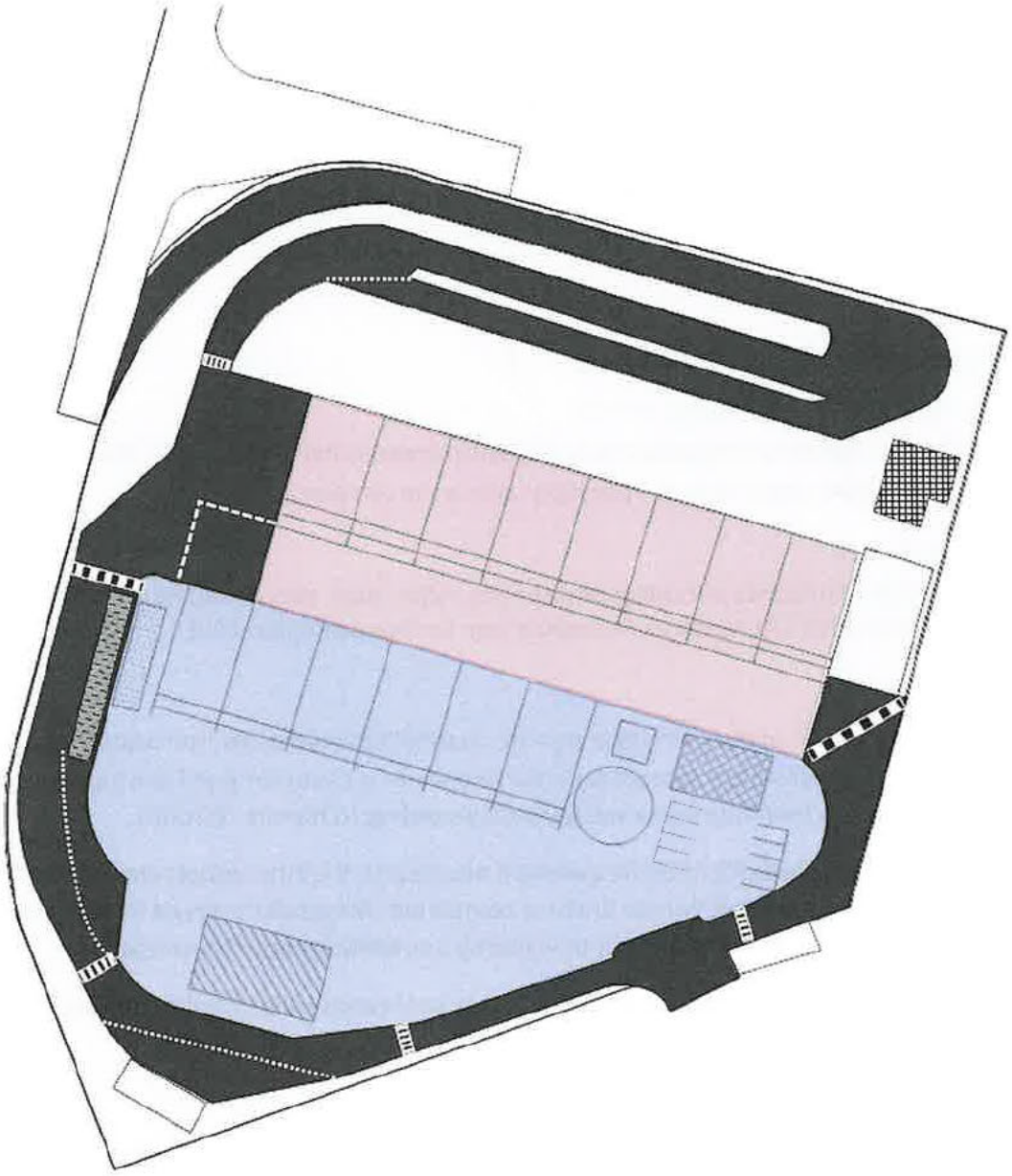
5.4. Oil Storage, Handling, Leaks and Spillages

All oils (including fuel and hydraulic oils) stored on site will be stored in accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001.

Procedure MSP 130 Oil, Diesel and Chemicals contains further information. The location of this procedure can be found in Appendix E.

Appendix A

Site Layout



Key		Shredder Storage Area	
FPP Building		Tyre Skips	
BWRF Slab		Welfare/ Offices	
Weighbridge		Fire Water Tank and Pump House	
Workshop			

Site: Temporary Bulk Waste Recycling Facility	**Date:** November 2021 Issue 1
Title: Site Plan	**Created by:** [redacted]

Oil, Diesel, and Chemicals - Storage, Handling, Use and Spillages

Purpose:

- To detail how all such liquids will be stored on LondonEnergy sites in accordance with relevant legislation
- The containment, treatment and removal of an oil, gas oil, derv, or chemical spillage to prevent any contamination of an internal watercourse.
- The prevention of any contaminated water leaving the site if an internal watercourse does become contaminated
- To prevent any contravention of any water discharge consent limits and all other relevant Acts, Regulations, and Instructions

Minimum storage conditions for oils/diesel (new and waste) and chemicals are:

- **Bulk Storage Tanks:** good structural integrity, secondary containment (110% capacity), of a specification compliant with the regulations, checked on a weekly basis by site management.
- **Individual Containers:**

  - 200 litre drums or larger: inside building, stood upright, sealed/lids replaced, on secondary containment (110% capacity). Drums may be stored on pallets if empty.

  - Containers smaller than 200 litres: in appropriate storage facility inside building or enclosed storage container outside e.g., 600 litre lidded box, stood upright, sealed/lids replaced and otherwise stored so as to prevent spillage. Empty containers may be stored on pallets.

- **Chemicals:** must be stored as described under 'Individual Containers' but also according to any specific instruction given on safety data sheets - please refer to COSHH assessments and labelling of chemicals for specific requirements for each type. Take special care to store flammable substances appropriately.

Note*: Containers of oil/diesel should be located in designated areas. They should not be located in any other areas of the site unless in use and should not be left unattended. When being stored containers must be sealed shut.*

Requirements for handling and use of oils and diesel (new and waste) and chemicals:

- Any and all chemicals with hazardous substances are logged into our COSHH management software (Sypol), managers and supervisor have been provided with access and training on how to use the system
- Only trained site staff on procedures and approved contractors should handle/use oil/diesel/chemicals.

- PPE including overalls, gloves, masks and/or safety glasses must be worn in addition to normal site PPE when handling hazardous substances- please refer to COSHH assessments and labelling for specific requirements for each type. (https://cms.sypol.com/Login.aspx)
- Care must be taken to prevent spillages.

Spillage Instruction:

- Use the contents of a spill kit to help control the situation. Take all necessary actions to prevent oil entering a drain or off-site watercourse.
- For slight spills (less than 5 litres), prevent contamination to land or surface drainage system by using oil absorbent materials available to soak up oil.
- For major spillages contain spillage by using the booms etc. in the spill kits, or any other suitable material i.e., oil spill granules. If available use spill drain covers to seal surface water drains. Report major spillages to your Line Manager.
- Spill kits must be available on site in locations where oil/diesel/chemicals are stored, handled, and used.
- Spill kits should contain:
    - PPE (gloves, overalls, overshoes, safety goggles)
    - Absorbent materials (spill socks, absorbent granules, pads)
    - Drain and gully covers
    - Disposal bags with tape or cable ties
    - Broom and polypropylene shovel
- Spill Kit contents should be checked regularly, and the checks recorded
- Spill Kits should be replenished immediately after use.
- If oil enters surface drainage system, check designated disposal points, installing oil absorbent equipment where required, i.e., booms, oil absorbent material off a roll.
- Oil and absorbent materials must be handled with care and disposed of in a receptacle to prevent further contamination. This must be collected by a hazardous waste contractor. A hazardous waste consignment note must be completed.
- If oil is of such a quantity a hazardous waste tanker may be required to remove the oil from site. A hazardous waste consignment note must be completed.
- The Line Manager must ensure spill kit materials are replaced as soon as possible.
- Spillages must be reported on the Incident Reporting System.

Responsibilities:

It is the responsibility of the Department and Site Managers to ensure that this procedure is implemented.

LEL Workplace Inspection

Site:	TBWRF AM	Date:	30-11-22

Ref	Check the following areas	Satisfactory? Y/N	Comments
1.	**Waste**		
a)	Height of waste heaps / containers	—	Very low Height
b)	Quarantine bay	—	
2.	**Nuisance**		
a)	Birds	—	Not many seen
b)	Mice / rats / pests	—	None seen.
c)	Odour Choose an item.	—	System on
d)	Dust	—	None
e)	Litter / debris	—	Staff cleaning
f)	Mud / dust / debris on the road	—	None
3.	**Emergency**		
a)	Fire alarm (tested and recorded weekly)	—	Monday 1pm
b)	Fire extinguishers commissioned and in good condition	—	All in good condition FIT team oversee
c)	Emergency arrangements in place and communicated (incl. fire plan)	—	Office
d)	Spillage	—	Kits on site
e)	Competent first aiders/fire marshals	—	
f)	Hazardous/flammable substances used/stored correctly	—	
4.	**Plant &Equipment**		
a)	Plant / machinery (operational, have been checked today)	—	Checked Volvo L120 7631
b)	Electricity (PAT, equipment in good condition incl. cables)	—	
c)	Diesel tank (check for cracks and spillages)	—	No Cracks or leaks
d)	Drainage / gullies clear	—	Gullies clear.
e)	Hardstanding in good condition	—	Good condition
f)	Bay walls, frames and fencing in good condition	—	All good condition

	South Access – 10/11 hours per week All other RRC sites – 3/4 hrs per week		
8.	Hazard spotting walkabout (list of incident numbers)		No Spotted Haz
9.	**Additional comments**		
10.	**Completed By**	[redacted]	

Action List

No.	Action	Due Date
1		
2		
3		
4		
5		
6		

LEL Workplace Inspection

Site:	TBWRF AM	Date:	14-12-22

Ref	Check the following areas	Satisfactory? Y/N	Comments
1.	**Waste**		
a)	Height of waste heaps / containers	—	Very low Height
b)	Quarantine bay	—	
2.	**Nuisance**		
a)	Birds	—	None seen.
b)	Mice / rats / pests	—	None seen.
c)	Odour Choose an item.	—	System on.
d)	Dust	—	
e)	Litter / debris	—	Staff seen Picking
f)	Mud / dust / debris on the road	—	None seen.
3.	**Emergency**		
a)	Fire alarm (tested and recorded weekly)	—	System on 1/2 monday
b)	Fire extinguishers commissioned and in good condition	—	All good FIT team oversee
c)	Emergency arrangements in place and communicated (incl. fire plan)	—	All communicated All Signed.
d)	Spillage	—	Kits on Site
e)	Competent first aiders/fire marshals	—	Over Yodles
f)	Hazardous/flammable substances used/stored correctly	—	
4.	**Plant &Equipment**		
a)	Plant / machinery (operational, have been checked today)	—	Checked Volvo L110 1316
b)	Electricity (PAT, equipment in good condition incl. cables)	—	
c)	Diesel tank (check for cracks and spillages)	—	No Cracks or leaks
d)	Drainage / gullies clear	—	Good condition
e)	Hardstanding in good condition	—	Good condition
f)	Bay walls, frames and fencing in good condition	—	All in good order

	South Access – 10/11 hours per week All other RRC sites – 3/4 hrs per week		
8.	Hazard spotting walkabout (list of incident numbers)		HA2 – SLIPPING due to ice
9.	**Additional comments**		
10.	**Completed By**	[redacted]	

Action List

No.	Action	Due Date
1		
2		
3		
4		
5		
6		

LEL Workplace Inspection

Site:	TBWRL	Date:	19-12-22

Ref	Check the following areas	Satisfactory? Y/N	Comments
1.	**Waste**		
a)	Height of waste heaps / containers	✓	Very Low
b)	Quarantine bay	✓	
2.	**Nuisance**		
a)	Birds	✓	None seen.
b)	Mice / rats / pests	✓	None seen.
c)	Odour Choose an item.	✓	System on.
d)	Dust	✓	None
e)	Litter / debris	✓	Staff seen Picking
f)	Mud / dust / debris on the road	✓	None
3.	**Emergency**		
a)	Fire alarm (tested and recorded weekly)	✓	Monday 12th
b)	Fire extinguishers commissioned and in good condition	✓	FIT team oversee on site Friday 16th
c)	Emergency arrangements in place and communicated (incl. fire plan)	✓	Communicated Signed
d)	Spillage	✓	Kits on site
e)	Competent first aiders/fire marshals	✓	Other Yodes
f)	Hazardous/flammable substances used/stored correctly	✓	
4.	**Plant &Equipment**		
a)	Plant / machinery (operational, have been checked today)	✓	Clocked Volvo L90
b)	Electricity (PAT, equipment in good condition incl. cables)	✓	
c)	Diesel tank (check for cracks and spillages)	✓	No leaks or Cracks
d)	Drainage / gullies clear	✓	All clear
e)	Hardstanding in good condition	✓	Good condition
f)	Bay walls, frames and fencing in good condition	✓	All in good shape

	South Access – 10/11 hours per week All other RRC sites – 3/4 hrs per week		
8.	Hazard spotting walkabout (list of incident numbers)		100 SPotter 1642
9.	**Additional comments**		
10.	**Completed By**	[redacted]	

Action List

No.	Action	Due Date
1		
2		
3		
4		
5		
6		

Appendix C

TBWRF INCIDENT RECORDS

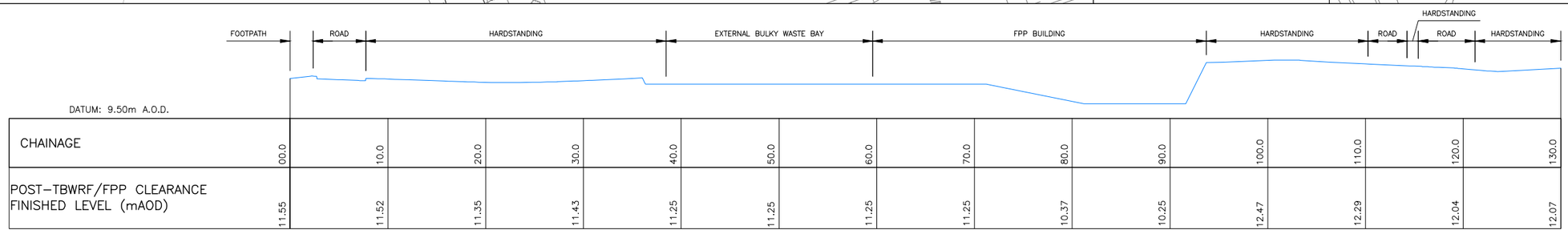
Public

Incident ID	Date recorded	Details	Site	Department to action	Description	Severity Id	Incident type	Status	From mobile	Incident classification
INCI-00024186	06/01/2023	There is water bubbling up and pooling in corner in the disabled toilet at the TBWRF from beneath the floor .	EcoPark	RRF-RFPF	Incident	Minor	Hazard	Closed	N	Potential Environmental
INCI-00023110	21/10/2022	The is flooding infront of the north weighbridges before you get to the TBWRF.This is due to the rains from yesterday and it doen't look like it is draining away.	EcoPark	Weighbridges	Incident	Minor	Environmental in	Closed	N	Other
INCI-00023020	13/10/2022	Today at approx. 15:30 . The plant operator was sorting out the waste material in the bays on the TBWRF slab. The hydraulic hose blew on the grab allowing oil to spill onto the surface . The area was covered with spill dry and cleaned up quickly. The hose has been renewed.	EcoPark	RRF-RFPF	Incident	Minor	Environmental in	Closed	N	Spillage
INCI-00022650	07/09/2022	The Volvo loading shovelL120 when parked up it was noticed that there was fluid leaking on to the surface , on further investigation it was the found that the fuel tank has a hair line crack in it. The vehicle has been parked up and awaiting for an engineers to attend. The area that was contaminated was cleaned up very quickly by staff.	EcoPark	RRF-RFPF	Incident	Minor	Environmental in	Closed	N	Spillage
INCI-00022628	06/09/2022	The road into the entrance of the TBWRF adjacent to the weighbridges is very badly flooded . This will cause issues throughout the day for incoming vehicles.	EcoPark	Facilities and Estates	Incident	Minor	Environmental in	Closed	N	Spillage
INCI-00022573	01/09/2022	Bunded Pallet located in the Maintenance Workshop has insufficient capacity to contain a loss of containment for the volume of Hazardous Liquids currently stored.	EcoPark	RRF-RFPF	Incident	Moderate	Hazard	Closed	N	Escape/Loss of Containment (solid, liquid, vapour)
INCI-00021639	14/07/2022	When operating the Case CX 210 grab inside the TBWRF loading hall. I was loading the shredder when a hydraulic hose blew. Some oil was spilt and was quickly covered with dry spill. The area was cleaned up and the hose was replaced.	EcoPark	RRF-RFPF	Incident	Minor	Environmental in	Closed	N	Spillage
INCI-00020149	28/04/2022	When operating the Case CX210 grab on the TBWRF . A hydraulic hose burst which cause oil to spill onto the surface. I quickly closed the valve not to allow any further spillage. I traced the machine over to the work shop to have the hose replaced, the spillage was quickly covered with spill dry and left there to absorbed the oil.	EcoPark	RRF-RFPF	Incident	Minor	Environmental in	Closed	N	Spillage
INCI-00019542	31/03/2022	The Metso shredder was brought into the new temporary TBWRF yesterday. Its was been used to get familiarization and positioning ready for when we start shredding. The shredder was left overnight and the next day it was noticed that it was leaking a small minimal amount of coolant on the surface. The drip was covered with oil soaking pads and the drip was repaired the same day.	EcoPark	RRF-RFPF	Incident	Minor	Environmental in	Closed	N	Spillage

Appendix D

SPECIFICATION FOR TBWRF NORTHERN AREA CLEARANCE WORKS

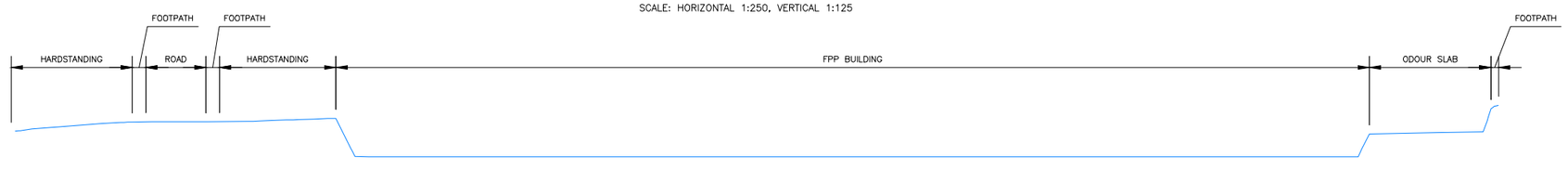
Public



CHAINAGE	00.0	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0	110.0	120.0	130.0
POST–TBWRF/FPP CLEARANCE FINISHED LEVEL (mAOD)	11.55	11.52	11.35	11.43	11.25	11.25	11.25	11.25	10.37	10.25	12.47	12.29	12.04	12.07

NORTH–SOUTH – LONGSECTION

SCALE: HORIZONTAL 1:250, VERTICAL 1:125



CHAINAGE	00.0	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0	110.0	120.0	130.0	132.0
POST–TBWRF/FPP CLEARANCE FINISHED LEVEL (mAOD)	11.77	11.81	10.67	10.25	10.25	10.25	10.25	10.25	10.25	10.25	10.25	10.25	11.15	11.35	

WEST–EAST – LONGSECTION

SCALE: HORIZONTAL 1:250, VERTICAL 1:125

Original Drawing Size - A1 DO NOT SCALE

NOTES:

1. THIS DRAWING HAS BEEN PREPARED SOLELY FOR THE NORTHERN AREA ZONE 3, ZONE 4 AND TBWRF/FPP CLEARANCE WORKS CONTRACT.
2. THE CONTRACTOR'S ATTENTION IS DRAWN TO THE DOCUMENT AND DRAWINGS WHICH SET OUT DETAILED INFORMATION ON THE SCOPE OF WORKS AND SITE CONSTRAINTS:
   - SCHEDULE 3A: SCOPE: CLIENT'S REQUIREMENT'S – PART 1: GENERAL REQUIREMENTS
   - SCHEDULE 3A: SCOPE: CLIENT'S REQUIREMENTS – PART 2: SITE CLEARANCE WORKS
   - DRAWING NP–WOD–41XX–XXX–DR–EN–090054 – NAC ZONE 3, ZONE 4 AND TBWRF/FPP CONTRACT BOUNDARY
   - DRAWING NP–WOD–41XX–XXX–DR–EN–090057 – NAC ZONE 3, ZONE 4 AND TBWRF/FPP WORKING AREA (CDM) BOUNDARIES
   - DRAWING NP–WOD–41XX–XXX–DR–EN–090053 – NAC ZONES 1 AND 2 (TBWRF/FPP) PLANNED STRUCTURE REMOVAL
   - DRAWING NP–WOD–41XX–XXX–DR–EN–090055 – NAC ZONE 3 (BWRF/FPP) AND ZONE 4 (ANCILLARY BUILDINGS) PLANNED STRUCTURE REMOVAL
   - DRAWING NP–WOD–41AX–XXX–DR–EN–060058 – NAC ZONE 3 AND ZONE 4 CONSTRAINTS ON CONTRACTOR'S WORKING METHODS
   - DRAWING NP–WOD–41AX–XXX–DR–EN–060060 – NAC TBWRF/FPP CONSTRAINTS ON CONTRACTOR'S WORKING METHODS
   - DRAWING NP–WOD–41AX–XXX–DR–EN–060059 – NAC ZONE 3, ZONE 4 AND TBWRF/ FPP HAZARD MAP
3. BUILDING LAYOUT IS BASED ON TBWRF/FPP. AS BUILT DRAWINGS PROVIDED BY TAYLOR WOODROW IN SPRING 2022.

LEGEND

- TBWRF/FPP WORKING AREA (CDM) BOUNDARY
- NORTHERN AREA CLEARANCE BOUNDARY
- RETAINED ABOVE GROUND STRUCTURE
- BELOW GROUND STRUCTURE EXCAVATED AND AREA BACKFILLED
- AREA OF HARD STANDING TO BE RETAINED TO PROTECT ASSETS
- POST–TBWRF/FPP CLEARANCE FINISHED LEVEL
- ROAD SURFACE (REMOVED AS PART OF TBWRF CLEARANCE)
- HARDSTANDING (REMOVED AS PART OF TBWRF CLEARANCE)
- INFILLED STRUCTURE
- EMPTIED STRUCTURE

REV	DATE				
P02	19/8/21	SUITABILITY STATUS CHANGE	KS	SP	RE
P01	30/7/21	FIRST ISSUE	KS	MB	MB
REV	DATE		DWN	CHK	APP

REVISIONS

REV	DATE		DWN	CHK	APP
P03	04/08/2022	NEW REVISION	AA	SP	RE

SCALES: NTS

PURPOSE OF ISSUE: S2 - Suitable for Information

PROJECT TITLE:
NORTH LONDON HEAT AND POWER PROJECT

DRAWING TITLE:
NAC ZONE 1 AND 2 (TBWRF / FPP) PROPOSED FINISHED LEVELS (TENDER STAGE)

CLIENT:
NLWA
1B BEROL HOUSE
25 ASHLEY ROAD
TOTTENHAM HALE
N17 9LJ
TEL: (0208) 4895730

TASK ORDER NUMBER: TF-WOOD-708

FLOOR 3,
11 WESTFERRY CIRCUS,
LONDON,
E14 4HA
TEL: (0203) 2151610

NLWA DWG No.: NP-WOD-41XX-XXX-DR-CE-061082
REV.: P03

ADVISER / CONTRACTOR DWG No.: 39889-WOD-41-XXX-DR-C-1082

North London Heat and Power Project

Northern Area Clearance (Zone 3, Zone 4 and TBWRF/FPP) Works – Schedule 3a: Scope: Client's Requirements – Part 2 Site Clearance Works

DOCUMENT TITLE:	**Northern Area Clearance (IVC & IBA) Works, Schedule 3a: Scope: *Client's* Requirements – Part 2 Site Clearance Works**		
NLWA DOCUMENT NUMBER:	NP-WOD-E3BX-XXX-CC-ZZ-090029	**ADVISER NAME:**	Wood
TASK ORDER NUMBER:	TF-WOOD-708	**WORK PACKAGE (IF APPLICABLE):**	E3b Northern Area Clearance
SECURITY	Choose one of the following: • *Confidential (top confidentiality level)* • *Restricted (medium* confidentiality level) • Internal use (lowest level of confidentiality) Public once finalised (everyone can see the information)	**INTERNAL DOCUMENT NUMBER:**	39889-WOD-E3B-XXX-CT-Z-0029

Approval Record

Revision No.	Author	Date	Checker	Date	Approver	Date	NLWA Authoriser	Date
P01	S. Pilkington	12/07/2021	R. Elliott	29/07/2021	M. Bardsley	30/07/2021		
P02	S. Pilkington	16/08/2021	R. Elliott	19/08/2021	R. Elliott	19/08/2021		
P03	S. Pilkington	08/12/2021	R. Elliott	14/12/2021	R. Elliott	15/12/2021		

Revision Tracking

Specify significant changes from previous revisions of the document.

Revision No.	Date	Description of Revision
P01	02/08/2021	Draft for Client review and comment
P02	23/08/2021	Second issue incorporating Client comments
P03	15/12/2021	Minor edits to contract specific drawings (Appendix 1)

NORTH LONDON WASTE AUTHORITY

NORTH LONDON WASTE AUTHORITY

SCHEDULE 3a: SCOPE: *CLIENT'S* REQUIREMENTS – PART 2 SITE CLEARANCE WORKS

December 2021

Northern Area Clearance (Zone 3, Zone 4 and TBWRF / FPP) Works for the North London Heat and Power Project

Contract Award: 17th December 2021

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Structure of Contract Documentation

Document	Content
Schedule 1A	Contract Data Part One
Schedule 1B	Contract Data Part Two including Activity Schedule Template
Schedule 2	Option Z: *Additional Conditions of Contract*
Schedule 3a	Scope: *Client's* Requirement's – Part 1: General Requirements. Scope: *Client's* Requirements – Part 2 Site Clearance Works
Schedule 4	Site Information
Schedule 5	Pre-Construction Information
Schedule 6	Forms of Deed of Collateral Warranty
Schedule 7	Form of Performance Bond
Schedule 8	Form of Parent Company Guarantee

1 Scope of the *works*

1.1.1 The *works* will include but not be limited to the following main elements:

- Formal handover of the Working Areas from the *Client.*
- Sequencing and phasing of the *works*, taking into account the general constraints stated herein.
- Site establishment and set-up.
- Pre-works surveys, including:
    a. Pre-works condition surveys including reporting and provision of information;
    b. Structural and hazardous material surveys; and
    c. Pre-works ecology checks.
- Enabling/preparatory works.
- Service location, clearance and protection.
- Site clearance to remove the required above and below ground structures.
- Design and installation of site hoarding fencing and access gates to be left on site for use by the future ERF phase 1 contractor.
- Minor earthworks to achieve proposed finished site levels, where slab removal is required.
- Recycling of materials arising from the *works*, including on site-processing of materials suitable for re-use and stockpiling of material for re-use as required.
- Post-works condition surveys, completion reporting and provision of information to the *Project Manager*.
- Formal site handback to the *Client.*
- The *Contractor* is to provide all resources, Plant and Materials and Equipment, required to Provide the Works and for the Completion of the *works*.

Design Procedures, Responsibilities and Assumptions

***Client's* Design Responsibility**

1.1.2 The *Client's* design responsibility is limited to defining the project objectives and the required post-works site conditions.

***Contractor's* Design Requirements**

As part of the *works* the *Contractor's* design responsibility will include but not be limited to the following:

1.1.3 The *Contractor* will as part of its design responsibility review and validate all technical work, information and data set out in Schedule 3a: Scope: *Client's* Requirements.

1.1.4 The *Contractor* will be responsible for all aspects of the detailed design, supply, delivery, installation and testing required to Provide the Works.

1.1.5 The *Contractor* will develop a detailed design, in accordance with all relevant standards and current good practice, for the *works* to ensure a complete, safe, fully functioning (where appropriate) and integrated solution.

1.1.6 The *Contractor* is responsible for the design of all elements of both the temporary and permanent works required to Provide the Works such that they achieve the *Client's* objectives and the required post-Completion site conditions as defined herein.

Reference Drawings and Information

1.1.7 Schedule 3a: Scope: *Client's* Requirements – Parts 1 to 2 sets out the requirements for the *works*.

1.1.8 The *Contractor* will use the information/data/other materials provided by the *Client* along with any such materials that it develops / provides itself in the preparation and development of the *Contractor's* design to deliver the *Client's* requirements.

1.1.9 It is the *Contractor's* responsibility to make sure that it has all the information / data etc. that it needs to deliver designs so that the *works* meet the *Client's* requirements.

Hierarchy of Specifications

1.1.10 The hierarchy of specifications with which the *Contractor* will comply is set out under Clause S320 of Schedule 3a: Scope: *Client's* Requirement's – Part 1: General Requirements.

1.1.11 The "Specification for Highway Works", published by the Stationery Office (formerly HMSO) as "Volume 1 of the Manual of Contract Documents for Highway Works" forms the basis of Schedule 3a: Scope: *Client's* Requirement's – Part 1: Site Clearance Works. Relevant details are set out in Sections 2 and 3, with contract specific clauses provided thereafter.

Specification Glossary

BWRF/FPP	Bulky waste recycling facility/fuel preparation plant
TBWRF/FPP	Temporary bulky waste recycling facility/fuel preparation plant
CAT	Cable avoidance tool
GPR	Ground penetrating radar
QA/QC	Quality assurance and quality control
HSE	Health and Safety Executive
SQE	Suitably qualified ecologist
ERF	Energy recovery facility
CL:AIRE	Contaminated land: applications in real environments
HMSO	Her Majesty's Stationary Office
MMP	Material management plan
MCHW	Manual of Contract Documents for Highways Work
EA	Environment Agency
ACM	Asbestos containing materials
CBR	California bearing ratio
S4UL	Suitable 4 Use Level
TPH	Total Petroleum Hydrocarbon
RIVM	Rijksinstituut voor Volksgezondheid en Milieu (Dutch National Institute for Public Health and the Environment)
RPA's	Root protection areas

In this Schedule, the term "working day" means any day not being a Saturday, Sunday, Christmas Day, Good Friday or any other day which under the Banking and Financial Dealings Act 1971 is a bank holiday in England and Wales.

2 Site Clearance Work – Preamble to the Specification

The Preamble to the Specification has been reproduced unaltered from Specification for Highway Works Series NG 000 (05/14). Any capitalisation is defined by the Specification for Highway Works and these will follow through into Clauses 1 to 15 and Appendices 0/1 to 0/5 inclusive.

1 The Specification referred to in the Tender shall be the 'Specification for Highway Works', published by the Stationery Office (formerly HMSO) as Volume 1 of the Manual of Contract Documents for Highway Works, as modified and extended by the following contract specific items:

(i) Appendix 0/1: Contract specific Additional, Substitute and Cancelled Clauses, Tables and Figures;

(ii) Appendix 0/2: Contract specific minor alterations to existing Clauses, Tables and Figures;

(iii) The contract specific Numbered Appendices listed in Appendix 0/3;

(iv) Appendix 0/5: Special National Alterations of the Overseeing Organisation of Scotland, Wales or Northern Ireland.

Appendix 0/4 contains a list of the Drawings.

2 The relevant publication date of each page of the Specification for Highway Works is given in the Schedule of Pages and Relevant Publication Dates.

3 An Additional Clause as indicated by a suffix 'A' in Appendix 0/5 is an alteration originating from the Overseeing Organisation of Scotland, Wales or Northern Ireland. An Additional Clause as indicated by a suffix 'AR' in Appendix 0/1 is a contract specific alteration.

4 A Substitute Clause, as indicated by the suffix 'S' in Appendix 0/5 is an alteration originating from the Overseeing Organisation of Scotland, Wales or Northern Ireland. A Substitute Clause as indicated by a suffix 'SR' in Appendix 0/1 is a contract specific alteration.

5 A Cancelled Clause as indicated by a suffix 'C' in Appendix 0/5 is an alteration originating from the Overseeing Organisation of Scotland, Wales or Northern Ireland. A Cancelled Clause indicated by a suffix 'CR' in Appendix 0/1 is a contract specific alteration.

6 Insofar as any of the contract specific Numbered Appendices may conflict or be inconsistent with any provision of the Specification for Highway Works the Numbered Appendices shall always prevail. Additionally, Numbered Appendices 0/1 and 0/2 shall take precedence over Numbered Appendix 0/5.

7 Any reference in the Contract to a Clause number or contract specific Appendix shall be deemed to refer to the corresponding Substitute Clause number or contract specific Appendix listed in Appendix 0/1, 0/2 or 0/5.

8 Where a Clause is altered any original Table/Figure referred to in the Clause shall apply unless the Table/Figure is also altered. Where a Table/Figure is altered any reference in a Clause to the original Table/Figure shall apply to the altered Table/Figure.

9 Where a Clause in the Specification relates to work goods or materials which are not required for the Works it shall be deemed not to apply.

10 Any Appendix referred to in the Specification which is not used shall be deemed not to apply.

11 Where a Clause in the Specification is prefixed by an # this indicates that this particular Clause has a substitute National Alteration for one or more of the Overseeing Organisations of Scotland, Wales or Northern Ireland. Substitute or additional National Clauses shall be used within countries to which they specifically apply and they are deemed to replace corresponding Clauses in the main text of the Specification as appropriate. The substitute National Clauses are located at the end of the relevant Series together with the additional National Clauses of the Overseeing Organisations.

12 Other than where references to the Overseeing Organisation are made in the context of the Overseeing Organisation granting statutory or type approvals, the roles and functions of the Overseeing Organisation shall be undertaken by the Project Manager.

Where the Specification requires the provision of documentation to the Overseeing Organisation for statutory or type approval such documentation shall be provided to the Project Manager.

13 If the Specification is used in conjunction with a Contract under which the Contractor is responsible for the design of any part of the Permanent Works, the delegation of the roles and functions of the Overseeing Organisation as stated in paragraph 12 above shall be further amended as follows:

(i) If any agreement, consent or approval required to be obtained from the Overseeing Organisation impacts on the health and safety of the general public, the environment or any property or equipment not owned or operated by the Contractor, such agreement, consent, approval shall be obtained from the Project Manager.

(ii) Where the Specification provides for the Overseeing Organisation to require a test, waive the requirement for a test or alter testing frequency, the party to whom the Overseeing Organisation's roles and functions have been ascribed by paragraph 12 above shall exercise such decisions in accordance with the Secretary of State's requirements stated in the Contract.

14 Where Standards and other documents are incorporated into the Contract by reference the respective edition used shall be that which is current on the Contract Reference Document Date *starting date* as defined in Contract Data Part One, unless otherwise stated in the Specification.

Table 0/1 Schedule of Pages and Relevant Publication Dates

Series/Appendix	Page Number	Publication Date
000 000 000	1 to 3 6 to 7F 4 to 5	May 2014 February 2016 April 2021
100 100	1 to 2, 4 to 9, 12 to 29F, WF1, N2 to N11F 3, 10 to 11, N1	May 2014 December 2014
200	1 to 3F	February 2016

Series/Appendix	Page Number	Publication Date
300 300 300	1 4 2 to 3, 5 to 6F	May 2001 November 2002 May 2008
400 400	1, 9 to 11, 13, 17 to 20, 21, 23F 2 to 8, 12,14 to 16, 22	May 2017 March 2020
500 500	1 to 2, 4 to 39F, N1 to N2F 3	February 2020 March 2020
600 600	1 to 68, 70 to 77F, S1 to S4F, W1 to W4F, N1 to N5F 69	February 2016 February 2017
700	1 to 36F, N1 to N6F	February 2016
800 800	1, 3 to 31 2, 32 to 38F	February 2016 March 2020
900 900	3, 5 to 7, 21 to 32 1 to 2, 4, 8 to 20, 33 to 79F	May 2018 July 2019
1000	1 to 51F	February 2021
1100 1100 1100	N1F 3 1 to 2, 4 to 6F	November 2006 August 2008 February 2017
1200 1200 1200 1200 1200 1200 1200	5 2 to 3, W1F 1, 14 to 16F 4, 9 to 11, 13 12 6 to 7, N1 to N4F 8	May 2001 August 2003 May 2004 May 2005 November 2006 November 2007 May 2008
1300 1300 1300 1300	N2F 3 to 4 1, 5 to 10, 12F 2, 11 and N1	November 2003 November 2004 November 2005 May 2006
1400 1400	2, N1F 1, 3 to 9F	May 2001 May 2006
1500	1 to 31F	February 2017
1600	1, 4 to 5, 9, 15, 17 to 18, 24 to 26, 29 to 31, 35, 38, 49F	March 1998

Series/Appendix	Page Number	Publication Date
1600 1600	2, 6 to 8, 10 to 14, 16, 19, 27 to 28, 32 to 34, 36 to 37, 39 to 42, 44 to 48 3, 20 to 23, 43	November 2003 November 2005
1700 1700	2, 4, 6 to 7, 19, 24 to 27, 30 to 34 1, 3, 5, 8 to 18, 20 to 23, 28 to 29, 35 to 39F	December 2014 March 2020
1800	1 to 35F	April 2021
1900	1 to 35F, S1 to S2F	August 2014
2000 2000	1, 3 to 4F 2	May 2001 November 2004
2100	1 to 2F	February 2016
2300 2300	1 2 to 3F	March 1998 May 2001
2400 2400 2400	1, 4, 7F 2 3, 5 to 6	May 2005 May 2006 May 2008
2500 2500 2500 2500 2500 2500	1 2, 8, 11F 10 6 to 7, 9 5 3 to 4	May 2001 November 2003 November 2004 May 2005 May 2006 November 2006
2600 2600 2600 2600 2600	2 to 4 5 6 7 1, 8F	November 2003 November 2004 May 2005 November 2006 March 2020
3000 3000 3000 3000	4 to 7, 10, 12 to 17, 19, 22 to 27F 20 2 to 3 8 to 9, 11, 18, 21	May 2001 November 2004 May 2006 May 2008
5000 5000	1, 4 to 19F, S1F 2 to 3	May 2005 November 2008
5700	1 to 30F	February 2020
Appendix A	1 to 4F	May 2014
Appendix B	1 to 3F	May 2014
Appendix C	1 to 2F	May 2014

Series/Appendix	Page Number	Publication Date
#Appendix D Appendix D (NI)	1F N1F	May 2014 May 2014
Appendix E	1F	May 2014
Appendix F	1 to 60F	April 2021
Appendix G	Not used	
Appendix H Appendix H Appendix H Appendix H	1 2 3 4 to 9F	May 2004 November 2005 November 2006 November 2008

3 Series 000: Introduction

The *Contractor* is required to comply with the Specification for Highway Works", published by the Stationery Office (formerly HMSO) as "Volume 1 of the Manual of Contract Documents for Highway Works" and all contract specific details set out herein.

In Appendix 0/1, 0/2 and 0/3 all series titles have been reproduced unaltered from the Specification for Highway Works. In addition, all Clause titles have been reproduced unaltered from the Specification for Highway Works, except for any Clauses inserted in full for the purposes of the contract as indicated in the relevant appendix.

Appendix 0/1 - Contract Specific Additional, Substitute and Cancelled Clauses, Tables and Figures Included in the Contract

PART A: VOLUME 1 SPECIFICATION

List of Additional Clauses, Tables and Figures

Clause No (etc)		Title
SERIES 100: PRELIMINARIES		
127	AR	Records (1)
128	AR	Enabling / Preparatory Works (1)
129	AR	Requirements for *works* On / Or Associated with Contaminated Land (1)
130	AR	Post-Completion Condition Surveys and Completion Works
131	AR	Site Restoration (1)
132	AR	Constraints on *Contractor's* Working Methods (1)
SERIES 200: SITE CLEARANCE		
201	AR	Clearing
202	AR	Existing Trees, Bushes and Hedges
204	AR	Hazardous Materials
SERIES 300: FENCING		
301	AR	General
SERIES 500: DRAINAGE AND SERVICE DUCTS		
None		
SERIES 600: EARTHWORKS		
601	AR	General Requirements
SERIES 3000: LANDSCAPE AND ECOLOGY		
None		

Notes:
(1) Clause inserted in full for the purposes of the contract.

List of Substitute Clauses, Tables and Figures

Clause No (etc)		Title
SERIES 100: PRELIMINARIES		
None		
SERIES 200: SITE CLEARANCE		
203	SR	Explosives and Blasting

Clause No (etc)		Title
SERIES 300: FENCING		
None		
SERIES 500: DRAINAGE AND SERVICE DUCTS		
None		
SERIES 600: EARTHWORKS		
607	SR	Explosives and Blasting
SERIES 3000: LANDSCAPE AND ECOLOGY		
None		

List of Cancelled Clauses, Tables and Figures

None.

Appendix 0/2 - Contract Specific Minor Alterations to Existing Clauses, Tables and Figures included in the Contract

None.

Appendix 0/3 - List of Contract Specific Numbered Appendices Referred to in the Specification and Included in the Contract

Appendix 0/3 is comprised of two lists, A and B, of Numbered Appendices as follows:

List 'A' is a list of the contract specific Numbered Appendices referred to in the Specification for Highway Works and used in the contract.

List 'B' is a list of contract specific Numbered Appendices devised for the contract.

List 'A': Contract Specific Numbered Appendices Referred to in the Specification for Highway Works and Included in the Contract

Series No.	Completed by	Appendix No.	Title
000			**INTRODUCTION**
	Wood	0/1	Contract specific Additional, Substitute and Cancelled Clauses, Tables and Figures Included in the Contract
	Wood	0/2	Contract specific Minor Alterations to Existing Clauses, Tables and Figures included in the Contract
	Wood	0/3	List of Numbered Appendices Referred to in the Specification and Included in the Contract
	Wood	0/4	List of Drawings Included in the Contract
	-	0/5	Not Used
100			**PRELIMINARIES**
	Wood	1/1	Temporary Accommodation and Equipment for the *Supervisor* (1)
	-	1/2	Not Used
	-	1/3	Not Used

Series No.	Completed by	Appendix No.	Title
	Wood	1/4	Working and Fabrication Drawings
	Wood	1/5	Testing to be Carried out by the Contractor
	Wood	1/6	Not Used
	Wood	1/7	Site Extent and Limitations on Use
	-	1/8	Not Used
	Wood	1/9	Control of Noise and Vibration
	Wood	1/10	Permanent Works to be Designed By the *Contractor*
	Wood	1/11	Temporary Works Design
	Wood	1/12	Surveys, Setting Out and Existing Ground Levels (1)
	-	1/13	Not Used
	-	1/14	Not Used
	-	1/15	Not Used
	Wood	1/16	Privately and Publicly Owned Services and Supplies
	Wood	1/17	Traffic Safety and Management
	-	1/18	Not Used
	Wood	1/19	Routeing of Vehicles
	-	1/20	Not Used
	-	1/21	Not Used
	Wood	1/22	Progress Photographs
	Wood	1/23	Risks to Health and Safety
	-	1/24 to 1/27	Not Used
200			**SITE CLEARANCE**
	Wood	2/1	List of Buildings, etc. to be Demolished or Partially Demolished
	Wood	2/2	Filling of Trenches and Pipes
	Wood	2/3	Retention of Materials Arising from Site Clearance
	-	2/4	Not Used
	Wood	2/5	Hazardous Materials
	Wood	2/6	Site Clearance Environmental Requirements
300			**FENCING**
	Wood	3/1	Fencing, Gates and Stiles
400			**ROAD RESTAINT SYSTEMS (VEHICLE AND PEDESTRIAN)**
	-	4/1	Not Used
	-	4/2	Not Used
500			**DRAINAGE AND SERVICE DUCTS**
	Wood	5/1	Drainage Requirements
	-	5/2 to 5/8	Not Used
600			**EARTHWORKS**
	Wood	6/1	Requirements for Acceptability and Testing etc. of

Series No.	Completed by	Appendix No.	Title
			Earthworks Materials
	Wood	6/2	Requirements for Dealing with Class U1B and U2 Unacceptable Materials
	Wood	6/3	Requirements for Excavation, Deposition, Compaction (Other than Dynamic Compaction)
	-	6/4	Not used
	Wood	6/5	Geotextiles Used to Separate Earthworks Materials
	-	6/6 to 6/11	Not used
	Wood	6/12	Instrumentation and Monitoring
	-	6/13	Not used
	Wood	6/14	Limiting Values for Pollution of Controlled Waters
	Wood	6/15	Limiting Values for Harm to Human Health and the Environment
700			**ROAD PAVEMENT – GENERAL**
	-	7/1 to 7/22	Not Used
1000			**ROAD PAVEMENTS - CONCRETE AND CEMENT BOUND MATERIALS**
	-	10/1	Not Used
1100			**KERBS FOOTWAYS AND PAVED AREAS**
	-	11/1 to 11/2	Not Used
1200			**TRAFFIC SIGNS**
	-	12/1 to 12/6	Not Used
1300			**ROAD LIGHTING COLUMNS AND BRACKETS CCTV MASTS AND CANTILEVER MASTS**
	-	13/1 to 13/9	Not Used
1400			**ELECTRICAL WORK FOR ROAD LIGHTING AND TRAFFIC SIGNS**
	-	14/1 to 14/5	Not Used
1500			**MOTORWAY COMMUNICATIONS**
	-	15/1 to 15/3	Not Used
1600			**PILING AND EMBEDDED RETAINING WALLS**
	-	16/1 to 16/18	Not Used
1700			**STRUCTURAL CONCRETE**
	-	17/1 to 17/8	Not Used
1800			**STRUCTURAL STEELWORK**
	-	18/1	Not Used
1900			**PROTECTION OF STEELWORK AGAINST CORROSION**
	-	19/1 to 19/5	Not Used
2000			**WATERPROOFING FOR CONCRETE STRUCTURES**

Series No.	Completed by	Appendix No.	Title
	-	20/1	Not Used
2100			**BRIDGES BEARINGS**
	-	21/1	Not Used
2200			Not Used
2300			**BRIDGE EXPANSION JOINTS AND SEALING OF GAPS**
	-	23/1 to 23/2	Not Used
2400			**BRICKWORK BLOCKWORK AND STONEWORK**
	-	24/1	Not Used
2500			**SPECIAL STRUCTURES**
	-	25/1 to 25/5	Not Used
2600			**MISCELLANEOUS**
	-	26/1 to 26/8	Not Used
3000			**LANDSCAPE AND ECOLOGY**
	Wood	30/1	General
	Wood	30/2	Weed Control
	-	30/3 to 30/9	Not Used
	Wood	30/10	Maintenance of Established Trees and Shrubs
	-	30/11	Not Used
	Wood	30/12	Special Ecological Measures
5000			**MAINTENANCE PAINTING OF STEELWORK**
	-	50/1 to 50/5	Not Used
5700			**CONCRETE REPAIRS**
		57/1 to 57/7	Not Used

Notes:
(1) Appendix title amended from Specification for Highway Works for the purposes of the contract.

List 'B' Contract Specific Numbered Appendices devised for the Contract

Volume No	Completed By	Appendix No.	Title
1	Wood	1/28	Information for the *Contractor's* Completion Report
1	Wood	1/29	Requirement for Works on or Associated with Contaminated Land

Appendix 0/4 - List of Construction Drawings Included in the Contract

Contract Specific Drawings Supplied to Each Tenderer

Drawing Number	Version Revision	Drawing Title
NP-WOD-41XX-XXX-DR-EN-060061	P02	NAC Zone 3, Zone 4 and TBWRF / FPP Location
NP-WOD-41XX-XXX-DR-EN-090054	P04	NAC Zone 3, Zone 4 and TBWRF / FPP Contract Boundary
NP-WOD-41XX-XXX-DR-EN-060057	P04	NAC Zone 3, Zone 4 and TBWRF/FPP Working Area (CDM) Boundaries
NP-WOD-41XX-XXX-DR-EN-090053	P02	NAC Zones 1 and 2 (TBWRF/FPP) Planned Structure Removal
NP-WOD-41XX-XXX-DR-EN-090055	P03	NAC Zone 3 (BWRF/FPP) and Zone 4 (Ancillary Buildings) Planned Structure Removal
NP-WOD-41XX-XXX-DR-LA-90003	P08	Tree and Shrub Clearance and Tree Protection Measures
NP-WOD-41XX-XXX-DR-EN-060058	P03	NAC Zone 3 and Zone 4 Constraints on Contractor's Working Methods
NP-WOD-41XX-XXX-DR-EN-060060	P02	NAC TBWRF/FPP - Constraints on Contractor's Working Methods
NP-WOD-41XX-XXX-DR-CE-061080	P02	Boundary Hoarding for ERF Phase 1
NP-WOD-41XX-XXX-DR-CE-061082	P02	NAC Zones 1 and 2 (TBWRF/FPP) Post-Clearance Proposed Finished Levels (Tender Stage)
NP-WOD-41XX-B01-DR-CE-063775	P01	NAC Ex.Water
NP-WOD-41XX-B01-DR-CE-063774	P01	NAC Ex. Telecomms & CCTV
NP-WOD-41XX-B01-DR-CE-063773	P01	NAC Ex. Gas
NP-WOD-41XX-B01-DR-CE-063772	P01	NAC Ex. Electricity
NP-WOD-41XX-B01-DR-CE-063771	P01	NAC Ex. Drainage
NP-WOD-XXXX-XXX-DR-CE-069496	P02	NAC Zone 3, Zone 4 and TBWRF/FPP Construction Traffic Flows and Site Constraints (TBWF in Operation)
NP-WOD-XXXX-XXX-DR-CE-069558	P01	NAC Zone 3, Zone 4 and TBWRF/FPP Construction Traffic Flows and Site Constraints (TBWF Site Clearance)

Drawing Number	Version Revision	Drawing Title
NP-WOD-41AX-XXX-DR-EN-090019	P01	Northern Area: Monitoring Borehole Locations

3.1.1 Copies of the above drawings are in included in Appendix 1 of Schedule 3a: Scope: *Client's* Requirements – Part 2: Site Clearance Works.

4 Series 100: Preliminaries

127 AR Records

4.1.1 Records to be obtained by the *Contractor* include, but are not limited to:

- Test certificates as detailed in Appendix 1/5;
- Survey information as detailed Appendix 1/12;
- Utility survey records, isolation and disconnection certificates as detailed in Appendix 1/16;
- Progress photographs as detailed in Appendix 1/22;
- Waste management and environmental monitoring records as detailed in Schedule 3a: Scope: *Client's* Requirement's – Part 1: General Requirements.

4.1.2 The *Contractor* will collate information for inclusion in the *Contractor's* Completion Reports and also provide information to the principal designer and *Supervisor* for inclusion in the health and safety file. The information will be prepared in the form to be agreed with the principal designer, *Supervisor* and *Project Manager* prior to commencement of the *works*. The information that will be required is set out in Clause S435 of Schedule 3a: Scope: *Client's* Requirement's – Part 1: General Requirements.

128 AR Enabling/Preparatory Works

4.1.3 Prior to commencement of the *works* the *Contractor* will protect the monitoring wells listed in Table 1a during the *works* and where the wells are within the Working Area, ensure access is maintained to these monitoring wells to allow for monitoring by the *Client's* monitoring team.

4.1.4 The locations of the monitoring wells are shown on Drawing NP-WOD-41AX-XXX-DR-EN-090019, copy of which is located within Appendix 1 of Schedule 3a: Scope: *Client's* Requirements – Part 2: Site Clearance Works.

Table 1a – Monitoring Wells to be Protected During the *works*

Borehole ID	Eastings	Northings	Geological Unit Screened	Approximate depth to base of installation (m)
BH302	535599.10	192853.80	Kempton Park Gravels	8.20
BH106	535816.83	192811.33	Kempton Park Gravels	9.00
BH107	535910.55	192849.06	Kempton Park Gravels	5.80
BH202	535910.91	192847.28	Lambeth Group	17.60
BH516	535841.48	192882.28	Kempton Park Gravels/Lambeth Group (Dual installation)	8.50 / 29.20
BH116	535891.55	192705.40	Kempton Park Gravels	6.10
BH115	535867.51	192633.10	Kempton Park Gravels	7.10
BH117	535813.75	192713.45	Kempton Park Gravels	6.00
BH505	535775.24	192782.58	Made Ground/Kempton Park Gravels /Lambeth Group (Triple installation)	1.90 / 5.50 / 30.00
BH518	535807.06	192755.20	Kempton Park Gravels/Lambeth Group (Dual installation)	8.30 / 30.00
BH527	535870.51	192714.09	Kempton Park Gravels/Lambeth	7.30 / 40.35

Borehole ID	Eastings	Northings	Geological Unit Screened	Approximate depth to base of installation (m)
			Group (Dual installation)	
BH610	535867.10	192640.62	Kempton Park Gravels/Lambeth Group (Dual installation)	7.50 / 30.00

4.1.5 The monitoring wells must be protected from damage during the *works*. The minimum protection requirements are as follows:

- Internal diameter: 900mm
- External diameter: 1040mm
- Depth: 500mm
- Approximate weight: 520kg
- Lifting hole: 3x50mm

4.1.6 If any of the monitoring wells are damaged during the *works,* the *Contractor* will report this to the *Project Manager* and replace (or where appropriate, repair) them, at the *Contractor's* cost, with monitoring wells of equivalent depth and construction as the damaged well(s) and in accordance with Environmental Agency guidance on the design and installation of groundwater monitoring quality points "Science Report SC020093". https://www.gov.uk/government/publications/guidance-on-the-design-and-installation-of-groundwater-quality-monitoring-points

4.1.7 Damaged monitoring wells shall be replaced (or where appropriate, repaired) within 2 months of the damage occurring. The location of the replacement monitoring wells shall be agreed with the *Project Manager* and the *Client's* monitoring team. Where a repair to the monitoring well is proposed, as opposed to replacement, the details of any repair shall be agreed with the *Project Manager* and the *Client's* monitoring team.

4.1.8 Monitoring wells which are damaged and require replacement, shall be decommissioned in accordance with the Environment Agency guidance on the design and installation of groundwater quality monitoring points, "Science Report SC020093". https://www.gov.uk/government/publications/guidance-on-the-design-and-installation-of-groundwater-quality-monitoring-points

4.1.9 Monitoring wells additional to those listed in Table 1a are located in the Working Areas. These wells, listed in Table 1b, shall be decommissioned by the *Contractor* as part of their enabling activities and prior to commencing the dismantling of any structures or other such key activities.

4.1.10 The locations of the monitoring wells to be decommissioned by the *Contractor* are shown on Drawing NP-WOD-41AX-XXX-DR-EN-090019, copy of which is located within Appendix 1 of Schedule 3a: Scope: *Client's* Requirements – Part 2: Site Clearance Works.

4.1.11 The depth and construction details of the monitoring wells to be decommissioned are detailed on the exploratory hole records provided in Appendix 2 of Schedule 4 – Site Information. The wells shall be decommissioned in accordance with the Environment Agency guidance on the design and installation of groundwater quality monitoring points, "Science

Report SC020093". https://www.gov.uk/government/publications/guidance-on-the-design-and-installation-of-groundwater-quality-monitoring-points

Table 1b – Monitoring Wells to be Decommissioned

Borehole ID	Eastings	Northings	Installation Details	Depth (m below ground level)	Well Pipe Diameter (mm)	Well Volume (m^3)
BH512	535748.01	535748.01	Made Ground	3.20	50.00	0.0062832
			Kempton Park Gravels	7.50	50.00	0.0147262
BH514	535798.65	535798.65	Made Ground	3.20	50.00	0.0062832
BH515	535759.84	535759.84	Made Ground	4.40	50.00	0.0086394
			Lambeth Group	22.50	50.00	0.0441786
BH304	535776.71	535776.71	Lambeth Group	23.00	50.00	0.0451604
BH517	535832.91	535832.91	Made Ground	2.00	50.00	0.0039270
			Kempton Park Gravels	6.50	50.00	0.0127627
BH522	535817.56	535817.56	Kempton Park Gravels	7.25	50.00	0.0142353
			Lambeth Group	40.50	50.00	0.0795216
BH501	535837.42	535837.42	Kempton Park Gravels	7.00	50.00	0.0137445
BH503	535854.29	535854.29	Kempton Park Gravels	7.50	50.00	0.0147262
			Lambeth Group	45.30	50.00	0.0889463
BH312	535831.85	535831.85	Lambeth Group	29.30	50.00	0.0575304
BH504	535910.50	192848.10	Kempton Park Gravels	5.50	51.00	0.0112355
			Lambeth Group	28.00	50.00	0.0549779
BH519	535886.18	192813.15	Alluvium	3.40	50.00	0.0066759
			Lambeth Group	40.00	50.00	0.0785398
BH521	535894.99	192794.53	Kempton Park Gravels	6.40	50.00	0.0125664
			Lambeth Group	33.00	50.00	0.0647953

129 AR Requirements for Works On/Or Associated with Contaminated Land

4.1.12 The *Contractor* will comply with the requirements for the *works* as set-out in Appendix 1/29.

130 AR Post-Completion Condition Surveys and Completion Works

4.1.13 The *Contractor* will undertake a post-Completion condition survey (including time and date stamped photographs) and post-Completion topographic survey to establish the post-Completion condition in line with the requirements of Schedule 3a: Scope: *Client's* Requirement's – Part 1: General Requirements.

4.1.14 The *Contractor* will carry out any other post-Completion surveys the *Contractor* considers necessary. If any further surveys are completed copies

are to be provided to the *Supervisor* within 7 days of completion of the survey and must be included in the *Contractor's* Completion Report.

4.1.15 The *Contractor* will prepare a Completion Report in line with the requirements of Appendix 1/28.

131 AR Site Restoration

4.1.16 Upon Completion of the *works*, the *Contractor* will leave the Working Areas in a secure, tidy and hazard free condition to the satisfaction of the *Supervisor*.

4.1.17 The *Contractor* will ensure that the ground surfaces in and around the Working Areas are free from any tripping hazards, any debris associated with the *works* or any other conditions which would make the Working Areas unsafe, including the infilling of any pits/void/depressions to match existing and final ground level and the installation of ramped "fillets", using suitable Site derived or imported materials, to the edges of any slabs, steps or level differences greater than 125 mm high.

132 AR Constraints on *Contractor's* Working Methods

4.1.18 In determining their working methods, the *Contractor* will consider the Site constraints. For information on known constraints the *Contractor* will refer to:

- Clause S205 of Schedule 3a: Scope: *Client's* Requirement's – Part 1: General Requirements.
- Drawing number: NP-WOD-41XX-XXX-DR-EN-060058 – "NAC Zone 3 and Zone 4 - Constraints on *Contractor's* Working Methods".
- Drawing number: NP-WOD-41XX-XXX-DR-EN-060060– "NAC TBWRF/FPP - Constraints on *Contractor's* Working Methods".
- Drawing Number: NP-WOD-XXXX-XXX-DR-CE-069492 "TF4.2 Temporary BWRF Operation NAC Zone 3 and Zone 4 Works Construction Traffic Flows and Site Constraints (Sheet 3 of 4)".
- Drawing Number: NP-WOD-XXXX-XXX-DR-CE-069554 TF4.3 Temporary BWRF Demolition ERF PHASE 1 Works Construction Traffic Flows and Site Constraints (Sheet 3 of 4).

4.1.19 The contract boundary is defined on Drawing NP-WOD-41XX-XXX-DR-EN-090054. The *Contractor's* attention is drawn to the fact that the contract boundary differs to the Working Area and that physical activities are limited to within the Working Area only. The Working Area (also referred to as the CDM area) is defined on Drawing NP-WOD-41XX-XXX-DR-EN-060057.

Appendix 1/1 – Temporary Accommodation and Equipment for the Supervisor

4.1.20 The *Contractor* is required to refer to Clause S1005 in Schedule 3a: Scope: *Client's* Requirement's – Part 1: General Requirements.

Appendix 1/4 - Working and Fabrication Drawings

4.1.21 Working and fabrication drawings to be completed by the *Contractor* are as follows:

- Survey drawings as detailed in Appendix 1/12.
- 'As-built' drawings as detailed in Appendix 1/12.

Appendix 1/5 – Testing to be carried out by the *Contractor*

4.1.22 Testing requirements are set out in Appendix 6/1 to 6/15.

Appendix 1/7 – Site Extent and Limitations on Use

4.1.23 The contract boundary is as detailed on Drawing Number NP-WOD-41XX-XXX-DR-EN-090054 – "NAC Zone 3, Zone 4 and TBWRF/FPP Contract Boundary", a copy of which is included in Appendix 1 to Schedule 3a: Scope: *Client's* Requirements – Part 2: Site Clearance Works.

4.1.24 The Working Areas are as illustrated on Drawing Number NP-WOD-41XX-XXX-DR-EN-060057 – "NAC Zone 3, Zone 4 and TBWRF/FPP Working Area (CDM) Boundaries", a copy of which is included in Appendix 1 to Schedule 3a: Scope: *Client's* Requirements – Part 2: Site Clearance Works.

4.1.25 The *Contractor's* attention is drawn to the area located within the contract boundary, but which is excluded from the Working Areas. No physical activities are permitted in the area indicated on the relevant drawings and access to this area is required by other parties for the duration of the *works*.

4.1.26 The *Contractor* is required to refer to Clause S205 in Schedule 3a: Scope: *Client's* Requirement's – Part 1: General Requirements.

Appendix 1/9 – Control of Noise & Vibration

4.1.27 The *Contractor* will comply with Clause S205 in Schedule 3a: Scope: *Client's* Requirement's – Part 1: General Requirements.

Appendix 1/10 – Permanent Works to be Designed By the *Contractor*

4.1.28 The *Contractor* is responsible for the design of the *works* in general accordance with the following:

- Drawing number NP-WOD-41XX-XXX-DR-CE-061080 – "Boundary Hoarding for ERF Phase 1".
- Drawing number: NP-WOD-41XX-XXX-DR-CE-061082- "NAC Zones 1 and 2 (TBWRF/FPP) Post-Clearance Proposed Finished Levels (Tender Stage)".
- British Standard BS 6187: "Code of practice for demolition".

4.1.29 The *Contractor* is required to submit its designs to the *Project Manager* for acceptance in accordance with Clause S310 of in Schedule 3a: Scope: *Client's* Requirement's – Part 1: General Requirements.

Appendix 1/11 – Temporary Works

4.1.30 The *Contractor* is responsible for all temporary works required for execution and completion of the *works*.

4.1.31 The *Contractor* shall design and manage every aspect of any temporary works in accordance with British Standard BS5975:2019 'Code of Practice for Temporary Works Procedures and the Permissible Stress Design of Falsework'.

4.1.32 The *Contractor* is responsible for the appointment of suitably trained and experienced staff in accordance with BS5975:2019 'Code of Practice for Temporary Works Procedures and the Permissible Stress Design of Falsework'.

4.1.33 The *Contractor* will liaise with the principal designer on the relevant aspects of temporary works and other parties as defined under BS5975:2019 'Code of Practice for Temporary Works Procedures and the Permissible Stress Design of Falsework' and the Construction and Design Management Regulations 2015 (CDM 2015).

4.1.34 The *Contractor* will provide copies of their temporary works register, temporary works design and temporary works inspection records to the *Project Manager* for acceptance. The *Contractor* is required to submit its designs to the *Project Manager* for acceptance in accordance with Clause S310 of in Schedule 3a: Scope: *Client's* Requirement's – Part 1: General Requirements.

4.1.35 Aspects of the *works* which may require temporary works, include, but are not limited to the following:

- Excavations;
- Trench support;
- Temporary slopes;
- Stockpiles;
- Site fencing;
- Site hoarding;
- Shoring;
- Edge protection;
- Support scaffolding;
- Temporary roads and access tracks;
- Groundworks for mobile cranes or mobile elevated working platforms (MEWPs).

Appendix 1/12 – Surveys, Setting Out and Existing Ground Levels

4.1.36 Existing topographical data for Zone 3 and Zone 4 is provided in Appendix 4 of Schedule 4 – Site Information. Topographical data for the TBWRF / FPP is included in Appendix 16 of Schedule 4 – Site Information. The *Contractor's* attention is drawn to the fact the topographical data for the TBWRF / FPP is based on the reference design, on the basis that the facility is under construction at the time of tender. Information on the TBWRF / FPP reference design is included in Appendix 16 of Schedule 4 – Site Information. Updated information about the site of the TBWRF/FPP is to be provided to the *Contractor* at contract award.

4.1.37 The *Contractor* will conduct a condition survey of the Working Areas and adjacent highways and footpaths in conjunction with the *Supervisor* prior to commencement of any activities relating to the *works.* This survey will include a photographic (time and date stamped photographs) and written record. The main focus of the survey will be on the boundary fences of the Working Areas (to ensure any defects that may impact the security of the Working Areas during the *works* are identified and addressed), gates and other access ways, as well as the existing condition of any adjacent roads, footpaths etc.

4.1.38 The *Contractor* will, as a minimum, undertake topographical surveys of the various phases of the *works* as listed below:

i. Pre-commencement to record details of the pre-*works* existing topography and condition of the Working Areas so that as-built depths and levels can be calculated.

ii. During excavation, to record sufficient additional detail on the extent of excavations to permit the production of an appropriate 'as-built' drawing, with particular note made of structures (both those that are left in-situ and

those removed) or other features which may restrict or impact on the extent of any future excavations.

iii. During utilities clearance to record the location and details of any points at which utilities have been disconnected and, where encountered the locations and details of any unchartered services (detailed requirements are set out in the "Utilities Management Plan" a copy of which is included in Schedule 4 – Site Information).

iv. On completion of the stockpiling of material to be retained on Completion for future use by the *Client*. Survey to include stockpile location, height, area and volume.

v. At the Completion of the site-based *works*, to record the final topography and condition of the Working Areas.

4.1.39 The *Contractor* will provide location co-ordinates (to ±25 mm) and levels (to ±5 mm) of all in-situ tests carried out by the *Contractor* and/or *Supervisor* and *Project Manager* during the course of the *works*.

4.1.40 All topographical data shall be supplied to the *Supervisor* electronically in three dimensional DXF or AutoCAD type file forms within 14 days of the completion of the survey.

Appendix 1/16 Privately and Publicly Owned Services and Supplies

4.1.41 The *Client* has made available to the *Contractor* the utilities and service plans that it holds for the Working Areas, detailing known existing services/utilities for both statutory and privately owned services and utilities. A summary of the available records is included in Table 1/16a. Copies of the records are included in Appendix 11 of Schedule 4 – Site Information. The *Client* gives no warranty regarding the accuracy or completeness of this information.

Table 1/16a – Buried Services and Utilities 2D Drawing and 3D Model References

Utility	2D Drawing Number	Civil 3D Model Reference
Gas	NP-WOD-41XX-B01-DR-CE-063773	NP-WOD-XXXX-B02-M3-CE-020004
Electricity	NP-WOD-41XX-B01-DR-CE-063772	NP-WOD-XXXX-B02-M3-CE-020003
Water	NP-WOD-41XX-B01-DR-CE-063775	NP-WOD-XXXX-B02-M3-CE-020005
Drainage	NP-WOD-41XX-B01-DR-CE-063771	NP-WOD-XXXX-B02-M3-CE-020001
Telecoms and CCTV	NP-WOD-41XX-B01-DR-CE-063774	NP-WOD-XXXX-B02-M3-CE-020002
Existing Unknown	-	NP-WOD-XXXX-B02-M3-CE-020006

4.1.42 The *Contractor* is to ensure that all services identified as requiring protection and retention (as set out in document reference: NP-WOD-41XX-B01-RP-CE-093702 – “Utilities Management Plan – Zones 3, 4, TBWRF” and on the 2D drawings listed in Table 1/16a) are adequately protected for the full duration of the *works*. The costs of repairing any live services that are damaged as a direct or indirect result of the *works* will be payable by the *Contractor*.

4.1.43 The *Contractor* will make arrangements with the statutory undertakers, utility companies, the Operator and others concerned in order to co-ordinate the

works with all work that needs to be done by them or their contractors concurrently with the *works*.

4.1.44 The *Contractor* is responsible for liaising with the statutory undertakers, utility companies, the Operator and others for the isolation and disconnection of any services or utilities required for the *works* and shall provide copies of all isolation and disconnection certificates from the relevant service/utility provider to the *Project Manager and Supervisor* within 7 days of isolation and disconnection. Prior to liaising with the statutory undertakers, utility companies or the Operator, the *Contractor* is required to confirm all details to the *Project Manager.* Contact with statutory bodies will comply with Clause Z25.1A.

4.1.45 The *Contractor* will submit its proposals for utilities isolation, disconnection and protection to the *Project Manager* for acceptance, prior to carrying out any such activities.

4.1.46 The *Contractor* is required to document and record throughout the *works* all utilities left on-site and prepare a drawing (in a .dwg format) indicating full details of each service (coordinates (x, y, z), diameters material, colour) and its status (live or disconnected). The drawing must have one layer per utility type.

4.1.47 The *Contractor* will, prior to commencing any clearance or excavation activities, carry out a survey of all existing known live services within the relevant Working Areas. The form of this survey will be proposed by the *Contractor* and accepted by the *Project Manager* prior to commencement of any survey, but as a minimum should include electronic detection (by CAT scan) and GPR.

4.1.48 The *Contractor* is required to document and implement a safe system of work with regard to utilities isolation, disconnection, protection and removal. The *Contractor* will submit the details of the safe system of work with regards to utilities to the *Project Manager* for acceptance prior to commencement of the *works*. The safe system of work should clearly identify any plans by the *Contractor* to physically locate any utilities and services. For utilities and services which are to be retained and which the *Contractor* does not intend to physically locate, full justification must be set out in the safe system of work documentation for acceptance by the *Project Manager.*

4.1.49 The *Contractor* may undertake any physical proving work that may be required in order to physically locate existing services. Where any such activities are required, these will be carried out using vacuum excavation techniques. Service location works will be carried out by the *Contractor* sufficiently in advance of the *works* to allow for the information gathered to become part of the Scope.

4.1.50 Before commencing any existing service identification or clearance activities, the *Contractor* must provide the *Project Manager* with a detailed programme for such activities.

4.1.51 The findings of existing service location activities and, where required, of any physical location works done, will be marked on a drawing. This drawing must be submitted to the *Supervisor* and *Project Manager* a minimum of 7 days before removal of any existing services is commenced.

4.1.52 The *Contractor* must take all reasonable steps to satisfy itself that any existing services shown on drawings as being ‘redundant’ or ‘abandoned’ are in fact no longer used.

4.1.53 The *Contractor* will be responsible for arranging for itself any services it will require in order to Provide the Works. The *Contractor* will not be allowed to connect to the *Client's* existing live on-site services.

4.1.54 The *Contractor* will comply with the requirements of Appendix 2/2 with regards to removal of services and utilities and filling of trenches and pipes.

4.1.55 The *Contractor* will comply with the requirements of the "Proposed site wide unchartered services improvement process" - NP-WOD-XXXX-XXX-RP-CE-090015, a copy of which is included in Schedule 4 – Site Information.

Appendix 1/17 Traffic Safety and Management

4.1.56 The *Contractor* is required to refer to and comply with Clause S240 in Schedule 3a: Scope: *Client's* Requirement's – Part 1: General Requirements and the drawings included in Appendix 12 to Schedule 4 – Site Information.

Appendix 1/19 Routing of Vehicles

4.1.57 The *Contractor* is required to refer to and comply with Clause S240 in Schedule 3a: Scope: *Client's* Requirement's – Part 1: General Requirements and the drawings included in Appendix 12 to Schedule 4 – Site Information.

Appendix 1/22 Progress Photographs

4.1.58 The *Contractor* is required to provide progress photographs as outlined in Clause S1005 in Schedule 3a: Scope: *Client's* Requirement's – Part 1: General Requirements.

Appendix 1/23 Risks to Health and Safety

4.1.59 The *Contractor* is required to Provide the Works in accordance with the health and safety requirements set out in Clause S1100 and Appendix 5 to Schedule 3a: Scope: *Client's* Requirement's – Part 1: General Requirements, in addition to the scope specific requirements set out in the relevant sections of this Schedule 3a: Scope: *Client's* Requirements – Part 2: Site Clearance Works, including but not limited to Appendix 1/29.

4.1.60 Given the brownfield status of the Working Areas, the *Contractor* will make allowance for the potential localised presence of ground Contamination including but not limited to hydrocarbons, metals and asbestos. Available ground investigation data is included in Schedule 4 – Site Information. Requirements for *works* on or associated with contaminated land are set out in Schedule 3a: Scope: *Client's* Requirements – Part 2: Site Clearance Works, including but not limited to Appendix 1/29.

4.1.61 Existing management information with regard to asbestos containing materials in structures is included in Schedule 4 – Site Information. No pre-demolition refurbishment and demolition asbestos surveys have been carried out. The *Contractor* will allow for all of the necessary refurbishment and demolition asbestos surveys to be carried out prior to commencement of any demolition activities and include a hold point in its programme to allow for review of the results of these surveys and the incorporation of any resulting amendments that may be required to the *Contractors* proposed demolition methodology.

4.1.62 The *works* include the decommissioning of existing tanks. Available information about existing structures and site features is contained in Appendix 14 to 16 of Schedule 4 – Site Information. The *Contractor* will empty the entire contents of such features and decommission them prior to removal as per Appendix 2/1. The *Contractor* will be required to sample and analyse the contents of such structures to inform appropriate disposal requirements.

4.1.63 Where the *works* involve or may involve contact with any materials or substances that are defined as 'hazardous to health' in "Departmental Advice Note SA8/94" published by the Highways Agency, the *Contractor* must:

1. Take all reasonable precautions to protect all persons employed in the Working Areas and members of the public, from the injurious effects.
2. Provide appropriate hygiene and welfare facilities.
3. Ensure that all field staff are instructed in its responsibilities with regard to such hazardous substances.
4. Display notices in a prominent position within all main office and operative mess areas, giving details of the precautions to be taken in respect of such substances including details of emergency treatment and the procedure for contacting emergency services.

4.1.64 The *Contractor* must incorporate in its methods of working any special requirements with regard to 'substances hazardous to health' set out herein this numbered appendix and/or in Schedule 5 – Pre-construction Information.

Appendix 1/28 Information for the *Contractor's* Completion Report

4.1.65 The *Contractor* will provide a report to the *Supervisor* on Completion of the *works* (the "***Contractor's* Completion Report**"). Given the phasing requirements for Zone 3, Zone 4 and the TBWF/FPP, two separate reports will be required; one for Zone 3 and 4, and one for the TBWF/FPP.

4.1.66 The information relating to the activities undertaken by the *Contractor* that is to be provided by the *Contractor's* Completion Report is to include the following as a minimum (unless agreed otherwise with the *Supervisor* and *Project Manager)*:

1. Pre-commencement survey records
2. Completion survey records
3. Details of the total volume of materials to be disposed of and final disposal dates.
4. Details of total volume of materials in the retained stockpile.
5. Copies of relevant waste management permits.
6. Copies of registered waste carrier certificates.
7. Records of any consents, permits, authorisations and/or licences held or obtained by the *Contractor* (and sub-contractors) relevant to the *works*.
8. Records of any Contamination encountered and any *works* carried out to deal with it, including disposal or treatment of any contaminated materials.
9. Volumes of excavated, treated and untreated soil.
10. Volumes of water and other liquids handled (treated and untreated water).
11. Records of inspection and testing (geotechnical) of the final surface in each area.
12. Backfill records, including the following, as applicable:
    a. Chemical and geotechnical data for Site derived fill materials.
    b. Chemical and geotechnical data for imported fill materials.
    c. Imported fill summary records.

d. A sample of supplier records from each source of imported fill material used.

e. Geotechnical test data on compacted fill materials.

13. Material acceptability test records for material in the retained stockpile.
14. Waste disposal records, including the following, as applicable:
    a. Soil disposal summary and daily disposal records.
    b. Liquid waste disposal summary.
    c. A sample of waste consignment notes.
    d. A sample of tip tickets for each waste disposal facility used.
    e. A sample of liquid waste transfer notes.
15. Analytical results for the *Contractor's* water treatment plant, where applicable.
16. Air quality monitoring for parameters defined in Schedule 3a: Scope: *Client's* Requirement's – Part 1: General Requirements.
17. Post-works monitoring records.
18. Final 'as-built' drawings.
19. Time and date stamped photographs – titled, as appropriate, showing the extent of the excavation etc. carried out
20. Records of any site investigation operations carried out during the *works*, including but not limited to trial pits, physical service location proving etc.
21. Laboratory QA/QC data report.
22. Any other relevant information requested by the *Supervisor, Project Manager* or the principal designer.

Appendix 1/29 Requirement for Works on or Associated with Contaminated Land

Potential Unusual or Unexpected Hazardous Material

4.1.67 Potential unusual or unexpected hazardous substances that may be encountered during the slab removal, excavation, sub-structure or utility removal works include, but are not limited to:

1. Contaminants typical of a brownfield site, including but not limited to, heavy metals, asbestos, hydrocarbons and volatile organic compounds for example benzene.
2. Leachate from waste operations in the surface water attenuation tank, foul sewer drains / trade effluent pipes.
3. Ground gas and soil vapours accumulated within excavations.
4. Vapour or gas accumulation in tanks.
5. Potential for unchartered services or below ground structures for example tanks or voids that could contain hazardous materials such as asbestos containing materials, or fuels or oils.

General

4.1.68 Contaminants are present in the Working Areas, including heavy metals, hydrocarbons, asbestos and volatile organic compounds in soils and ground

gases in the form of hydrogen sulphide and methane. Information on existing ground conditions is included in Schedule 4 – Site Information and Schedule 5 – Pre-construction Information.

4.1.69 The *Contractor* will provide, maintain and use site safety equipment and protective equipment appropriate to the hazards and risks associated with the *works,* including consideration of the details included in Appendix 1/29.

4.1.70 The *Contractor* will develop and implement safe working practices appropriate to working on contaminated land, these working practices will include, but not be limited to the following requirements:

1. The *Contractor* will attend any safety meetings requested by the *Supervisor* and *Project Manager* and present a summary of the results of any environmental and / or occupational health monitoring at the project review/progress meetings to be held on-site.
2. All injuries and illnesses (including headaches, sore throats, skin rashes etc.) which may indicate exposure to hazardous substances are to be reported as soon as practicable to the *Supervisor* and *Project Manager* and are to be considered a reportable incident. Reporting is required in-line with the incident categorisations and processes set out in NP-ARP-XXXX-XXX-HS-HS-090004 – "The Client's health and safety requirements" (copy included in Appendix 5 of Schedule 3a: Scope: *Client's* Requirement's – Part 1: General Requirements. The *Contractor* must also indicate what measures it proposes to take to prevent repetition of any such occurrence.
3. The on-site burning of materials will not be permitted.
4. Eating, drinking, chewing gum or tobacco, taking medications (except for those permitted, such as but not limited to, inhalers) and smoking (including e-cigarettes) are prohibited in all Working Areas.
5. Emergency telephone numbers and a plan showing the route to the nearest hospital (accident and emergency unit) are to be posted in one or more appropriate locations.

4.1.71 The *Contractor* will take all reasonable precautions to safeguard the general public, wildlife, controlled waters, the *Contractor's* staff, other parties involved in the *works* and the users of and visitors to the EcoPark, from contact with any harmful substances arising from or associated with the *works*.

4.1.72 The *Contractor* will comply with all relevant statutes, by-laws, regulations, secondary instruments, codes of practice and all other relevant requirements relating to offsite disposal of contaminated materials.

Occupational Health Monitoring

4.1.73 The *Contractor* will determine and implement occupational health monitoring relevant to the nature of the *works*, in order to comply with current health and safety legislation and guidance.

4.1.74 Asbestos containing materials may be present in the Working Areas.

Decontamination (Hygiene) Unit

4.1.75 Should the *Contractor* deem them necessary, they shall provide, maintain, operate and remove decontamination (hygiene) unit(s) for use by all site personnel, including the *Supervisor* for the relevant stages of the *works*, on entry and exit to each 'dirty' area. The unit(s) will be of a similar standard to that specified in HSE guidance note HSG66 titled 'Protection of workers and

the general public during the redevelopment of contaminated land' (1988), with the following specific requirements:

4.1.76 Washing facilities are to include deep trough type sinks, suitable to allow thorough washing of the forearms, and are to incorporate mixer taps (combined hot and cold water) that can be operated by elbows or feet.

4.1.77 Storage facilities are to be fixed to the walls of the unit.

4.1.78 'Clean' and 'dirty' areas are to be clearly defined, by the use of colour coded floor matting or similar.

4.1.79 A bench or similar will be provided between the 'clean' and 'dirty' areas, such that it will be necessary to cross / step over the bench to move from clean to dirty areas and vice-versa. The bench is to be nominally 300 mm wide, 500 mm high and not less than 2.0 m long and it is to have storage shelves for shoes/boots beneath it.

4.1.80 The facility will be sufficiently large to comfortably accommodate the maximum number of personnel expected to require access to it at any given time.

4.1.81 Discharge from the facility will be treated as foul water and will not be discharged to a watercourse or soakaway, without the written approval of the appropriate authorities.

4.1.82 The facility is to be cleaned at least once each day on which the facility is used.

Discovery of Unexpected Contamination

4.1.83 Reference shall be made to Appendix 6/2 for dealing with discovery of unexpected Contamination.

Asbestos Containing Materials

4.1.84 If encountered, or suspected, all works involving asbestos/asbestos containing materials must comply with the "Control of Asbestos Regulations 2012" and the "Working with Asbestos Approved Code of Practice 2013", where applicable. The *Contractor* will be wholly responsible for Providing the Works in accordance with all relevant regulations and guidance. Nothing in the Specification in any way relieves the *Contractor* of its responsibility in this regard.

4.1.85 The *Contractor* must report to the *Supervisor* any previously unidentified suspected asbestos containing materials that it discovers when Providing the Works. The *Contractor* will avoid disturbing any such material and agree with the *Supervisor* and *Project Manager* methods for safe removal.

Waste Holding Area for Contaminated Materials

4.1.86 The *Contractor* will provide a covered lockable skip, of nominal capacity 8m^3, to temporarily hold unexpected potentially hazardous materials requiring analysis or identification before disposal off site. The waste holding area(s) will to be constructed at suitable location(s) agreed with the *Supervisor*. Appropriate signage and barriers are to be used to demarcate the area(s).

5 Series 200: Site Clearance

201 AR Clearing

5.1.1 The schedule of buildings and plant and equipment to be dismantled, or partially dismantled are detailed in Appendix 2/1.

5.1.2 Detailed building and plant surveys are not available for the existing buildings in the Working Areas. The *Contractor* is to make its own assessment of the size, construction, mass and grade of materials and the condition of the buildings and to identify suitable methods so enable safe demolition of each structure.

5.1.3 Building and plant records available are as follows:

- As-built and design drawings for Zone 3 and Zone 4 provided in Appendix 14 and 15 of Schedule 4 – Site Information.
- Design drawings for the TBWRF/FPP are provided in Appendix 16 of Schedule 4 – Site Information. As-built drawings will be provided by the *Client* prior to the *access date* for the TBWRF / FPP.

The *Client* gives no warranty regarding the accuracy or completeness of the as-built or design information provided.

5.1.4 Responsibilities for service and utilities isolation, disconnection, survey, retention and protection relevant to the *works* are set out in Appendix 1/16. Any redundant utilities that the *Contractor* identifies are to be terminated, where possible. In line with the requirements of Appendix 1/12, the point at which any utilities are terminated is to be surveyed and included on the as-built drawing(s) that are to be submitted to the *Supervisor*. This includes the location and level of any sealed pipework left in-situ. This information should be provided in the *Contractor's* Completion Report for inclusion in the health and safety file.

5.1.5 The *Contractor* will comply with the requirements of Appendix 2/2 in relation to redundant services.

5.1.6 No burning of rubbish or debris is permitted anywhere on the EcoPark site including in the Working Areas.

5.1.7 For the Zone 3 *works*, the *Contractor's* attention is drawn to the requirement to retain a 1m section of both BWRF-3b and BWRF-3c at the point at which these sections of push wall connect with section labelled BWRF-3a. BWRF-3a is to be retained as part of the Zone 3 *works*, as detailed in Appendix 2/1. The *Contractor* should apply a protection/sealant to the exposed rebar and use a mortar product to finish the cut concrete (Fosroc etc.) for the 1m retained sections of BWRF-3b and BWRF-3c.

5.1.8 The BWRF-3a structure (including the retained 1m sections of BWRF-3b and BWRF-3c) is to be removed at a later date as part of the TBWRF FPP *works*. At this time the 1m return sections of BWRF-3b and BWRF-3c are also to be removed. As detailed in Table 2/1c removal is down to slab only.

5.1.9 The *Contractor* will implement real-time monitoring (movement and tilt) to ensure the *works* are not negatively impacting the BWRF-3a section of the wall both during the *works* in Zone 3 and the subsequent *works* in the TBWRF/FPP prior to the removal of BWRF-3a. Monitoring undertaken by the *Contractor* shall comply with Appendix 6/12.

202 AR Existing Trees Bushes Hedges

5.1.10 The location of tree removal and tree protection is illustrated on drawing NP-WOD-41XX-XXX-DR-LA-90_003, a copy of which is included in Appendix 1 of Schedule 3a: Scope: *Client's* Requirements – Part 2: Site Clearance Works. The detailed requirements for tree removal and protection are set out in Appendix 30/1 to 30/12.

5.1.11 Outside of the area marked for tree removal and tree protection, vegetation clearance shall be undertaken where:

- Vegetation is growing within the footprint or at the perimeter of a building or area of slab which is to be removed; or
- If the vegetation is located within the footprint or at the perimeter of a structure the excavation footprint or other areas required to access the excavation area or in areas required to support the *works* (for example stockpiling areas).

In these areas the *Contractor* will clear all vegetation, including but not be limited to removing hedges, trees, bushes, grass and general scrub. Plants with established roots are to have the root systems removed from the ground.

5.1.12 Existing grassed areas external to the BWRF and FPP structures in Zone 3 and external to the ancillary structures in Zone 4 are to be retained and protected as far as reasonably practicable. Where the *Contractor* intends to traffic over a grassed area to undertake the *works*, the *Contractor* shall notify the *Project Manager* in advance in order to agree the access route and requirements for any reinstatement.

5.1.13 The *Contractor* must not remove any existing trees, shrubs or bushes without first obtaining the *Supervisor's* written consent.

5.1.14 Vegetation removed as part of the *works* will be segregated to ensure roots (with residual potentially contaminated soil are kept separate from other non-soil bearing vegetation).

5.1.15 Vegetation clearance must be carried out in accordance with any ecological constraints such as bird nesting season and/or invasive species as stated in Appendix 30/1 to 30/12.

5.1.16 In line with Appendix 30/1 the *Contractor* will appoint a suitably qualified ecologist (SQE) to advise on potential ecological constraints such as nesting birds and invasive species for the duration of any vegetation clearance works and will implement any mitigation measures identified by the SQE.

Appendix 2/6 Existing Trees Bushes Hedges

5.1.17 The *Contractor* will cut back trees, bushes and hedges to the lines shown on plan NP-WOD-41XX-XXX-DR-LA-90_003 and uprooted. The *Contractor* will dispose of all felled timber off site.

203 SR Explosives and Blasting

5.1.18 No use of explosives or blasting will be permitted anywhere on the EcoPark Site including the Working Areas.

204 AR Hazardous Materials

5.1.19 Hazardous materials are likely to be present in the Working Areas as noted in Appendix 1/29 and Schedule 5 – Pre-construction Information.

5.1.20 No pre-demolition hazardous materials surveys have been carried out. The *Contractor* will carry out any/all surveys that need to be carried out before commencing any demolition activities and will include a hold point in its programme to allow for review of the results of such surveys and for any amendments required to the *Contractor's* proposed demolition methodologies to be made.

5.1.21 The *Contractor* will manage all hazardous materials arising from the *works* in accordance with all duties imposed by any Law and by the contract.

Appendix 2/1 – List of Buildings, etc. to be Demolished or Partially Demolished

5.1.22 The list of above and below ground structures and areas of hardstanding and foundations requiring full, or partial removal is detailed in Table 2/1a, Table 2/1b and Table 2/1c below. Structures and areas of hardstanding to be retained are also detailed.

5.1.23 The structures referenced in Table 2/1a, Table 2/1b and Table 2/1c are shown on drawings:

- Drawing number NP-WOD-41XX-XXX-DR-EN-090053 – "NAC Zones 1 and 2 (TBWRF/FPP) Planned Structure Removal"; and
- Drawing number "NP-WOD-41XX-XXX-DR-EN-090055" – NAC Zone 3 (BWRF/FPP) and Zone 4 (Ancillary Buildings) Planned Structure Removal.

Copies of the drawings are included in Appendix 1 of Schedule 3a: Scope: *Client's* Requirements – Part 2: Site Clearance Works.

Table 2/1a – Zone 3 List of Structures and Areas of Hardstanding to be Removed/Retained

Structure Reference	Building / Structure Description	Post-clearance status [1]	Clearance Scope
BWRF-1	Process building (BWRF picking line)	Partial removal - structure only	Removal of structure down to slab. Remaining plant and equipment (conveyor) to be removed. Slab and foundations to be retained.
BWRF-2	Office/reception (single storey ancillary building	Partial removal - structure only	Removal of structure down to slab. Associated slab to be retained. No foundations anticipated.
BWRF-3a	BWRF western boundary wall	Retained	Structure to be retained. Note structure comprises section of boundary wall connected to other sections (BWRF-3b and BWRF-3c) which are to be removed in part.
BWRF-3b	BWRF northern boundary wall	Partial removal - structure only	Removal of structure down to slab, except for a 1m return at point of connection to BWRF-3a. Foundations to be retained.
BWRF-3c	BWRF southern boundary wall	Partial removal - structure only	Removal of structure down to slab, except for a 1m return at point of connection to BWRF-3a. Foundations to be retained.
BWRF-3d	BWRF waste bay walls	Partial removal - structure only	Removal of structure down to slab. Slab and foundations to be retained.
BWRF-4	Former drain (recorded 1896-1991) (below ground) [2]	Retained – below ground structure	Structure to be retained. No below ground works proposed.

Structure Reference	Building / Structure Description	Post-clearance status [1]	Clearance Scope
BWRF-6	Green waste bays	Partial removal - structure only	Structure to be removed down to slab. Slab and foundations to be retained.
BWRF-7	Bin weighing scale shelter	Partial removal - structure only	Structure to be removed down to slab. Bin scale removed by others prior to site *access date* Slab and foundations to be retained.
FPP-1	Test Weighbridge	Former structure removed prior to site *access date*	No clearance required. Details provided for information.
FPP-2	Former gas-oil tank (below ground) [3]	Retained – below ground structure	Structure to be retained. No below ground works proposed.
FPP-3	Former weighbridge [4]	Retained – below ground structure	No associated above ground infrastructure. Slab to be retained.
FPP-4	Fuel processing plant (FPP) main building	Partial removal - structure only	Removal of structure down to slab. Remaining plant and equipment (trommel, pressure washer and pump and odour suppression pump) to be removed. Slab and foundations to be retained.
FPP-5	Two storey office building	Partial removal - structure only	Removal of structure down to slab. Slab and foundations to be retained.
FPP-6	Fire water tank pump and control room	Partial removal - structure only	Removal of structure down to slab. Slab and foundations to be retained. Fire water pumps removed by others prior to site *access date*.
FPP-7	Fire water tank	Former structure removed prior to site *access date*	No clearance required. Details provided for information.
FPP-8	Substation	Partial removal - structure only	Removal of structure down to slab. Slab and foundations to be retained.
FPP-9	Gas oil tank (above ground)	Partial removal - structure only	Removal of structure down to slab. Slab and foundations to be retained.
FPP-10	Ad-blue tank	Partial removal - structure only	Removal of structure down to slab. Slab and foundations to be retained.
Zone 3 hardstanding	Concrete aprons, roadways and walkways	Retained	Concrete aprons, roadways and walkways are to be retained across the area.

Notes:

(1) Colour coding as defined on Drawing NP-WOD-41XX-XXX-DR-EN-090055.

(2) Status unknown

(3) Clearance and infill status unknown.

(4) No remaining evidence of structure at surface, but redundant foundations may remain.

Table 2/1b – Zone 4 List of Structures and Areas of Hardstanding to be Removed/Retained

Structure Reference	Building / Structure Description	Post-clearance status (1)	Clearance Scope
31	Interserve stores	Partial removal - structure only	Removal of structure down to slab. Slab and foundations to be retained.
32	Interserve stores	Partial removal - structure only	Removal of structure down to slab. Slab and foundations to be retained.
33	Outdoor waste oil disposal store	Partial removal - structure only	Removal of above ground features including oil storage tanks and concrete bund down to slab. Slab to be retained.
34a	LEL stores	Partial removal - structure only	Removal of fencing and associated gate down to slab. Slab to be retained.
34b	LEL Stores	Partial removal - structure only	Removal of any fixed above ground features down to slab. Slab to be retained.
35	Indoor oil drums store	Partial removal - structure only	Structure to be removed down to slab. Slab and foundations to be retained.
36	Interserve stores	Partial removal - structure only	Structure to be removed down to slab. Slab and foundations to be retained.
37	4 No. garages	Former structure removed prior to site access date	No clearance required. Details provided for information.
38	Workshop	Partial removal - structure only	Structure and fencing to be removed down to slab. Slab to be retained. No foundations anticipated given nature of structure.
Zone 4 hardstanding	Concrete aprons, roadways and walkways	Retained	Concrete aprons, roadways and walkways are to be retained across the area.

Notes:

(1) Colour coding as defined on Drawing NP-WOD-41XX-XXX-DR-EN-090055.

Table 2/1c – TBWRF/FPP List of Structures and Areas of Hardstanding to be Removed/Retained

Structure Reference	Building / Structure Description	Post-clearance status (1)	Clearance Scope
TBWRF-1	FPP building and FPP waste bays	Removed (limited scope – see notes)	Structure to be removed by others prior to site *access date*. *Contractor* to remove remaining elements: push walls, concrete raft and ground floor slab and blinding layer. Sub-base to be left in-situ. Reprofiling of ground required following removal of retaining walls. Refer to Drawing NP-WOD-41XX-XXX-DR-CE-061082 for proposed finished levels.
TBWRF-2	Tyre skips	Removed (limited scope – see notes)	Skips to be removed in full by others prior to site *access date*. *Contractor* to remove underlying concrete slab and blinding layer to be removed. Sub-base and Tensar TriAX 160G layers to be left in-situ.

Structure Reference	Building / Structure Description	Post-clearance status [1]	Clearance Scope
TBWRF-3	Odour control unit	Removed (limited scope – see notes)	Structure to be removed by others prior to site *access date. Contractor* to remove remaining elements*:* reinforced concrete structures, concrete raft and ground floor slab and blinding layer. Sub-base to be left in-situ.
TBWRF-4	Test weighbridge	Removed	Structure to be removed in full by *Contractor*, including weighbridge deck and steel ramp inclines. Concrete raft and ground floor slab to be removed in full along with polythene slip membrane. Sub-base and Tensar TriAX 160G layers to be left in-situ.
TBWRF-5 & TBWRF-6	Un-burnt materials bay and External bulky waste bays	Removed (limited scope – see notes)	Legato bricks to be removed by others prior to site *access date*. *Contractor* to remove remaining elements: concrete raft, ground floor slab and blinding to be removed in full. Sub-base to be left in-situ.
TBWRF-7 & TBWRF-8	Fire water tank and Pump House	Removed (limited scope – see notes)	Structure and associated plant (including diesel pumps and ducting / pipework in fire suppression plant) to be removed in full by others prior to site *access date.* *Contractor* to remove remaining elements: concrete raft and ground floor slab.
TBWRF-9	Welfare building	Removed (limited scope – see notes)	Structure to be removed in full by others prior to site *access date.* *Contractor* to remove concrete raft foundation and blinding layer. Sub-base to be left in-situ.
TBWRF-10	Workshop building	Removed (limited scope – see notes)	Structure to be removed by others prior to site *access date*. *Contractor* to remove remaining elements: concrete raft foundation, ground floor slab and blinding layer. Sub-base to be left in-situ.
TBWRF-11	Refuelling area	Removed	*Contractor* to remove above ground tanks, concrete raft foundation, ground floor slab and blinding layer. Sub-base to be left in-situ.
TBWRF-12	Smoking shelter and bicycle shed	Removed	*Contractor* to remove structure in full. Surfacing material (Type 1 or self-binding gravel) to remain in-situ.
TBWRF-13	Surface water attenuation tank	Removed	*Contractor* to decommissioned tank and remove in full along with associated pipework. Resulting excavation to be backfilled.
TBWRF-14 (BWRF-3a)	Eastern boundary concrete push wall	Retained – above ground structure	Concrete push wall to be retained and protected by *Contractor*.
TBWRF-15	Security hut - north	Removed	*Contractor* to remove structure, concrete raft foundation and blinding layer. Sub-base to be left in-situ.
TBWRF-16	Security hut - south	Removed	*Contractor* to remove structure, concrete raft foundation and blinding layer. Sub-base to be left in-situ.
IVC-14	Compost Kiosk Switchroom	Retained – above ground structure	Structure to be retained and protected by *Contractor* for future power supply. 1m strip of existing concrete slab to be retained by *Contractor* around the perimeter of the structure for protection.

Structure Reference	Building / Structure Description	Post-clearance status (1)	Clearance Scope
IVC-15	North End Switchroom	Retained – above ground structure	Structure to be retained and protected by *Contractor* for future power supply. 1m strip of existing concrete slab to be retained by *Contractor* around the perimeter of the structure for protection.
IVC-16	Compost Transformer F1	Retained – above ground structure	Structure to be retained and protected by *Contractor* for future power supply. 1m strip of existing concrete slab to be retained by *Contractor* around the perimeter of the structure for protection.
-	Heavy duty crash barriers and other street furniture	Removed	All heavy-duty crash barriers and other street furniture within the to be removed by the *Contractor* as part of site clearance.
-	Hardstanding	Removed	All hardstanding to be removed by the *Contractor* as part of the clearance works, along with the underlying blinding layer, with the exception of the areas illustrated in Drawing NP-WOD-41XX-XXX-DR-EN-060053. Proposed finished levels as illustrated on Drawing NP-WOD-41XX-XXX-DR-CE-061082.

Notes:

(1) Colour coding as defined on Drawing NP-WOD-41XX-XXX-DR-EN-090053.

5.1.24 As indicated in Table 2/1a and Table 2/1b, the *Contractor* is to retain the concrete slab and all other areas of hardstanding in Zone 3 and Zone 4.

5.1.25 As indicated in Table 2/1c, the *Contractor* is to remove the concrete slab and other areas of hardstanding within the TBWRF/FPP. The *Contractor* is required to submit their proposals for protection of retained assets when breaking out the slab in the vicinity of any retained assets, including, but not limited to the structures identified in Table 2/1c, retained utilities (notably the Chingford sewer and cooling water pipe) and existing roadways. The proposals for protection are to be submitted to the *Project Manager* for acceptance prior to commencement of slab removal.

5.1.26 The *Contractor* will also remove all street furniture, fittings, internal walls/fence boundaries (except where indicated) and the like as part of the *works*. Where internal walls or fence boundaries are to be protected or retained, this is indicated on the following drawings:

- Drawing number NP-WOD-41XX-XXX-DR-EN-090053 – "NAC Zones 1 and 2 (TBWRF/FPP) Planned Structure Removal"; and
- Drawing number "NP-WOD-41XX-XXX-DR-EN-090055" – NAC Zone 3 (BWRF/FPP) and Zone 4 (Ancillary Buildings) Planned Structure Removal.

Appendix 2/2 – Filling of Trenches and Pipes

5.1.27 The *Contractor* will undertake the following activities in relation to buried utilities and services in the Working Areas as part of the *works*:

i. All redundant pipes and cables encountered within the excavation footprint are to be removed, once the *Contractor* has satisfied itself that the services are actually redundant and dead. The *Contractor* will be responsible for all necessary liaison with the relevant utility companies and the Operator following the requirements of Clause Z25.1A. The

exposed ends of any pipes/openings will be sealed to prevent any future seepage using either concrete-filled sand bags, concrete plugs, well compacted clay, a 10:1 PFA:cement grout mix material and/or whatever combination of these measures may be needed to achieve effective sealing. Proposals for sealing are to be submitted in advance to the *Supervisor* for acceptance. The *Contractor* will take appropriate care during any grouting and/or sealing operations not to cause any blockage of adjoining live drains, sewers, pipelines or ducts etc. The *Contractor* is to ensure that the location of any sealed pipes is recorded on the relevant topographical survey drawings.

ii. The *Contractor* will prepare a method statement specifically for removal of drains and backfilling of excavations. The open ends of redundant services/pipes etc. that are left in place must be closed off at the cut-off points prior to covering them up with backfill. The closure of such redundant services will be sufficiently watertight to prevent the services becoming a pathway for groundwater migration into or out of the Working Areas. The *Contractor's* method statement will include details of the measures proposed to prevent any potentially contaminated water from flowing off-site either via redundant pipes or permeable material in the pipe bedding.

Appendix 2/3 – Retention of Material Arising from Site Clearance

5.1.28 With the exception of brick and concrete from the above ground site clearance, and concrete from the removal of slabs, no materials arising from the above ground site clearance are to be retained onsite.

5.1.29 In the case of brick and concrete, the *Contractor* shall crush and retain this material onsite for use by the *Client* after completion of the *works*, subject to the material being suitable for use as defined in Appendices 6/1 to 6/15 of this Specification.

5.1.30 The *Contractor* shall provide a volume estimate and their proposals for stockpile location to the *Project Manager* for acceptance prior to the commencement of the crushing of the material. Survey data for final stockpile locations, height, area and volume are to be provided on Completion in accordance with Appendix 1/12.

Appendix 2/5 – Hazardous Materials

5.1.31 All hazardous materials are to be removed from the Working Areas and the EcoPark by the *Contractor* in accordance with relevant Law and the requirements of the contract.

Appendix 2/6 Site Clearance Environmental Requirements

5.1.32 The *Contractor's* attention is drawn to the requirements of and responsibilities for environmental management of the *works* set out in Schedule 3a: Scope: *Client's* Requirement's – Part 1: General Requirements.

6 Series 300: Fencing

301 AR General

6.1.1 The *Contractor* will ensure that none of the external boundary walls/fences are removed or damaged during the *works*. Any damage resulting from the *works* (direct or indirect) will be made good at the *Contractor's* expense.

Appendix 3/1 – Fencing, Gates and Stiles

6.1.2 The *Contractor* will be responsible for maintaining the existing site boundary fencing or erecting new fencing as may be required to ensure the boundary of the Working Areas is secure during the implementation of the *works*.

6.1.3 The *Contractor* will design and install 2.4m high hoarding/fencing and access gates for use by the ERF contractor from completion of the *works* until April 2023. The extent of the hoarding will be in accordance with Drawing number NP-WOD-4XX-XXX-DR-CE-061080.

6.1.4 The *Contractor* will assess the condition of existing steel palisade fencing and access gates within the Working Areas and undertake any necessary repairs required to ensure that the fencing is suitable for use as a boundary hoarding by the ERF contractor.

6.1.5 The *Contractor* will submit details of the proposed hoarding/fencing for acceptance by the *Project Manager*.

6.1.6 The *Contractor* will provide suitable edge protection at the retained sub-structure of the building FPP-4; this shall be left in place on Completion of the *works* for use during future construction works. The edge protection will prevent falls from the former tipping platform. The *Contractor* will submit details of the proposed edge protection for acceptance by the *Project Manager*.

7 Series 500: Drainage and Service Ducts

Appendix 5/1 – Drainage Requirements

7.1.1 The *Contractor* is to comply with all the drainage requirements included in the "Utilities Management Plan" (NP-WOD-41XX-B01-RP-CE-093702).

7.1.2 The *Contractor* is to ensure the existing surface water system is in a good operational state when the *works* reach Completion. The *Contractor* will take all necessary actions to ensure that this is the case. Any damage resulting from the *works* (direct or indirect) will be made good at the *Contractor's* expense.

8 Series 600: Earthworks

601 SR General Requirements

8.1.1 The following earthworks are anticipated (but the Scope is not necessarily limited to these) in relation to the TBWRF/FPP *works*:

- Shallow excavations to remove redundant services and utilities;
- Excavation for removal of the attenuation tank TBWRF-13; and
- Re-profiling of ground following removal of the waste bays (retaining walls) that form part of TBWRF-1.

The *Contractor* shall complete all backfilling and reprofiling to the finished levels illustrated in drawing NP-WOD-41XX-XXX-DR-CE-061082, copy included in Appendix 1 to Schedule 3a: Scope: *Client's* Requirements – Part 2: Site Clearance Works.

8.1.2 Earthworks, including all cutting, filling, stabilisation, use of geotextiles, and relevant testing methods shall be carried out in accordance with the requirements of Series 600 of MCHW.

8.1.3 Methods of compliance testing to be used in earthworks, including all performance testing of part completed, or completed earthworks shall be submitted to the *Project Manager* and *Supervisor* for acceptance.

8.1.4 The *Contractor* is to maintain full records of excavated and placed materials including the acceptability testing and the location it has been incorporated within the *works*.

8.1.5 The *Contractor* will register any re-use of excavated soils in compliance with the CL:AIRE "Definition of Waste: Development Industry Code of Practice". Compliance will include but not limited to developing and implementing a MMP, review and declaration to CL:AIRE by a qualified person, ensuring the MMP is complied with and completing and registering an acceptable verification report including all the records (including chemical and geotechnical testing and topographic surveys and dig plans) specified in the MMP. The *Contractor* will submit the MMP to the *Supervisor/Project Manager* for acceptance before any materials are re-used.

607 SR Explosives and Blasting for Excavation

8.1.6 No use of explosives or blasting will be permitted anywhere on the EcoPark including in the Working Areas.

Appendix 6/1 – Requirements for Acceptability and Testing etc. of Earthworks Materials

8.1.7 Granular fill and cohesive fill materials must conform to the requirements of the MCHW Volume 1, Series 600, Table 6/1.

8.1.8 Compaction for both cohesive and granular fill must be in accordance with MCHW Volume 1, Series 600, Table 6/4.

8.1.9 Where fill materials are derived from an on-site source (such as soil excavated from below slabs and which are free of visual and olfactory evidence of Contamination), these materials do not require chemical testing to determine its suitability. The *Contractor* is to undertake any testing that is required to for an MMP (Clause 601 SR)

8.1.10 Where fill materials are imported, the material shall meet the general requirements of the Specification for Highway Works. All imported fill materials

shall be granular Class 1A or Class 1B General Fill in accordance with Table 6/1 and Table 6/2.

8.1.11 Recycled aggregates are permitted. All classes must comply with BS EN 13285: 2003 “Unbound mixtures specification: Annex A”. The composition must comply with Table A.1, as modified below:

- Crushed concrete and aggregates >90%
- Crushed masonry <10%
- Crushed reclaimed asphalt <0.1%
- Cohesive materials (including clay) <1%
- Organic materials <0.1%
- Chalk <0.1%

Requirements for Determining Acceptability

8.1.12 The *Contractor* must carry out all necessary testing to demonstrate the classification and acceptability of earthworks materials given in MCHW Volume 1, Series 600, Table 6/1 and Appendix 6/15.

8.1.13 The classification of materials excavated on-site is to be undertaken at the point of excavation. The classification of imported materials will be undertaken prior to any such materials being brought into the Working Areas. Data demonstrating that imported materials are suitable for use will be provided to the *Site Supervisor* a minimum of 7 days before the planned transport of the same material to the Working Areas.

8.1.14 Earthwork material classifications and acceptability test results will be submitted to the *Project Manager* within 3 working days of the receipt of the test data by the *Contractor*. The *Project Manager* may request additional and/or repeat testing in accordance with Table 6/1, if in the *Project Manager’s* opinion, the imported materials or on-site materials vary from the required classification or become unacceptable for any other reason. The rate of further testing required must be sufficient to ensure the correct classification and acceptability of all fill materials used in the *works* taking into account permissible variations.

8.1.15 Source acceptance testing is required for all fill materials. To obtain source acceptance, the *Contractor* is to notify the *Project Manager* of the location, extraction method, supplier (for imported materials), material type and volume of material. The *Contractor* is then also to carry out a full range of tests for a particular classes of fill material, as set out in Specification for Highway Works Table 6/1.

8.1.16 Source acceptance testing is to be carried out at least 7 days prior to the date on which the relevant filling is to be carried out. The *Project Manager* may choose to make a site visit to the source of the material prior to giving acceptance. All imported materials are to be tested at source for contaminants in accordance with Appendix 6/14 and Appendix 6/15.

8.1.17 Prior to the sampling of materials for testing, the *Contractor* must give the *Project Manager* 14 days' notice to allow the *Project Manager* the opportunity to witness the taking of the sample and to allow the *Project Manager* to take a joint sample in order to undertake confirmation testing.

8.1.18 The *Contractor* must maintain full records relating to the import and export of materials to the Working Areas, including records of the disposal of any "Class U" materials to licensed facilities (as defined in the 'Specification for Highway Works'). The *Contractor* must also keep records that identify stockpiles, and of all movements and placements of materials anywhere on the EcoPark.

8.1.19 Any imported material for use as general fill must not contain asbestos or any other visual or olfactory indications of Contamination and such materials must meet the criteria specified set out in Appendix 6/14 and Appendix 6/15.

Rendering Unacceptable Material Acceptable

8.1.20 The processing of unacceptable material to render it acceptable is permitted off-site. No surplus material (unacceptable or acceptable) is to be retained on-site. Surplus materials are to be disposed of in accordance with Appendix 6/2.

Appendix 6/2 – Requirements for Dealing with Class U1B and U2 Unacceptable Materials (11/04)

General

8.1.21 Notwithstanding any of the *Contractor's* other obligations under the *contract*, materials that are suspected of being "Class U2" and/or "U1B" and therefore unsuitable for reuse are to be classified in accordance with the 'European Waste Catalogue' established under 2000/532/EC.

8.1.22 In addition, where material has to be disposed of to a hazardous or inert facility, appropriate waste acceptance criteria testing is to be undertaken in accordance with EA guidance on sampling and testing of wastes to meet landfill waste acceptance procedures ("STWAP") Version 4.3a, December 2003, "Interim landfill waste acceptance criteria".

8.1.23 The *Contractor* will be responsible for the detailed classification of waste for disposal purposes and for the selection of appropriate (suitably permitted) waste disposal facilities. The *Contractor* will be deemed to be the producer of the waste (in accordance with the relevant waste management duty of care provisions of the Environmental Protection Act, 1990), and must ensure it satisfies the requirements of the Hazardous Waste (England and Wales) Regulations 2005 (if relevant).

8.1.24 Any chemical testing required for off-site disposal purposes is to be determined by the *Contractor* and allowed for within rates for disposal.

Material Handling, Classification and Disposal

8.1.25 If any "Class U2" material or contaminated water is encountered during excavation, the *Contractor* is to submit its proposals for excavation, handling, transport and disposal of such materials to the *Project Manager* for acceptance.

8.1.26 If any "Class U2" material or contaminated water is encountered during excavation, the *Contractor* will obtain the agreement of the local environmental health officer (following requirement of Clause Z25.1A) regarding its proposed arrangements for the handling and disposal of the materials.

8.1.27 If the *Contractor* deems that a waste license exemption is required for disposal of contaminated material further to discussions with the EA it must obtain this exemption prior to mobilising onto site. The *Contractor* is to notify the *Project Manager* of any exemptions applied for.

Identification of Potentially Contaminated Materials

8.1.28 The *Contractor* shall ensure that the working faces and arisings from excavations are closely observed for signs of potential Contamination such as:

- fuel and oil Contamination, including the presence of free phase hydrocarbon product;
- tar and tarry wastes;
- putrescible waste materials;
- medical waste;
- suspected ordnance;
- drums, tanks, underground structures, redundant services, canisters or other containers
- containing unknown materials;
- ash, clinker, bricks and other indicators of made ground;
- asbestos containing materials (ACM); and
- Other visually or olfactory impacted material, including contaminated liquids or sludge.

8.1.29 It is possible that during the *works*, unexpected and / or previously unidentified Contamination will be encountered. A detailed methodology for dealing with unexpected ground conditions, including asbestos, shall be included in the *Contractor's* method statement. The methodology shall be compliant with the document NP-WOD-41AX-XXX-RP-EN-090002 - "Northern Area – Options Appraisal and Remediation Strategy", copy of which is included in Appendix 17 to Schedule 4 – Site Information. The methodology will require agreement by the *Contractor* with the London Borough of Enfield.

8.1.30 If suspected Contamination or unusual materials are identified, the *Project Manager* shall be notified immediately.

Appendix 6/3 – Requirements for Excavation, Deposition, Compaction (Other Than Dynamic Compaction)

8.1.31 The location of the attenuation tank (TBWRF-13) requiring excavation (after decommissioning) and subsequent backfill of the resulting excavation is indicated on drawing NP-WOD-41XX-XXX-DR-CE-061082.

8.1.32 The proposed location of the battered slope following removal of the TBWRF-1 waste bay walls is indicated on drawing NP-WOD-41XX-XXX-DR-CE-061082.

8.1.33 The *Contractor's* attention is drawn to the presence of an existing membrane comprising 2 no. layers of 1200g "Visqueen", protected by 2no. layers of "TERRAM 1300". The membrane details are illustrated as 'Typical Cover Detail A', along with the location of the membrane on drawing NP-WOD-41XX-XXX-DR-CE-061082. This membrane is to be retained and protected. Any damage occurring to the membrane as a result of the *works*, must be repaired by the *Contractor* at their cost. In the event of damage to the membrane, the *Contractor* is required to notify the *Supervisor* within 3 days of the damage and submit their proposals for repair to the *Project Manager* and *Supervisor* for acceptance.

8.1.34 Backfilling for all excavations is required to the proposed levels indicated on drawing NP-WOD-41XX-XXX-DR-CE-061082 and to maintain at least 300mm cover of 6F2 material, or equivalent. the cover is to be extended across the area indicated in full. Bare soils at surface are not permitted at Completion.

8.1.35 Where excavations are required adjacent to or around existing structures and roads, appropriate measures shall be taken by the *Contractor* to prevent differential settlement to avoid damage to the existing structures and roads. The *Contractor* shall be responsible for all necessary temporary supports and/or restrictions on sequence of construction.

8.1.36 The *Contractor* shall be responsible for the control and prevention of groundwater ingress into excavations.

Backfill Requirements

8.1.37 Where battered excavations are used for the clearance of push walls and retaining walls at TBWRF-1, the *Contractor* will ensure that the batters are of a suitable slope angle, that the slope is stable and suitable for use by the ERF contractor following completion of the *works*. The batters/side slopes will not have a gradient steeper than 1 in 3. If steeper batters are required, the *Contractor* will provide adequate temporary support to maintain the stability of excavations.

8.1.38 All sub-base that is below structures that are to be removed will be retained in place. Where the existing sub-base is disturbed this will be replaced with suitable, compacted granular material. Where geotextile layers to existing sub-base are disturbed during the *works*, these will be re-instated with 'Terram 1300", or equivalent in accordance with the requirements in Table 6/5.

8.1.39 Where excavations are required adjacent to, or around existing structures and roads, appropriate measures will be taken by the *Contractor* to prevent development of differential settlement to avoid damage to the existing structures. The *Contractor* is responsible for all necessary temporary supports and/or restrictions on sequence of construction and will be responsible for putting right any damage to the existing structures and roads at the *Contractor's* cost. The *Contractor* will be responsible for the control and prevention of groundwater ingress into excavations.

8.1.40 An existing impermeable membrane is present at the formation level (9.95mAOD) of the deeper section of the TBWRF-1 building substructure. The *Contractor* will take all precautionary measures to protect the existing membrane. The *Contractor* will inform the *Project Manager* immediately in the event that the impermeable membrane is disturbed during the *works*. The position and details of the membrane is shown on Drawing NP-WOD-41XX-XXX-DR-CE-061082. In the event that the membrane is disturbed the *Contractor* will submit proposals for repair/reinstatement of the membrane to the *Project Manager* for acceptance.

Appendix 6/5 – Geotextile Used to Separate Earthworks Materials

8.1.41 Reinstatement/replacement of existing geotextile layers will be required if damaged during the *works*. TERRAM 1300 or equivalent will be used for reinstatement and/or replacement of any damaged geotextile layer.

8.1.42 Characteristics of "TERRAM 1300" or equivalent to be used for replacement of damaged existing geotextiles are summarised in the table below.

Characteristics	Test Standard	Value and unit
Tensile strength	BS EN ISO 10319	10.5kN/m
Elongation at maximum Load	BS EN ISO 10319	60%
Static puncture resistance (”CBR” test)	BS EN ISO 12236	2000N
Dynamic perforation resistance (cone drop test)	BS EN 918	34mm
Characteristic opening size	BS EN ISO 12956	65µm
Water permeability normal to the plane	BS EN ISO 11058	75l/m^{2}s
Durability	BS EN 13251 (Table 1, Annex B and Annex C)	5 years (duration)

Appendix 6/12 – Instrumentation and Monitoring

8.1.43 The *Contractor* is required to develop a monitoring system to monitor existing structures including the retained section of the reinforced concrete push wall (TBWRF-14/BWRF-3a) at the boundary of Zone 3 and the TBWRF/FPP for movement in all of the “X”, “Y” and “Z” directions and to implement any necessary mitigation measures during and after construction.

8.1.44 The monitoring strategy shall also include instrumentation and monitoring during excavation works to remove any substructures close to or in the vicinity of Thames Water Assets. The monitoring strategy shall consider the requirements stated in the Impact Assessment report document NP-WOD-41XX-XXX-RP-GE-090003 – “Northern Area Clearance Impact Assessment on Thames Water Assets” (copy included in Schedule 4 – Site Information), or if relevant, and any other additional special requirements agreed by the *Contractor* with Thames Water or resulting from other impact assessments prepared by the *Contractor* at the request of Thames Water.

8.1.45 The *Contractor* will submit a site-specific monitoring strategy to the *Project Manager* for review and acceptance. The strategy will include the development of the monitoring system, the baseline monitoring, trigger levels, monitoring programmes and any mitigation measures that are required.

8.1.46 As a minimum, monitoring points are to be placed on each of the various separate elements of existing structures and otherwise such that they are spaced at no more than 10m intervals along the reinforced concrete push wall (TBWRF-14/BWRF-3a) located at the boundary between Zone 3 and the TBWRF/FPP.

8.1.47 The *Contractor’s* attention is drawn to the requirement for monitoring of (TBWRF-14/BWRF-3a) during both the Zone 3 *works* and during the TBWRF/FPP *works*, up until the point at which the structure is removed during the TBWRF/FPP *works*. This is on the basis that operational / construction activities will be underway on the opposite side of the structure during both the Zone 3 and subsequent TBWRF/FPP phases of the *works*.

8.1.48 The details of and the number and location of monitoring points are to be determined by the *Contractor* subject to acceptance by the *Project Manager*. The monitoring points should be able to provide continuous monitoring during and after construction without being disturbed by construction plant and/or Operator/other vehicles that may be on the EcoPark.

8.1.49 Action will be required in the event that the following cumulative movement levels in any direction are reached on the precast concrete wall (BWRF-3a):

- First notification level: +/-15mm.
- Trigger level: +/- 25mm.
- Action level: +/- 50mm.

8.1.50 The *works* in any area will be immediately suspended and the *Project Manager* and owners of the affected asset will be notified if a trigger level is detected.

8.1.51 As a minimum the following original records are to be kept by the *Contractor* and an electronic copy is to be submitted to the *Project Manager*:

- Monitoring point details (plan location, coordinates and elevation, date of installation).
- All monitoring records.
- Summary figure/table of cumulative deformations/movements.
- All damage and replacement records.
- Photographs taken of key elements and during specific events.

8.1.52 Monitoring is to be undertaken at the frequency set out below as a minimum:

- Immediately after installation set up of the system (baseline monitoring).
- During all construction activities – real time monitoring.
- Post Completion – real time monitoring for one month and then manual monitoring once every month for a further 6 months for the Zone 3 and 4 phase of the *works*. Post-completion monitoring is not required as part of the TBWRF phase of the *works*, on the basis that the structure will be removed during the *works*.
- After any excavation and/or backfilling works local to a particular structure.
- When any visual inspections of potential/actual instability are carried out.

Appendix 6/14 – Limiting Values for Pollution of Controlled Waters

8.1.53 Refer to Appendix 6/15.

Appendix 6/15 – Limiting Values for Harm to Human Health and the Environment

8.1.54 Granular fill and cohesive fill materials must conform to the requirements of Volume 1, Series 600, Table 6/1 of the Specification for Highway Works and meet the chemical and geotechnical criteria specified in document reference NP-WOD-41AX-XXX-RP-EN-090002 “the Northern Area Remediation Strategy Report” and refer to Appendix 6/1 and Table 6/15a.

8.1.55 Refer to Appendix 6/1 and Table 6/15a for details of the chemical acceptance requirements for imported or reused materials.

Table 6/15a – Chemical Testing Criteria

Substances	Units	Criteria for material [1]	Basis for threshold concentration
pH	pH values	5-10	Typical range for soils (excludes concrete)
Arsenic	mg/kg	37	-
Boron (water soluble)	mg/kg	290	-
Cadmium	mg/kg	22	-
Copper	mg/kg	2400[2]	-
Chromium	mg/kg	21	-
Lead	mg/kg	200	-
Mercury	mg/kg	0.24	-
Nickel	mg/kg	130[2]	-
Selenium	mg/kg	250	-
Zinc	mg/kg	3700[2]	-
Cyanide – easily liberated	mg/kg	24	-
Cyanide – complex	mg/kg	408	
TPH >C12-16	mg/kg	42[3]	Further assessment can be made – see notes below.
TPH >C16-21	mg/kg	104[3]	Further assessment can be made – see notes below.
TPH >C21-35	mg/kg	330[3]	Further assessment can be made – see notes below.
Benzene	mg/kg	0.2	
Toluene	mg/kg	130	
Ethyl benzene	mg/kg	47	
Xylene m&p	mg/kg	56	
Xylene o	mg/kg	60	
Benzo(a)pyrene	mg/kg	5	
Naphthalene	mg/kg	2.3	
Phenol	mg/kg	120	
Asbestos	-	Not detected	
In addition to the above, all material imported to site should be free from solvent, hydrocarbon or contaminant odour, discolouration and propagules of aggressive weeds, fragments of glass, wire, ash or other potentially hazardous foreign matter and bulk vegetable growth.			
The above criteria have been generated based on human health generic assessment criteria and to ensure that material imported to site is at least as clean, or cleaner than the current soils.			
Notes: 1) These import criteria are not designed for service trenches for utilities and drainage. Reference should be made to the relevant utilities company soil criteria, such as the Water UK's guidance, to confirm the suitability of import material. 2) Check threshold for phytotoxicity 3) Based on S4UL. This allows for additivity and due to fixed conservative assumptions (Criteria is 30% of S4UL for >C12-16, 40% >C16-21 and 30% >C21-35, assuming all TPH present is aromatic). Further assessment is appropriate if they the threshold is exceeded			

Table 6/15a References

- British Standard (BS): 3882: 2015 - Specification for topsoil.
- British Standard (BS): 8601: 2013 – Specification for subsoil and requirement for use.
- CL:AIRE, 2013, SP1010 – "Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination", 20th December 2013.
- Environmental Industries Commission/Association of Geotechnical and Geoenvironmental Specialists/Contaminated Land: "Applications in Real Environments (EIC/AGS/CL:AIRE, 2009). Soil Generic Assessment Criteria for Human Health Risk Assessment". December 2009.
- Land Quality Management/Chartered Institute of Environmental Health (LQM/CIEH), 2015. "The LQM/CIEH S4ULs for Human Health Risk Assessment". Copyright Land Quality Management Limited reproduced with permission. Publication No. S4UL3076.
- RIVM, 2001, "Re-evaluation of human toxicological maximum permissible risk levels", RIVM Report 711701 025.
- Water UK, January 2014, "Contaminated Land Assessment Guidance – Protocols" published by agreement between Water UK and the Home Builders Federation.

9 Series 3000: Landscape and Ecology

Appendix 30/1 – General

9.1.1 Reports for ecological surveys undertaken for the Working Areas in advance of the *works* are included in Schedule 4 – Site Information.

9.1.2 The *Contractor* is required to employ a SQE to undertake pre-commencement checks before the *works* start in order to satisfy itself that there are no unknown/undiscovered ecological conditions that would require the imposition of ecological restrictions in/on any part of the Working Areas.

9.1.3 The *Contractor's* attention is drawn to the phased access to each part of the Working Areas as set out in Schedule 3a: Scope: *Client's* Requirement's – Part 1: General Requirements. The *Contractor* will consider the timings of the access when determining the requirements pre-commencement ecological checks and mitigation (where required).

9.1.4 The *Contractor* must submit a pre-commencement ecology report to the *Project Manager* for acceptance.

9.1.5 Where the *Contractor* identifies a requirement for any ecological survey programmes or any ecological mitigation measures in relation to the *works*, the *Contractor* must submit details within the required timescales, supported by all relevant reports to the *Project Manager* for acceptance. The required timescales are to take into account any date/seasonal restrictions on the undertaking of surveys or implementation of required mitigation measures.

9.1.6 In all cases, it is the *Contractor's* responsibility to comply with all relevant wildlife legislation and guidance and to obtain any associated licences that are needed to Provide the Works.

9.1.7 In the event that any protected species are encountered by the *Contractor* in the Working Areas in the course of Providing the Works, the *Contractor* will immediately suspend the *works* in the affected areas and submit details of the actions/mitigation measures that are required as a result of the presence of the protected species to the *Project Manager* for acceptance. All necessary mitigation measures/actions are to be taken by the *Contractor* prior to recommencing the *works* in the affected area. The *Contractor* is responsible for obtaining all relevant protected species licences for the *works*, where required.

9.1.8 The bird nesting season is March to September inclusive.

9.1.9 In the event that non-native invasive species, as listed under Appendix 30/2, are discovered in the Working Areas, all *works* in that area will be suspended and the *Project Manager* will be contacted by the *Contractor* with the relevant information (including options for dealing with the specific species) to agree the appropriate action to be taken.

9.1.10 Where any excavations are to be left open overnight, the *Contractor* is required to either cover the excavation or place an escape ramp (shallow slope / rough wood plank) in the excavation. Depending on the species that may be present in the general area (badgers and small mammals), this requirement applies to any excavations deeper than 300mm.

9.1.11 Any lighting used by the *Contractor* (temporary or permanent) will be reviewed by the SQE following the principles of the most recent version of the Institution of Lighting Professionals and Bat Conservations Trust's guidance on bats and lighting http://www.bats.org.uk/pages/bats_and_lighting.html.

9.1.12 The *Contractor* will refer to the requirements of MCHW Series 3000.

9.1.13 The landscaping requirements for the *works* are comprised of, but not limited to:

- Existing vegetation clearance
- Weed control
- Tree protection measures

9.1.14 The *Contractor* will prepare a specification for the existing vegetation clearance including a tree clearance plan, and a specification for landscape and ecology works (both for acceptance by the *Project Manager*).

9.1.15 The *Contractor* will programme ecological surveys, by SQE, as necessary to coincide with species specific constraints.

9.1.16 The *Contractor* will programme vegetation surveys to coincide with vegetation in full leaf for accuracy and ease of identification.

9.1.17 In the event that a non-native invasive species, as listed under 3002 of the MCHW, is discovered on Site, the *works* in that area will halt and the *Project Manager* will be contacted for appropriate action to be taken.

9.1.18 In the event that any protected species is discovered on Site, *works* in that area will halt and the *Project Manager* will be contacted for appropriate action to be taken.

9.1.19 The *Contractor* will ensure vegetation surveys are carried out by suitably qualified personnel and in accordance with the requirements of British Standard BS 5837: 2012 'Trees in Relation to Design, Demolition and Construction' to inform accurate tree protection plans.

9.1.20 The *Contractor* will give the *Project Manager* 14 days' notice prior to commencement of any of the following operations:

- Tree felling;
- Aboricultural works;
- Application of pesticides; and,
- Works outside the road boundary.

Appendix 30/2 – Weed Control

9.1.21 The *Contractor* will submit a pre-commencement weed treatment report to the *Project Manager* for acceptance

9.1.22 The *Contractor* will programme weed treatment works to coincide with suitable seasons for the most effective use of herbicides.

9.1.23 Weed control measures to remove the target species listed below will be required in all areas.

- Broad leafed dock;
- Curled dock;
- Common ragwort;
- Creeping thistle;
- Spear thistle;
- Butterfly bush;
- Snowberry;
- Himalayan balsam;
- Giant hogweed;
- Japanese knotweed; and,

- Other species that may be a nuisance, including but not limited to, all species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

9.1.24 The *Contractor* will remove all arisings from weed control operations. All potentially problematic weed arisings (invasive species etc.) are to be removed from the EcoPark and destroyed using the means that is most appropriate to prevent further propagation of the relevant plant species.

9.1.25 The *Contractor* must ensure the contents of the arisings are documented and dispose off-site at a suitable waste disposal site using a licensed waste carrier. Records of transfer and disposal of waste will be kept by the *Contractor*.

9.1.26 The *Contractor* will keep a documented record of pesticide control including areas and frequency of application. The *Contractor* will update this record every two weeks and submitted to the *Project Manager* for information purposes.

Appendix 30/4 – Maintenance of Established Trees and Shrubs

Site Clearance

9.1.27 Where references are included under 'Site Clearance', these refer to MCHW 3010, 'Maintenance of Established Trees'.

9.1.28 The *Contractor* will prepare a specification for the existing vegetation clearance including a tree clearance plan, and a specification for landscape and ecology works (both for acceptance by the *Project Manager*), in accordance with MCHW.

9.1.29 Pre-construction ecological surveys including bat surveys are required prior to the removal of vegetation and any subsequent relevant Licences to be obtained by the *Contractor*.

9.1.30 The *Contractor* will refer to Drawing NP-WOD-41XX-XXX-DR-LA-90_003 for tree clearance operations.

9.1.31 All excavation work within the RPA's of adjacent and retained trees, as identified in the Arboricultural survey and plan ref' NP-WOD-41XX-XXX-DR-LA-90_003 will be carried out in accordance with British Standard BS 5837: 2012 'Trees in Relation to Design, Demolition and Construction'.

9.1.32 Where vegetation surveys exist, the *Contractor* should undertake revision to the survey to inform any remedial works to retained trees.

9.1.33 All tree protection as indicated on Drawing NP-WOD-41XX-XXX-DR-LA-90_003 should be installed following clearance operations and prior to any construction/demolition activity. The protection measures are required to be accepted by the *Project Manager* prior to installation

9.1.34 The *Contractor* will cut back trees, bushes and hedges to the lines shown on the Drawing NP-WOD-41XX-XXX-DR-LA-90_003. The *Contractor* will dispose of all felled timber off site.

9.1.35 The *Contractor* will grub up stumps and roots from trees, bushes and hedges. The *Contractor* will dispose all such tree/bush/hedge arisings off site. Holes left as a result of stump/root removal will be filled with surrounding material to blend with adjacent levels by the end of the working day or fenced off.

9.1.36 The *Contractor* will avoid doing *works* to hedgerows and trees within the bird nesting season. Where birds are found nesting in hedgerows and trees during that season the *Contractor* will take instruction from a SQE in terms of cordoning the affected area and carrying out inspections to identify when chicks have fledged and left the nest. Only then can the *works* re-commence.

9.1.37 All remedial works required to retained trees will be carried out in accordance with the requirements of British Standard BS 5837: 2012 'Trees in Relation to Design, Demolition and Construction'.

9.1.38 Where physical site-based activities are taking place in the bird nesting season the SQE employed by the *Contractor* will carry out a nesting bird check of trees along the west and north boundaries, as well as the woodland to the east. The nesting bird check should take place no earlier than 48 hours before the site-based activity commences.

9.1.39 The SQE will advise on working distances. As a minimum no *works* should take place within 5 m of an active nest.

9.1.40 Building FPP-4 was occupied by feral pigeons. These birds can nest outside the normal bird nesting season therefore the *Contractor* will install deterrents to prevent them nesting (nesting is generally on high shelves, girders etc). A fine mesh (5 mm or less) net should be used. The net will be installed after the buildings are checked by the *Contractor's* SQE and will be checked daily for any trapped birds or damage where birds can get in. Records of the checks and any remedial actions required (e.g. net repair or replacement) will be kept by the *Contractor*.

9.1.41 The Zone 4 pond has been tested and the data indicates that great crested newts are not present. To manage the risk of the colonisation of the pond prior to the future ERF construction works (scheduled for after site clearance) an exclusion fence shall be erected around the pond in Zone 4 by the *Contractor*.

9.1.42 The *Contractor* will install semi-rigid fencing e.g. Herpetosure, or equivalent. Installation shall comply with Natural England, Great Crested Newt Mitigation Guidelines (2001), with installation supervised by the SQE.

9.1.43 The fence shall be installed for retention on Completion.

9.1.44 The *Contractor* will however be required to undertake a visual check of the fence least once weekly, from the time of installation until Completion, to check the fence is secure and impenetrable by great crested newts. Any damage and subsequent repairs should be reported to the *Project Manager* within 24 hours.

9.1.45 The *Contractor* must keep a record of all measures employed relevant to ecology, including but not limited to those outlined above (where applicable).

Appendices

Appendix	Title
1	Drawings

North London Heat and Power Project

Northern Area Clearance (Zone 3, Zone 4 and TBWRF/FPP) Works – Scope Changes for TBWRF/FPP Site Clearance (Phased Access)

DOCUMENT TITLE:	**Northern Area Clearance (Zone 3, Zone 4 and TBWRF/FPP) Works – Scope Changes for TBWRF/FPP Site Clearance**		
NLWA DOCUMENT NUMBER:	**NP-WSP-E3BX-XXX-CC-ZZ-090045**	**ADVISER NAME:**	**WSP**
TASK ORDER NUMBER:	**TF-WOD-808**	**WORK PACKAGE (IF APPLICABLE):**	**E3b Northern Area Clearance**
SECURITY	Choose one of the following: • ~~*Confidential (top confidentiality level)*~~ • ***Restricted (medium confidentiality level)*** • ~~Internal use (lowest level of confidentiality)~~ • ~~Public once finalised (everyone can see the information)~~	**INTERNAL DOCUMENT NUMBER:**	39889-WSP-E3B-XXX-CT-Z-0045

Approval Record

Revision No.	Author	Date	Checker	Date	Approver	Date	NLWA Authoriser	Date
P01	**R. Saint**	09/02/2023	**K. Stevenson**	09/02/2023	**J. Allen**	09/02/2023		

Revision Tracking

Specify significant changes from previous revisions of the document.

Revision No.	Date	Description of Revision
P01	**09/02/2023**	First Issue

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1. Northern Area Clearance (Zone 3, Zone 4 and TBWRF/FPP) Works – Scope Changes for TBWRF/FPP Site Clearance

1.1 Introduction & Reference Documents

This document has been prepared by WSP on behalf of North London Waste Authority as supporting information to a Project Manager's Instruction for phased zonal access into the TBWRF/FPP area for the **Northern Area Clearance (Zone 3, Zone 4 and TBWRF/FPP) Works.**

The document sets out the detail of the changes made to the *works* outlined in

- **Northern Area Clearance (Zone 3, Zone 4 and TBWRF/FPP) Works – Schedule 3a: Scope: *Client's* Requirements – Part 2 Site Clearance Works,** Issue 03, December 2021 (document reference NP-WOD-E3BX-XXX-CC-ZZ-090029).
- **Northern Area Clearance (Zone 3, Zone 4 and TBWRF/FPP) Works – Addendum to Schedule 3a: Scope: *Client's* Requirements – Part 2 Site Clearance Works,** Issue 02, May 2022 (document reference NP-WOD-E3BX-XXX-CC-ZZ-060043).
- **Northern Area Clearance (Zone 3, Zone 4 and TBWRF/FPP) Works – Scope Changes for TBWRF/FPP Site Clearance Works,** Issue P02, August 2022 (document reference NP-WOD-E3BX-XXX-CC-ZZ-060044).

The *Contractor's* attention is drawn to revised contract specific drawings and supporting information identified herein. Where revised drawings or supporting information is available, the relevant document / drawing title and reference is provided. All documentation is located within the following Asite folder accessible by the *Contractor*:

NLWA - North London Heat & Power Project\01 WORKING STRUCTURE\E3b - Northern Area Clearance\Zones 3 & 4 DSM Demolition Ltd\Design\Update Since ITT\Revised TBWRF clearance scope

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1.2 Changes to the *Client's* Requirements

Table 2.1 sets out in detail the changes to the works outlined in:

- **Northern Area Clearance (Zone 3, Zone 4 and TBWRF/FPP) Works – Schedule 3a: Scope: *Client's* Requirements – Part 2 Site Clearance Works,** Issue 03, December 2021 (document reference NP-WOD-E3BX-XXX-CC-ZZ-090029); and
- **Northern Area Clearance (Zone 3, Zone 4 and TBWRF/FPP) Works – Addendum to Schedule 3a: Scope: *Client's* Requirements – Part 2 Site Clearance Works,** Issue 02, May 2022 (document reference NP-WOD-E3BX-XXX-CC-ZZ-060043).
- **Northern Area Clearance (Zone 3, Zone 4 and TBWRF/FPP) Works – Scope Changes for TBWRF/FPP Site Clearance Works,** Issue P02, August 2022 (document reference NP-WOD-E3BX-XXX-CC-ZZ-060044).

For ease of reference Table 2.1 includes the relevant section and sub-section details and page numbers from the above document.

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Table 2.1 Details of Changes to the *Client's* Requirements

<table>
<tr><th>Section Reference</th><th>Sub-section Reference</th><th>Document Page Number</th><th>Details of update</th></tr>
<tr><td>3. Series 000: Introduction</td><td>Appendix 0/4 - List of Construction Drawings Included in the Contract -
Contract Specific Drawings</td><td>18</td><td>
The following drawings are to be revised:
<table>
<tr><th colspan="3">Original Drawing Details</th><th colspan="3">Revised Drawing Details</th></tr>
<tr><th>Drawing Number</th><th>Version Revision</th><th>Drawing Title</th><th>Drawing Number</th><th>New Version Revision</th><th>Drawing Title</th></tr>
<tr><td>NP-WOD-41XX-XXX-DR-EN-060057</td><td>P08</td><td>NAC Zone 3, Zone 4 and TBWRF/FPP Working Area (CDM) Boundaries</td><td>NP-WOD-41XX-XXX-DR-EN-060057</td><td>P09</td><td>NAC Zone 3, Zone 4 and TBWRF/FPP Working Area (CDM) Boundaries</td></tr>
<tr><td>NP-WOD-41XX-XXX-DR-EN-090053</td><td>P03</td><td>NAC Zones 1 and 2 (TBWRF/FPP) Planned Structure Removal</td><td>NP-WOD-41XX-XXX-DR-EN-090053</td><td>P04</td><td>NAC Zones 1 and 2 (TBWRF/FPP) Planned Structure Removal</td></tr>
<tr><td>NP-WOD-XXXX-XXX-DR-CE-069558</td><td>P01</td><td>NAC Zone 3, Zone 4 and TBWRF/FPP Construction Traffic Flows and Site Constraints (TBWRF Site Clearance)</td><td>NP-WOD-XXXX-XXX-DR-CE-069558</td><td>P02</td><td>NAC Zone 3, Zone 4 and TBWRF/FPP Construction Traffic Flows and Site Constraints (TBWRF Site Clearance)</td></tr>
<tr><td>NP-WOD-41XX-XXX-DR-EN-060060</td><td>P02</td><td>NAC Zones 1 and 2 (TBWRF/FPP) - Constraints on Contractor's Working Methods</td><td>NP-WOD-41XX-XXX-DR-EN-060060</td><td>P03</td><td>NAC Zones 1 and 2 (TBWRF/FPP) - Constraints on Contractor's Working Methods</td></tr>
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The following drawing is to be replaced:
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<tr><th colspan="3">Original Drawing Details</th><th colspan="3">Revised Drawing Details</th></tr>
<tr><th>Drawing Number</th><th>Version Revision</th><th>Drawing Title</th><th>Drawing Number</th><th>New Version Revision</th><th>Drawing Title</th></tr>
<tr><td>NP-WOD-XXXX-XXX-DR-EN-090020</td><td>P06</td><td>Monitoring boreholes sitewide</td><td>NP-WOD-XXXX-XXX-DR-EN-090002</td><td>P07</td><td>Construction Baseline Monitoring Locations</td></tr>
</table>
</td></tr>
</table>

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<table>
<tr><th>Section Reference</th><th>Sub-section Reference</th><th>Document Page Number</th><th>Details of update</th></tr>
<tr><td></td><td></td><td></td><td>

The following drawing is to be added:

<table>
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<tr><th>Drawing Number</th><th>Version Revision</th><th>Drawing Title</th></tr>
<tr><td>NP-WOD-41XX-XXX-DR-CE-061111</td><td>P02</td><td>Zoned Access to TBWRF/FPP Area for ERF Phase 1 Construction and Northern Area Clearance</td></tr>
</table>

</td></tr>
<tr><td>4. Series 100: Preliminaries</td><td>128 AR Enabling / Preparatory Works</td><td>20</td><td>

The following monitoring well is to be added to Table 1a, list of wells to be protected during the Works:

<table>
<tr><th>Monitoring Well ID</th><th>Eastings</th><th>Northings</th><th>Geological Unit Screened</th><th>Approximate depth to base of installation (m)</th></tr>
<tr><td>BH301R</td><td>535606.6m</td><td>192848.3m</td><td>Lambeth Group</td><td>16.65</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
</table>

</td></tr>
</table>

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<table>
<tr><th>Section Reference</th><th>Sub-section Reference</th><th>Document Page Number</th><th>Details of update</th></tr>
<tr><td>4. Series 100: Preliminaries</td><td>Appendix 1/28 Information for the Contractor's Completion Report</td><td>29</td><td>Sub-clause 4.1.36 is replaced as follows:
The Contractor will provide a report to the Supervisor on Completion of the works (the "Contractor's Completion Report"). The Contractor is required to provide a single report for each phase of the following phases of work, on Completion of that phase:
TBWRF/FPP Zone 2
TBWRF/FPP Zone 1A
TBWRF/FPP Zone 1B
The Contractor's attention is drawn to the requirement for phased reporting of works completed in TBWRF / FPP (Zones 1A, 1B and 2) in line with the requirement for sectional Completion of the TBWRF / FPP phase of Works. The initial phase of reporting shall cover works completed in Zone 2, with the updated report to include Zone 1A information and subsequently Zone 1B. The extent and phasing for sectional Completion, including the boundary between Zone 1A and 1B, is to be agreed between the Contractor and Project Manager in advance of the commencement of site clearance works within Zone 1B. Once agreed, this will be confirmed via Instruction by the Project Manager.</td></tr>
<tr><td>5. Series 200: Site Clearance</td><td>Appendix 2/1 – List of Buildings, etc. to be Demolished or Partially Demolished</td><td>33</td><td>Delete Table 2/1c – TBWRF/FPP List of Structures and Areas of Hardstanding to be Removed /Retained and replace with:
Table 2/1c – TBWRF/FPP List of Structures and Areas of Hardstanding to be Removed/Retained
<table>
<tr><th>Structure Reference</th><th>Building / Structure Description</th><th>Post-clearance status</th><th>Clearance Scope</th></tr>
<tr><td>TBWRF-1</td><td>FPP building and FPP waste bays</td><td>Removed</td><td>Contractor to remove superstructure, push walls, reinforced concrete raft foundation and blinding layer.
Sub-base to be left in-situ.
Gas bottle cages and storage racks will be removed from site by Operator prior to handover of site to Contractor.
Reprofiling of ground required following removal of retaining walls. Refer to Drawing NP-WOD-41XX-XXX-DR-CE-061082 for proposed finished levels.</td></tr>
<tr><td>TBWRF-2</td><td>Tyre skips</td><td>Removed</td><td>Tyre skips will be removed from site by Operator prior to handover of site to Contractor.
Skips sited on hardstanding. Contractor to refer to requirements for hardstanding removal below.</td></tr>
<tr><td>TBWRF-3</td><td>Odour control unit</td><td>Removed</td><td>Contractor to disconnect containerised odour control system unit and set aside for collection by others.
Contractor to remove, chimney, ductwork and other odour control system ancillaries, reinforced concrete base slab, reinforced concrete upstand walls and blinding layer. Sub-base to be left in-situ.</td></tr>
</table></td></tr>
</table>

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Section Reference	Sub-section Reference	Document Page Number	Details of update			
			TBWRF-4	Test weighbridge	Removed	Weighbridge structure including deck and steel ramp inclines will be removed from site by *Operator* prior to handover of site to *Contractor*. Weighbridge sited on hardstanding. *Contractor* to refer to requirements for hardstanding removal below.
			TBWRF-5 & TBWRF-6	Un-burnt materials bay and External bulky waste bays	Removed	*Contractor* to remove reinforced concrete raft foundation, reinforced concrete end walls and blinding in full. Sub-base to be left in-situ. *Contractor* to dismantle Legato blocks and store on site prior to collection by others at a date to be agreed with the *Operator*. Any Legato blocks not collected by others shall be stored on site for future use by ERF Contractor.
			TBWRF-7 & TBWRF-8	Fire water tank and Pump House	Removed	*Contractor* to remove tank structure, reinforced concrete raft formation and blinding in full. Contractor to disconnect pump house and associated plant (including diesel pumps and ducting/ pipework in fire suppression plant) and set aside for collection by others. Sub-base to be left in-situ. The *Operator* will discharge the contents of the fire water tank (fire water) prior to handover of the site to the *Contractor*.
			TBWRF-9	Welfare building	Removed	Modular superstructure to be dismantled and removed from site by *Operator* prior to handover of the site to the *Contractor*. *Contractor* to remove reinforced concrete raft foundation and blinding layer in full. Sub-base to be left in-situ.
			TBWRF-10	Workshop building	Removed	Contractor to remove building superstructure, reinforced concrete raft foundation, reinforced concrete upstand walls and blinding layer in full. Sub-base to be left in-situ.
			TBWRF-11	Refuelling area	Retained – above ground structure	Above ground tanks, concrete plinths, reinforced concrete raft foundation and reinforced concrete upstand walls to remain in-situ. 1m strip of existing gravel/concrete to be retained by the Contractor around the perimeter of the structure for protection.
			TBWRF-12	Smoking shelter and bicycle shed	Removed	Structures to be dismantled and removed from site by *Operator* prior to handover of the site to the *Contractor*. Smoking shelter and bicycle shed sited on hardstanding. *Contractor* to refer to requirements for hardstanding removal below.
			TBWRF-13	Surface water attenuation tank	Removed	*Contractor* to empty and decommission tank, before removing in full along with associated pipework. Resultant excavation to be backfilled by *Contractor*. Surface water attenuation tank to remain operational for existing and interim ash bay operation until NAC Zone 1B is handed over to *Contractor* for site clearance works.
			BWRF-3a (TBWRF-14)	Eastern boundary concrete push wall	Retained – above ground structure	Precast reinforced concrete push wall to be retained and protected by *Contractor*. 2m wide strip of existing concrete slab to be retained by *Contractor* at western side of the structure for protection.

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Section Reference	Sub-section Reference	Document Page Number	Details of update

TBWRF-15	Security hut - north	Removed	Structures to be dismantled and removed from site by *Operator* prior to handover of the site to the *Contractor*. Security hut sited on hardstanding. *Contractor* to refer to requirements for hardstanding removal below.
TBWRF-16	Security hut – south	Removed	Structures to be dismantled and removed from site by *Operator* prior to handover of the site to the *Contractor*. Security hut sited on hardstanding. *Contractor* to refer to requirements for hardstanding removal below.
IVC-2 (A,B,C)	Below ground attenuation tanks	Retained – below ground structure	Structure to be retained. Note decommissioned state. 1m strip of existing concrete hardstanding to be retained by *Contractor* around the perimeter of the extent of the below ground structures for protection.
IVC-14	Compost Kiosk Switchroom	Retained – above ground structure	Structure to be retained and protected by *Contractor* for future power supply. 1m strip of existing gravel/concrete to be retained by the *Contractor* around the perimeter of the structure for protection.
IVC-15	North End Switchroom	Retained – above ground structure	Structure to be retained and protected by *Contractor* for future power supply. 1m strip of existing gravel/concrete to be retained by the *Contractor* around the perimeter of the structure and palisade fencing for protection.
IVC-16	Compost Transformer F1	Retained – above ground structure	Structure to be retained and protected by *Contractor* for future power supply. 1m strip of existing concrete slab to be retained by *Contractor* around the perimeter of the structure for protection.
-	Heavy duty crash barriers and other street furniture (excluding vehicle arm barriers)	Removed	All heavy-duty crash barriers and other street furniture within the Working removed from site by *Operator* prior to handover of the site to the *Contractor*.
-	Hardstanding	Removed	All hardstanding to be removed by the *Contractor* as part of the clearance works, along with the waterproof slip membrane, with the exception of areas illustrated in Drawing NP-WOD-41XX-XXX-DR-EN-060053. Proposed finished levels as illustrated on Drawing NP-WOD-41XX-XXX-DR-CE-061082.
-	Vehicle arm barriers	Removed	All vehicle arm barriers and other street furniture within the Working removed from site by *Operator* prior to handover of the site to the *Contractor*.

Notes:

(1) Colour coding as defined on Drawing NP-WOD-41XX-XXX-DR-EN-090053.

Sub-clause 5.1.27 is replaced as follows:

As referenced in Table 2/1c the Contractor is required to carefully dismantle and remove the following items and store in a dedicated secure and protected location within the Working Area, for collection of the items by Others for re-use:

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Section Reference	Sub-section Reference	Document Page Number	Details of update
			▪ Legato blocks from TBWRF-5 and TBWRF-6 ▪ Containerised odour control system unit from TBWRF-3 ▪ Containerised pumphouse and associated plant (including diesel pumps and ducting/ pipework in fire suppression plant) from TBWRF-8 • With respect to the above items the *Contractor* shall: ▪ confirm in advance to the *Project Manager* and *Site Supervisor* the dates on which they intend to remove / dismantle each item to confirm that each item requires interim storage within the dedicated space in the Working Area and allow for co-ordination with the relevant party (via the *Project Manager)* for collection of the item(s) on an agreed date. ▪ co-ordinate as required via the *Project Manager* with the relevant party (the Site Operator or other site contractor), for the collection of each item (potentially on an individual basis) on a mutually agreeable date from the Working Area prior to the Completion Date. ▪ providing safe and unhindered access to the storage location within the Working Area for the relevant parties to collect the stated items on a date mutually agreed with the relevant parties. ▪ provision of secure storage within the Working Area and protection of each item from damage during dismantling and storage for the required storage period, which is to be agreed via the *Project Manager* with the relevant party (the Operator or other site contractor). The required storage period may be up to the Completion Date. • Each party (the Site Operator or other site contractor) who intends to re-use the item(s) shall be responsible for collecting and transporting the relevant item(s) from the Working Area by agreement with the *Contractor* (via the *Project Manager)* within the *Contractor's* normal working hours. • Each party collecting and transporting the item(s) shall be responsible for loading the item(s) and for providing sufficient appropriate equipment to facilitate this.

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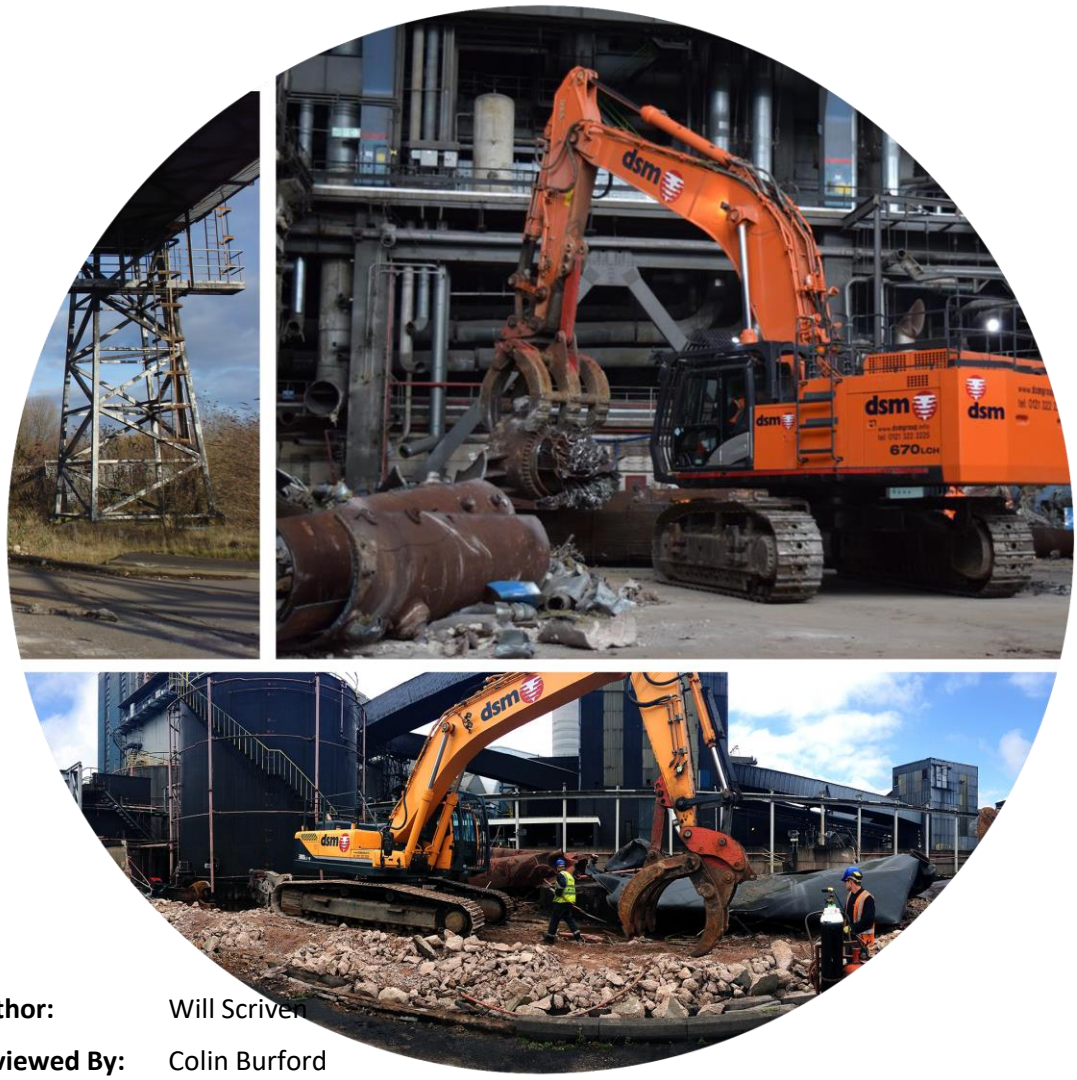
Appendix E

DSM COMPLETION REPORTS AND POST WORKS TOPOGRAPHIC SURVEYS

Public

Contractor Completion Report – TBWRF Zone 2

NP-DSM-41XX-XXX-RP-WA-000002



Author: Will Scriven

Reviewed By: Colin Burford

Status: S3 – Suitable for review and comment

Revision No: P02 **Issue Date:** 17/05/23

dsm
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decommission / demolish / decontaminate

NORTH LONDON WASTE AUTHORITY

Document Authorisation

	Name	Position	Signature
Author	**Will Scriven**	**Contracts Manager**	
Reviewer	**Colin Burford**	**Earthworks & Remediation Director**	

Document History

Date	Revision	Pages	Comments	Initial
03/05/23	**P01**	**All**	**Initial Issue**	**WS**
17/05/23	P01	All	WSP amendments addressed	RB

Contents

1. Project Overview

DSM Demolition Ltd were appointed by North London Waste Authority to undertake the clearance of the TBWRF, this report specifically covers 'Zone2' of the site, a further instruction was received to remove the existing buildings and acceleration of the slab removal.

The scope of works included;

- Pre work ecology checks NP-DSM-41XX-XXX-Environment-WA-000003.
- Pre work topo survey NP-DSM-41XX-XXX-DR-WA-090004
- Protection to retained assets,
- Dismantle and storage of materials for collection by others
- Demolition of above ground structures
- Removal of slabs and hardstanding – *Sub-base to remain in-situ where specified*
- Undertake GPR survey of the site
- Backfilling and reprofiling of the ground to the specified levels
- Battered excavations to be used following the clearance of the retaining and push walls to TBWRF – 1
- Crushing of concrete arisings and stockpiling of resultant 6F2 material (6F2 results can be found within NP-DSM-41XX-XXX-QA-WA-090016)
- Post works topo survey NP-DSM-41XX-XXX-DR-WA-090005.

Although the instruction for building demolition was received for the whole of the TWBRF site, it is worth noting that the below structures were removed, either in full or in part, to facilitate the handover of Zone 2 (Please refer to NP-WOD-41XX-XXX-DR-EN-090053 for references);

- TBWRF 1 – bottle cages and racking removed by others
- TBWRF 1 – Legato blocks stored for collection by others
- TBWRF 3
- TBWRF 7
- TBWRF 8
- TBWRF 9 – Removed by others
- TBWRF12 – Removed by others
- TBWRF 16 – Removed by others

All works were carried out in accordance with Wood / WSP specifications; SCHEDULE 3a: SCOPE: CLIENT'S REQUIREMENTS – PART 2 SITE CLEARANCE WORKS , NP-WSP-E3BX-XXX-CC-ZZ-090045, NP-WOD-41XX-XXX-DR-CE-061082, NP-WOD-E3BX-XXX-CC-ZZ-090029.

A sectional handover was achieved on 3rd May 2023.

DSM's access date to TBWRF was:

- TBWRF – 01/03/23

***All documents can be found on Asite.**

1.1. Protection of Retained Assets

Will be found on the as built topo survey.

1.2. Demolition of above ground structures

The above ground structures demolished included TBWRF buildings 1, 3, 7, 8, 9, 12 and 16 (Site Layout drawings are shown in section 1.3 overleaf) These structures were removed using a combination of demolition specification excavators with a selection of attachments and operatives with oxy-propane cutting equipment. All arisings were segregated and removed from site for further recycling.

1.3. Site Layout Drawings – Zone 4B and Ancillary buildings

2. Contract Directory

Client Details

North London Waste Authority
Unit 1b
Berol House
25 Ashley Road
Tottenham Hale
London
N17 9LJ
Electronic Contact - E- Mail: spencer.chow@arup.com

Project Manager

ARUP
Spencer Chow
Berol House
Tottenham Hale
N17 9LJ
Mobile No: 07971 880606
E- Mail: spencer.chow@arup.com

Principal Designer

WSP
Floor 3
11 Westferry Circus
London
E14 4HA
Email: paul.minto@wsp.com

Principal Contractor

DSM Demolition Limited
Tel: 0121 322 2225
Fax: 0121 322 2227
Website: www.dsmgroup.info
E-Mail: C12514NAC@dsmgroup.info

Contract Director:	Colin Burford – 07920 004 795
Health & Safety Manager:	Stephen Young - 07979 664 477
Contracts Manager:	Will Scriven - 07827 318 709

3. Services

All redundant services within the Zone 2 area were removed back to slab level with the exception of the live services present within the area which were dealt with by LEL directly.

Where DSM removed drainage and service runs the resulting excavations were backfilled to method spec.

DSM carried out a GPR survey once slab and foundation removal commenced. We undertook this activity following the commencement of works as a GPR survey would not have been able to trave the location of services due to the extent of re-bar within the slab. Please see document NP-DSM-41XX-XXX-SU-WA-090007

3.1. Electricity

All electricity to the site was terminated by London Energy prior to DSM starting works to the individual buildings. Please see document NP-DSM-41XX-XXX-CT-WA-000001.

The electrical services remaining live within the area are within service ducts / corridors within the retained access road into Zone 2. LEL are to confirm that the infrastructure is to be retained for future use.

3.2. Gas

No Gas services were present on site.

3.3. Water

DSM have installed a metered standpipe on an existing hydrant on the boarder or Zones 2 / Zone 1a.

3.4. Telecoms

Telecoms were disconnected by LEL prior to handover to ensure no disruption during the works – no isolation certificate was issued by LEL.

3.5. Drainage

Where drainage has been removed, the resulting excavations were backfilled to method spec. The open ends of redundant services / pipes have been closed off at the point of cut off prior to backfill.

4. Residual Structures

Details of residual structures can be found on the topographical survey (NP-DSM-41XX-XXX-DR-WA-090005), along with a risk assessment for the 6F2 stockpile.

TBWRF 14 – (Push wall), that divides Zone 2 from Zone 3 is being removed by others.

5. Hazardous Materials

An asbestos Refurbishment and Demolition survey was not required prior to the demolition of the structures as they were constructed during 2021 – 2022. DSM's qualified and competent asbestos surveyor undertook a visual inspection prior to demolition works commencing and concluded there were no ACM's present.

6. Waste

DSM has verified all waste carriers and disposal points as part of our duty of care responsibilities. In addition, all individual duty of care notes and hazardous waste consignment notes have been inspected and evidence obtained that the materials were taken to the stated disposal point.

As part of the works DSM undertook the removal of TBWRF – 3 (Odour control unit), during the removal of the structure we removed the used activated carbon.

The waste data for Zone 2, can be found in document NP-DSM-41XX-XXX-Environment-WA-000001.

Please see document NP-DSM-41XX-XXX-Environment-WA-090004 for our SWMP & Carbon Footprint for this section of works.

7. Legal Notifications

Crusher Notification NP-DSM-41XX-XXX-Environment-WA-000002

8. Environmental Management

An Environmental Management Plan was in place and updated throughout to outline the procedures for environmental management during the works.

Dust was mitigated using a number of different dust suppression devices including dust cannons and fire hoses, along with damping down haulage routes with hoses.

Vibration was monitored throughout the works, and where possible, low vibration techniques were used for example using hydraulic pulveriser attachments instead of breakers.

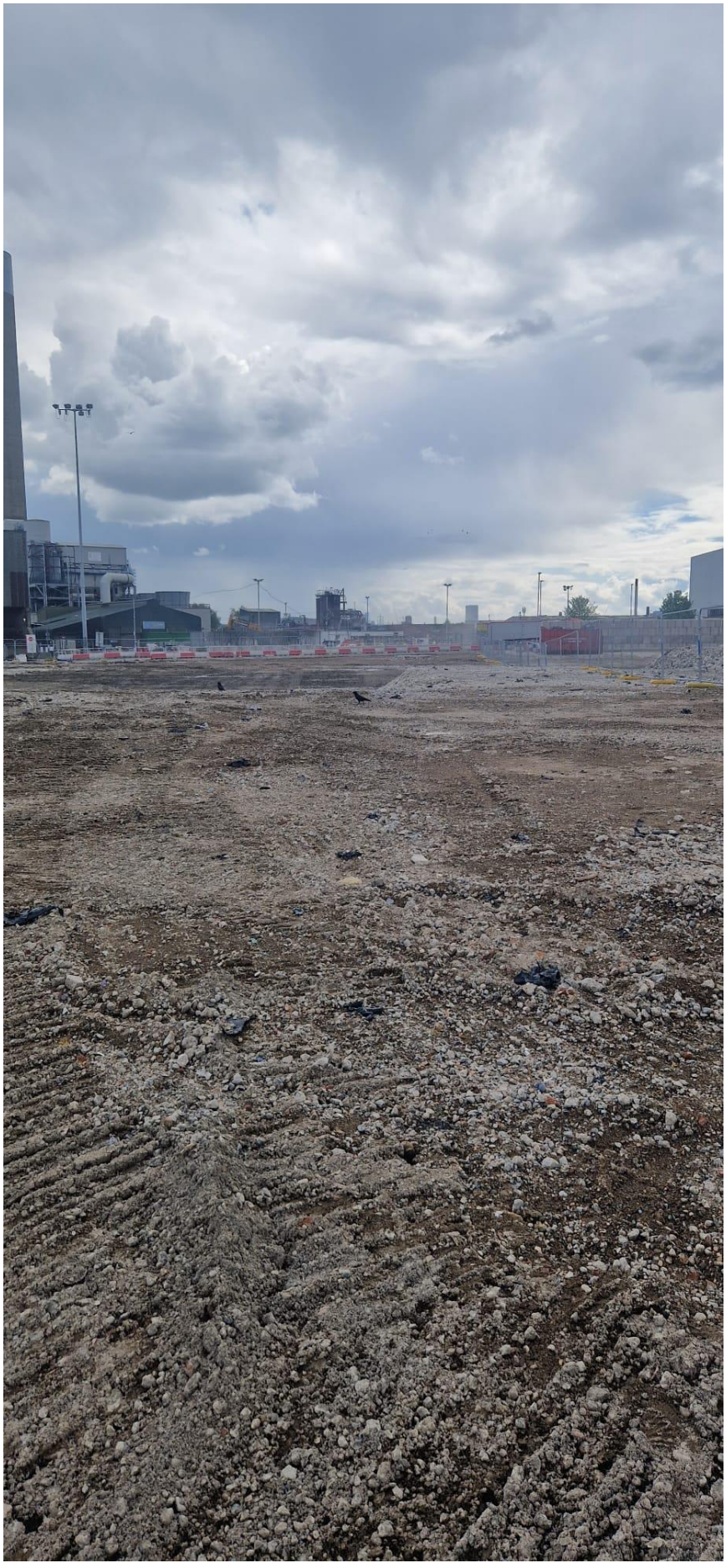
To control noise, DSM applied for a section 61 agreement with the London Borough of Enfield (LBE) which allowed an agreed noise level to be produced within agreed working hours, no works were undertaken outside of these hours, unless under agreement. A copy of the section 61 can be found can be found on Asite.

All machinery used on site was NRMM compliant.

9. Site conditions upon handover to the client

Photos showing the condition of the site upon handover to the client on 3rd May 2023. will be appended once the handover is complete.

All relevant documents relating to the condition of the site are detailed within the report and are contained in appendix A.



10. Appendix A – Supporting Documents

Below table outlines the supporting documents to this report.
All supporting information can be found on Asite.

Document Number	Document Name
NP-DSM-41XX-XXX-DR-WA-090004	Pre-demolition topo survey
NP-DSM-41XX-XXX-DR-WA-090005	Post Demolition topo survey
NP-DSM-41XX-XXX-Environment-WA-000001	DSM Waste Data
NP-DSM-41XX-XXX-CT-WA-000001	TBWRF Isolation Certs
NP-DSM-41XX-XXX-Environment-WA-000003	Pre Work ecology checks
NP-DSM-41XX-XXX-QA-WA-090016	TBWRF Zone 2- 6F2 Sample Results
NP-DSM-41XX-XXX-CC-WA-090001	TBWRF Zone 2- Sectional Completion Certificate
NP-DSM-41XX-XXX-SU-WA-090007	TBWRF Zone 2 GPR survey
NP-DSM-41XX-XXX-Environment-WA-090004	TBWRF Zone 2 SWMP & Carbon Footprint

11. Appendix B – Completion Certificate

Below is a copy of the NEC4 Project Manager Sectional Completion Certificate – copy can also be viewed on CEMAR.

NEC ECC 4

Sectional Completion Certificate
Section (2) Phase 2 TBWRF Zone 2

To:	DSM Demolition Ltd	Address:	Arden House, Arden Road, Heartlands, Birmingham, B8 1DE
From:	North London Waste Authority	Address:	Unit 1B, Berol House, 25 Ashley Road, Tottenham Hale, London, N17 9LJ
Project Name:	Northern Area Clearance - Zones 3, 4 & TBWRF Demolition	Project ID:	E3b
Sectional Completion Certificate No:	2	Date:	05-May-23

Pursuant to clause 30.2 of contract, the date of Completion for Section (2) Zone 2 was achieved on 03-May-23. This Sectional Completion Certificate is in addition to Sectional Completion Certificate (1) issued for Zones 3, 4a & 4b on 11-November-22.

Document Reference: NP-ARP-41XX-XXX-CT-PM-090004

As per clause 11.2(2) Completion is when the *Contractor* has

- done all the work which the Scope states is to be done by the Completion Date and
- corrected notified Defects which would have prevented the Client from using the works or Others from doing their work.

The Completion certificate is completed subject to the following (as per Z11.2 [2]):

☐ Successfully completed any testing that the Scope requires is carried out on the cleared Site or any parts of it before it is handed over to the Client;

☐ Completed the works to a stage of completeness in which there are no apparent Defects and no incomplete items of work and to a state in which the Client has unrestricted access to and from the completed works; and

☐ Delivered to the *Client* the original health and safety file prepared in accordance with and for the purposes of the CDM Regulations

☐ As per PMI-81, The *Contractor* is instructed to install a stop valve on the 90mm fire water main in the specified location and remove the redundant section of the service that sits within Zone 2 working area. These additional works are to be undertaken post the specified completion date with no impact to the Sectional Completion.

The *Contractor* has supplied the following documents to the *Client* :

☐ All certifications of approval and acceptance in respect of the works.

☐ Environmental data and documenation related to the works for reporting purposes.

Copy to: DSM Demolition Ltd, NLWA, NLHPP

Signed by the Project Manager:_____ _____

Contractor Completion Report – TBWRF Zone 1a

NP-DSM-41XX-XXX-RP-WA-090045

Author:	Ryan Baneham
Reviewed By:	Colin Burford
Status:	S3 – Suitable for review and comment
Revision No:	P01
Issue Date:	30/06/2023

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NORTH LONDON WASTE AUTHORITY

Document Authorisation

	Name	Position	Signature
Author	**Ryan Baneham**	**Quantity Surveyor**	
Reviewer	**Colin Burford**	**Earthworks & Remediation Director**	

Document History

Date	Revision	Pages	Comments	Initial
30/06/2023	**P01**	**All**	**Initial Issue**	**RB**

Contents

1. Project Overview

DSM Demolition Ltd were appointed by North London Waste Authority to undertake the clearance of the TBWRF, this report specifically covers 'Zone 1a' of the site, a further instruction was received to remove the existing buildings and acceleration of the slab removal.

The scope of works included;

- Pre work ecology checks – previously issued in Zone 2 report
- Pre work topo survey – previously issued in Zone 2 report
- Protection to retained assets
- Dismantle and storage of materials for collection by others
- Demolition of above ground structures
- Removal of slabs and hardstanding – *Sub-base to remain in-situ where specified*
- Undertake GPR survey of the site – previously issued in Zone 2 report
- Backfilling and reprofiling of the ground to the specified levels
- Battered excavations to be used following the clearance of the retaining and push walls to TBWRF – 1
- Crushing of concrete arisings and stockpiling of resultant 6F2 material (6F2 results can be found within (NP-DSM-41XX-XXX-QA-WA-090017)
- Topo survey – Zone 1a NP-DSM-41XX-XXX-DR-WA-090006.

Although the instruction for building demolition was received for the whole of the TWBRF site, it is worth noting that the below structures were removed, either in full or in part, to facilitate the handover of Zone 1a (Please refer to NP-WOD-41XX-XXX-DR-EN-090053 for references);

- TBWRF 1 – Legato blocks stored for collection by others
- TBWRF – 4 – weighbridge (slab)
- TBWRF 5 & 6 – Ash bays
- TBWRF – 13 – Attenuation tank

During this phase of works DSM were instructed by ARUP to install a new 'Temporary ash bay' to on the footprint of the former TBWRF 10. Although this is within Zone 1b, these works were instructed through Zone 1a.

All works were carried out in accordance with Wood / WSP specifications; SCHEDULE 3a: SCOPE: CLIENT'S REQUIREMENTS – PART 2 SITE CLEARANCE WORKS , NP-WSP-E3BX-XXX-CC-ZZ-090045, NP-WOD-41XX-XXX-DR-CE-061082, NP-WOD-E3BX-XXX-CC-ZZ-090029.

A sectional handover was achieved on 16th June 2023

DSM's access date to TBWRF (Zone 1a) was:

- TBWRF (Zone 1a) – 06/03/23

***All documents can be found on Asite.**

1.1. Protection of Retained Assets

Will be found on the as built topo survey.

1.2. Demolition of above ground structures

The above ground structures demolished included TBWRF buildings 1,5,6 (Site Layout drawings are shown in section 1.3 overleaf) These structures were removed using a combination of demolition specification excavators with a selection of attachments and operatives with oxy-propane cutting equipment. All arisings were segregated and removed from site for further recycling.

1.3. Site Layout Drawings – Zone 4B and Ancillary buildings

2. Contract Directory

Client Details

North London Waste Authority
Unit 1b
Berol House
25 Ashley Road
Tottenham Hale
London
N17 9LJ
Electronic Contact - E- Mail: spencer.chow@arup.com

Project Manager

ARUP
Spencer Chow
Berol House
Tottenham Hale
N17 9LJ
Mobile No: 07971 880606
E- Mail: spencer.chow@arup.com

Principal Designer

WSP
Floor 3
11 Westferry Circus
London
E14 4HA
Email: paul.minto@wsp.com

Principal Contractor

DSM Demolition Limited
Tel: 0121 322 2225
Fax: 0121 322 2227
Website: www.dsmgroup.info
E-Mail: C12514NAC@dsmgroup.info

Contract Director:	Colin Burford – 07920 004 795
Health & Safety Manager:	Stephen Young - 07979 664 477
Contracts Manager:	Will Scriven - 07827 318 709

3. Services

All redundant services within the Zone 1a area were removed back to slab level with the exception of the live services present within the area which were dealt with by LEL directly.

Where DSM removed drainage and service runs the resulting excavations were backfilled to method spec.

DSM carried out a GPR survey once slab and foundation removal commenced. We undertook this activity following the commencement of works as a GPR survey would not have been able to trace the location of services due to the extent of re-bar within the slab. Previously issued in Zone 2 report.

3.1. Electricity

All electricity to the site was terminated by London Energy prior to DSM starting works to the individual buildings. Previously issued in Zone 2 report.

3.2. Gas

No Gas services were present on site.

3.3. Water

DSM installed an isolation stop valve to the TBWRF 90mm fire water mains supply within the manhole to the south West of TBWRF Zone 1b.

3.4. Telecoms

Telecoms were disconnected by LEL prior to handover to ensure no disruption during the works – no isolation certificate was issued by LEL.

3.5. Drainage

Where drainage has been removed, the resulting excavations were backfilled to method spec. The open ends of redundant services / pipes have been closed off at the point of cut off prior to backfill.

4. Residual Structures

Details of residual structures can be found on the topographical survey (NP-DSM-41XX-XXX-DR-WA-090006), along with a risk assessment for the 6F2 stockpile (NP-DSM-41XX-XXX-RA-WA-090003)

5. Hazardous Materials

An asbestos Refurbishment and Demolition survey was not required prior to the demolition of the structures as they were constructed during 2021 – 2022. DSM's qualified and competent asbestos surveyor undertook a visual inspection prior to demolition works commencing and concluded there were no ACM's present. DSM statement can be found in NP-DSM-41XX-XXX-SU-WA-060001.

6. Waste

DSM has verified all waste carriers and disposal points as part of our duty of care responsibilities. In addition, all individual duty of care notes and hazardous waste consignment notes have been inspected and evidence obtained that the materials were taken to the stated disposal point.

The waste data, SWMP & Carbon Footprint for Zone 1a, can be found in document NP-DSM-41XX-XXX-Environment-WA-090006.

7. Legal Notifications

Crusher Notification Previously issued in Zone 2 report.

8. Environmental Management

An Environmental Management Plan was in place and updated throughout to outline the procedures for environmental management during the works.

Dust was mitigated using a number of different dust suppression devices including dust cannons and fire hoses, along with damping down haulage routes with hoses.

Vibration was monitored throughout the works, and where possible, low vibration techniques were used for example using hydraulic pulveriser attachments instead of breakers.

To control noise, DSM applied for a section 61 agreement with the London Borough of Enfield (LBE) which allowed an agreed noise level to be produced within agreed working hours, no works were undertaken outside of these hours, unless under agreement. A copy of the section 61 can be found can be found on Asite.

All machinery used on site was NRMM compliant.

9. Site conditions upon handover to the client

Photos showing the condition of the site upon handover to the client on 16th June 2023. will be appended once the handover is complete.

All relevant documents relating to the condition of the site are detailed within the report and are contained in appendix A.

10. Appendix A – Supporting Documents

Below table outlines the supporting documents to this report.
All supporting information can be found on Asite.

Document Number	Document Name
NP-DSM-41XX-XXX-DR-WA-090006	Topo survey – Zone 1a
NP-DSM-41XX-XXX-QA-WA-090017	TBWRF Zone 1a - 6F2 Sample Results
NP-DSM-41XX-XXX-CC-WA-090002	TBWRF Zone 1a - Sectional Completion Certificate
NP-DSM-41XX-XXX-Environment-WA-090006	DSM Waste Data &TBWRF Zone 1a SWMP & Carbon Footprint
NP-DSM-41XX-XXX-RA-WA-090003	TBWRF Zone 1a Stockpile risk assessment
NP-DSM-41XX-XXX-SU-WA-060001	Asbestos inspection statement

11. Appendix B – Completion Certificate

Below is a copy of the NEC4 Project Manager Sectional Completion Certificate – copy can also be viewed on CEMAR.

NEC ECC 4

Sectional Completion Certificate
Section (3) Phase 2 TBWRF Zone 1a

To:	DSM Demolition Ltd	Address:	Arden House, Arden Road, Heartlands, Birmingham, B8 1DE
From:	North London Waste Authority	Address:	Unit 1B, Berol House, 25 Ashley Road, Tottenham Hale, London, N17 9LJ
Project Name:	Northern Area Clearance - Zones 3, 4 & TBWRF Demolition	Project ID:	E3b
Sectional Completion Certificate No:	3	Date:	23-Jun-23

Pursuant to clause 30.2 of the Contract, the date of Completion for Section (3) Zone 1a was achieved on 16-June-23. This Sectional Completion Certificate is in addition to the Takeover Certificate (1) issued for Zones 3 & 4a on 31-Aug-22, Sectional Completion Certificate (1) issued for Zones 3, 4a & 4b on 11-November-22 and Sectional Completion Certificate (2) issued for Zone 2 on 05-May-23.

Document Reference: NP-ARP-41XX-XXX-CT-PM-090005

As per clause 11.2(2) Completion is when the Contractor has

- done all the work which the Scope states is to be done by the Completion Date and
- corrected notified Defects which would have prevented the Client from using the works or Others from doing their work.

The Completion certificate is completed subject to the following (as per Z11.2 [2]):

☐ Successfully completed any testing that the Scope requires is carried out on the cleared Site or any parts of it before it is handed over to the Client;

☐ Completed the works to a stage of completeness in which there are no apparent Defects and no incomplete items of work and to a state in which the Client has unrestricted access to and from the completed works; and

☐ Delivered to the *Client* the original health and safety file prepared in accordance with and for the purposes of the CDM Regulations and any other documenation obtained as part of the demolition and site clearance process.

☐ As per '3.4.12 As Constructed Documentation' within 'Schedule 3A: Part 1 - General Requirements', the Completion Reporting is due within 14 days post completion of works (PMI-32 reduced the Contract noted period from 28 days to 14 days).

The Contractor is to issue the following documents to the Client as part of the handover completion:

☐ All certifications of approval and acceptance in respect of the works.

☐ Environmental data and documenation related to the works for reporting purposes.

☐ Contractor Completion Report, including; Ground penetrating radar survey, topographical survey, retained 6F2 sample results and all supporting documentation as specified.

Copy to: DSM Demolition Ltd, NLWA, NLHPP

Signed by the Project Manager: _____

Contractor Completion Report – TBWRF Zone 1b

NP-DSM-41XX-XXX-RP-WA-090047

Author:	Ryan Baneham
Reviewed By:	Colin Burford
Status:	S3 – Suitable for review and comment
Revision No:	P02
Issue Date:	28/07/2023

dsm
www.dsmgroup.info
decommission / demolish / decontaminate

NORTH LONDON WASTE AUTHORITY

Document Authorisation

	Name	Position	Signature
Author	**Ryan Baneham**	**Quantity Surveyor**	
Reviewer	**Colin Burford**	**Earthworks & Remediation Director**	

Document History

Date	Revision	Pages	Comments	Initial
14/07/2023	**P01**	**All**	**Initial Issue**	**RB**
28/07/2023	P02	All	WSP amendments	RB

Contents

1. Project Overview

DSM Demolition Ltd were appointed by North London Waste Authority to undertake the clearance of the TBWRF, this report specifically covers 'Zone 1b' of the site, a further instruction was received to remove the existing buildings and acceleration of the slab removal.

The scope of works included;

- Pre work ecology checks – previously issued
- Pre work topo survey – previously issued
- Protection to retained assets
- Dismantle and storage of materials for collection by others
- Demolition of above ground structures
- Removal of slabs and hardstanding – *Sub-base to remain in-situ where specified*
- Undertake GPR survey of the site – update to be issued
- Backfilling and reprofiling of the ground to the specified levels
- Crushing of concrete arisings and stockpiling of resultant 6F2 material, document to be issued once test results received.
- Topo survey – Zone 1b -

Although the instruction for building demolition was received for the whole of the TWBRF site, it is worth noting that the below structures were removed, either in full or in part, to facilitate the handover of Zone 1b (Please refer to NP-WOD-41XX-XXX-DR-EN-090053 for references);

- TBWRF – 4 – weighbridge (slab)
- TBWRF - 5 - Ash Bay
- TBWRF – 13 – Attenuation tank
- TBWRF – 11 – Refuelling area

During this phase of works DSM were instructed by ARUP to install a new 'Temporary ash bay' on the footprint of the former TBWRF 10.

All works were carried out in accordance with Wood / WSP specifications; SCHEDULE 3a: SCOPE: CLIENT'S REQUIREMENTS – PART 2 SITE CLEARANCE WORKS , NP-WSP-E3BX-XXX-CC-ZZ-090045, NP-WOD-41XX-XXX-DR-CE-061082, NP-WOD-E3BX-XXX-CC-ZZ-090029.

A sectional handover was achieved on 14th July 2023

DSM's access date to TBWRF (Zone 1b) was:

- TBWRF (Zone 1b) – 26th June 2023.

***All documents can be found on Asite.**

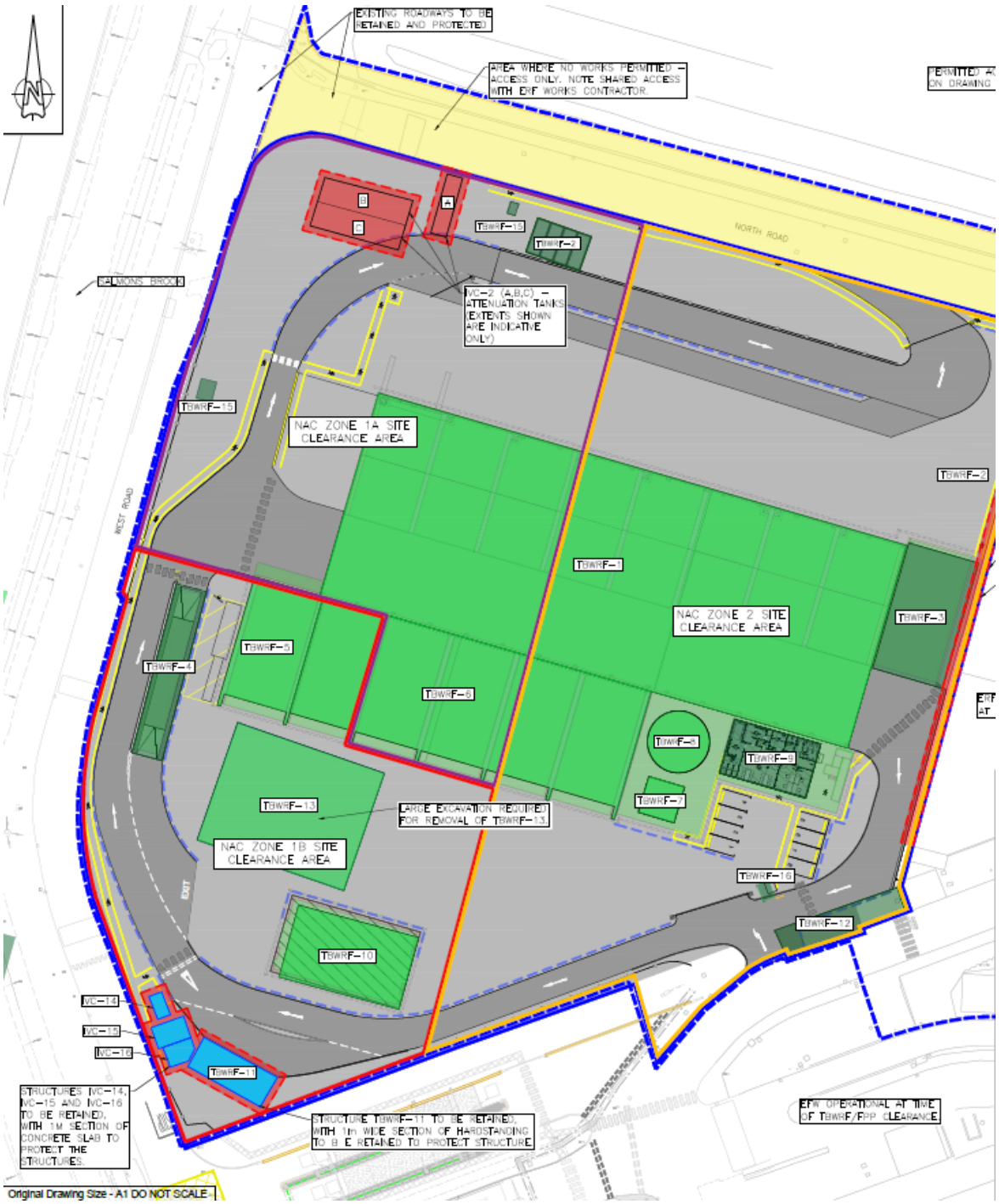
1.1. Protection of Retained Assets

Will be found on the as built topo survey.

1.2. Demolition of above ground structures

The above ground structures demolished included TBWRF buildings 5 & 11 (Site Layout drawings are shown in section 1.3 overleaf) These structures were removed using a combination of demolition specification excavators with a selection of attachments and operatives with oxy-propane cutting equipment. All arisings were segregated and removed from site for further recycling. Part of the TBWRF 11 structure was retained to protect security fencing around the retained transformer (IVC 16) and that the extent of the retained structure is shown on the topo survey.

1.3. Site Layout Drawings – Zone 4B and Ancillary buildings



2. Contract Directory

Client Details

North London Waste Authority
Unit 1b
Berol House
25 Ashley Road
Tottenham Hale
London
N17 9LJ
Electronic Contact - E- Mail: spencer.chow@arup.com

Project Manager

ARUP
Spencer Chow
Berol House
Tottenham Hale
N17 9LJ
Mobile No: 07971 880606
E- Mail: spencer.chow@arup.com

Principal Designer

WSP
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11 Westferry Circus
London
E14 4HA
Email: paul.minto@wsp.com

Principal Contractor

DSM Demolition Limited
Tel: 0121 322 2225
Fax: 0121 322 2227
Website: www.dsmgroup.info
E-Mail: C12514NAC@dsmgroup.info

Contract Director:	Colin Burford – 07920 004 795
Health & Safety Manager:	Stephen Young - 07979 664 477
Contracts Manager:	Will Scriven - 07827 318 709

3. Services

All redundant services within the Zone 1b area were removed back to slab level with the exception of the live services present within the area which were dealt with by LEL directly. Please see document NP-DSM-41XX-XXX-CT-WA-090001.

Where DSM removed drainage and service runs the resulting excavations were backfilled to method spec.

DSM carried out a GPR survey once slab and foundation removal commenced. We undertook this activity following the commencement of works, as a GPR survey would not have been able to trace the location of services due to the extent of re-bar within the slab. Please see document NP-DSM-41XX-XXX-DR-WA-090008.

3.1. Electricity

LEL isolated and disconnected power supplies to the fuel store instruments and the drainage pumping station. Please see document NP-DSM-41XX-XXX-CT-WA-090001.

3.2. Gas

No Gas services were present on site.

3.3. Water

DSM installed an isolation stop valve to the TBWRF 90mm fire water mains supply within the manhole to the southwest of TBWRF Zone 1b. The water isolation valve was capped off within the valve chamber and remains live for future use by follow on contractors.

3.4. Telecoms

Telecoms were disconnected by LEL prior to handover to ensure no disruption during the works – no isolation certificate was issued by LEL.

3.5. Drainage

Where drainage has been removed, the resulting excavations were backfilled to method spec. The open ends of redundant services / pipes have been closed off at the point of cut off prior to backfill.

4. Residual Structures

Details of residual structures can be found on the topographical survey (NP-DSM-41XX-XXX-DR-WA-090007), along with a risk assessment for the 6F2 stockpile (NP-DSM-41XX-XXX-RA-WA-090006).

5. Hazardous Materials

An asbestos Refurbishment and Demolition survey was not required prior to the demolition of the structures as they were constructed during 2021 – 2022. DSM's qualified and competent asbestos surveyor undertook a visual inspection prior to demolition works commencing and concluded there were no ACM's present. Please see document NP-DSM-41XX-XXX-SU-WA-060001.

6. Waste

DSM has verified all waste carriers and disposal points as part of our duty of care responsibilities. In addition, all individual duty of care notes and hazardous waste consignment notes have been inspected and evidence obtained that the materials were taken to the stated disposal point.

The waste data, SWMP & Carbon Footprint for Zone 1b, please see document NP-DSM-41XX-XXX-Environment-WA-090009.

7. Legal Notifications

Crusher Notification Previously issued.

8. Environmental Management

An Environmental Management Plan was in place and updated throughout to outline the procedures for environmental management during the works.

Dust was mitigated using a number of different dust suppression devices including dust cannons and fire hoses, along with damping down haulage routes with hoses.

Vibration was monitored throughout the works, and where possible, low vibration techniques were used for example using hydraulic pulveriser attachments instead of breakers.

To control noise, DSM applied for a section 61 agreement with the London Borough of Enfield (LBE) which allowed an agreed noise level to be produced within agreed working hours, no works were undertaken outside of these hours, unless under agreement. A copy of the section 61 can be found on Asite.

All machinery used on site was NRMM compliant.

9. Site conditions upon handover to the client

Photos showing the condition of the site upon handover to the client on 14th July 2023. will be appended once the handover is complete.

All relevant documents relating to the condition of the site are detailed within the report and are contained in appendix A.

10. Appendix A – Supporting Documents

Below table outlines the supporting documents to this report.
All supporting information can be found on Asite.

Document Number	Document Name
NP-DSM-41XX-XXX-DR-WA-090007	Topo survey – Zone 1b
NP-DSM-41XX-XXX-Environment-WA-090008	TBWRF Zone 1b - 6F2 Sample Results
NP-DSM-41XX-XXX-CC-WA-090003	TBWRF Zone 1b - Sectional Completion Certificate
NP-DSM-41XX-XXX-Environment-WA-090009	DSM Waste Data &TBWRF Zone 1b SWMP & Carbon Footprint
NP-DSM-41XX-XXX-RA-WA-090006	TBWRF Zone 1b Stockpile risk assessment
NP-DSM-41XX-XXX-CT-WA-090001	TBWRF – Zone 1b Isolation Certs
NP-DSM-41XX-XXX-DR-WA-090008	TBWRF Zone 1b GPR survey

11. Appendix B – Completion Certificate

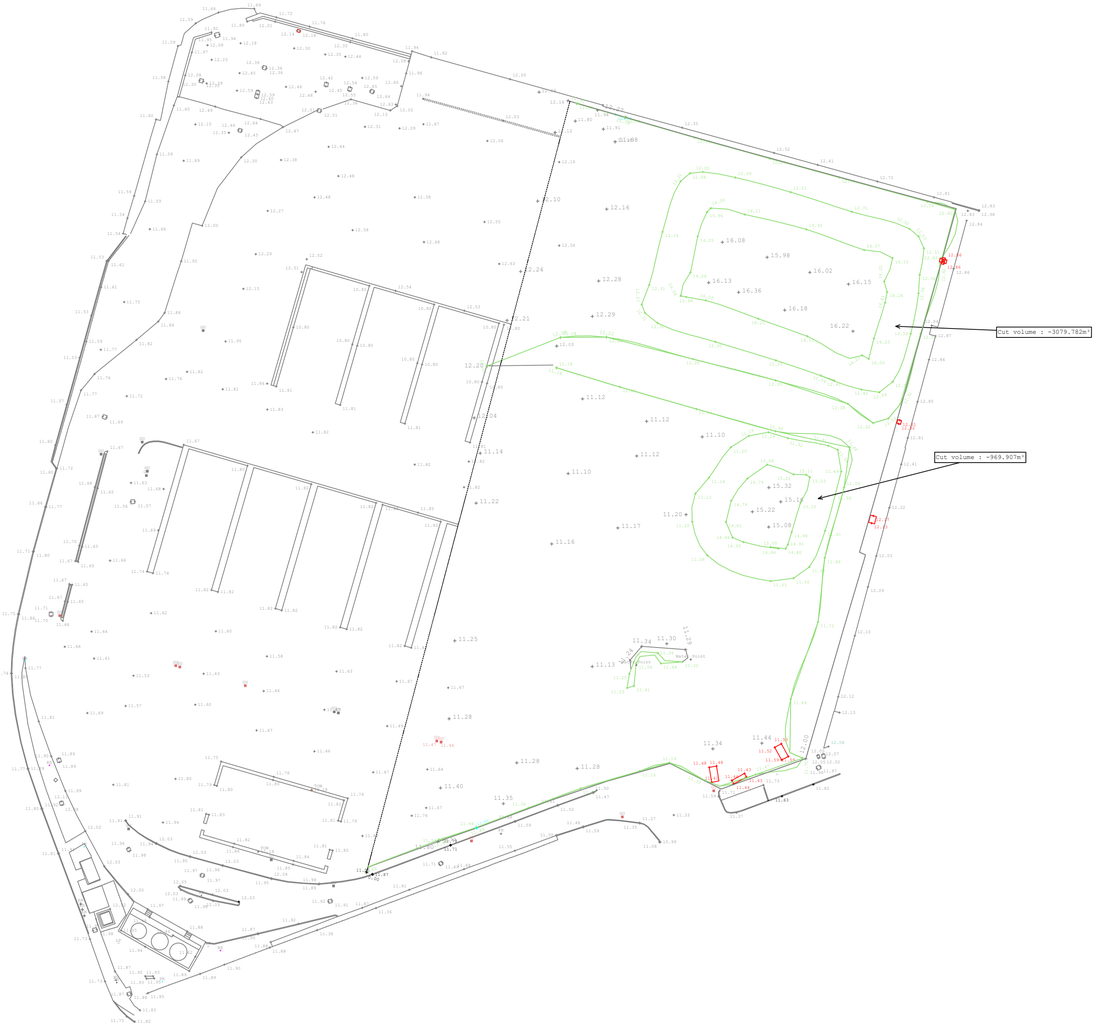
Please see NP-DSM-41XX-XXX-CC-WA-090003.

Copy of the NEC4 Project Manager Sectional Completion Certificate to be issued once received.

Post-Demolition Topo Survey

NP-DSM-41XX-XXX-DR-WA-090005

Author:	DSM		
Reviewed By:	Will Scriven		
	Colin Burford		
Status:	S2 – Suitable for Information		
Revision No:	P01	**Issue Date:**	05/05/23



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Only figured dimensions to be taken from this drawing, do not scale.

The Author of this drawing does not accept any liability for details or information provided by outside organisations.

Boundaries are shown for indicative purposes only, all boundaries are to be confirmed by the legal owner.

Symbol & Abbreviation Key.

- BARBED WIRE FENCE
- POST & RAIL FENCE
- CLOSE BOARD FENCE
- RAILINGS
- CHAIN LINK FENCE
- OTHER FENCE
- KERB
- DROPPED KERB
- GULLY CHANNEL
- TOP / BOTTOM OF BANK
- FOLIAGE
- DITCH
- VERGE
- OVERHEAD CABLES
- GATE
- HEDGE
- TREE - BROAD LEAVED
- TREE - CONIFEROUS
- BUSH
- BUILDING
- BOREHOLE
- SURVEY STATION
- ORDNANCE SURVEY BENCH MARK

A/C	AIR CONDITIONING UNIT	KO	KERB OFFLET
AV	AIR VALVE	LC	LIGHTING COLUMN
BOL	BOLLARD	LP	LAMP POST
BH	BOREHOLE	NP	NAME PLATE
BL	BED LEVEL	NB	NOTICE BOARD
BM	BENCH MARK	PR	PIPE RISER
BT	BRITISH TELECOM	RP	RODDING POINT
CTV	CABLE TV	RS	ROAD SIGN
CL	COVER LEVEL	SP	SIGN POST
CR	CABLE RISER	SV	STOP VALVE
DP	DOWN PIPE	TL	TRAFFIC LIGHT
ER	EARTH ROD	TP	TELEGRAPH POLE
EP	ELECTRICITY POLE	TOF	TOP OF FENCE
EM	ELECTRICITY MARKER	TOH	TOP OF HEDGE
FB	FUSE BOX	TOR	TOP OF RAILINGS
FH	FIRE HYDRANT	TOS	SERVICE LEVEL
FP	FENCE POST	TOW	TOP OF WALL
FL	FLOOR LEVEL	UTL	UNABLE TO LIFT
GV	GAS VALVE	VM	VALVE MARKER
GM	GAS MARKER	VP	VENT PIPE
GU	GULLY	WL	WATER LEVEL
HM	HYDRANT MARKER	WM	WATER MARKER
IL	INVERT LEVEL	WO	WASH OUT

NOTE:
Surveyed during demolition works. Some details may have been omitted.

INDICATIVE ONLY

Client
NHLPP

Contract number
C12154

Address
Ardra Road, London
N9 0BD

Drawing
Progress Survey

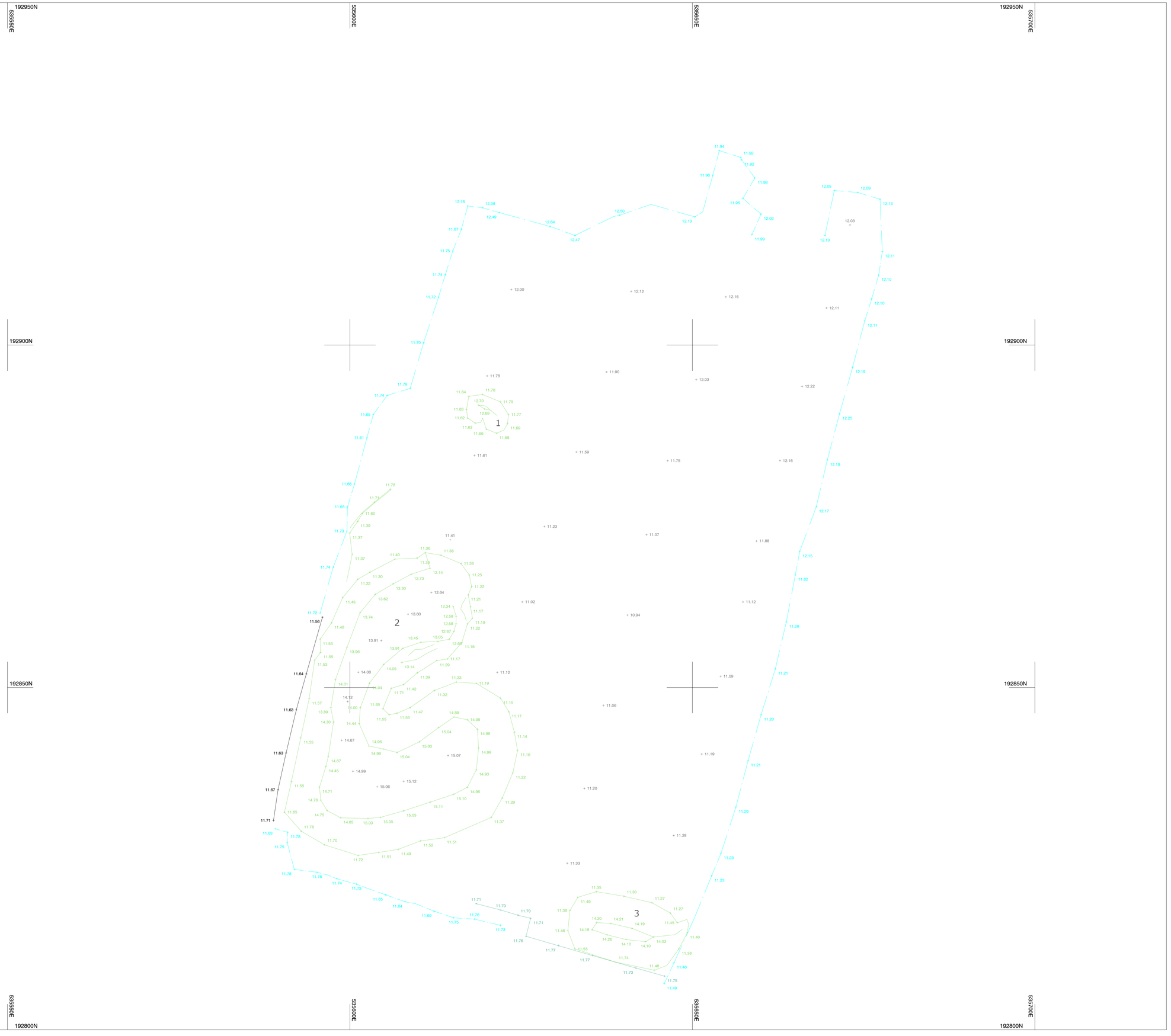
dsm
Arden House, Arden Road, Heartlands, Birmingham, B8 1DE
Tel: +44 (0)121 322 2225, Fax: +44 (0)121 322 2227
Email: mail@dsmgroup.info

Scale	Sheet Size	
1:500	A1	
Date	Drawn	Checked
04/05/2023	BTB	
Job No	Drawing No	Rev

Topo Survey – Zone 1a

NP-DSM-41XX-XXX-DR-WA-090006

Author:	DSM		
Reviewed By:	Will Scriven		
	Colin Burford		
Status:	S2 – Suitable for Information		
Revision No:	P01	**Issue Date:**	22/06/23



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The Author of this drawing does not accept any liability for details or information provided by outside organisations.

Boundaries are shown for indicative purposes only, all boundaries are to be confirmed by the legal owner.

Volumes:

1 = 10m³
2 = 2028m³
3 =184m³

INDICATIVE ONLY

Client: *NHLPP*

Contract number: *C12154*

Address: Ardra Road, London N9 0BD

Drawing: *As Built Survey*

dsm
Arden House, Arden Road, Heartlands, Birmingham, B8 1DE
Tel: +44 (0)121 322 2225, Fax: +44 (0)121 322 2227
Email: mail@dsmgroup.info

Scale	Sheet Size	
n/a	A1	
Date	Drawn	Checked
22/06/2023	BTB	
Job No	Drawing No	Rev

TBWRF Zone 1b GPR survey

NP-DSM-41XX-XXX-DR-WA-090007

Author: Will Scriven

Reviewed By: Colin Burford

Status: S2 – Suitable for Information

Revision No: P01 **Issue Date:** 14/07/23

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Symbol & Abbreviation Key.

- BARBED WIRE FENCE
- POST & RAIL FENCE
- CLOSE BOARD FENCE
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- DROPPED KERB
- GULLY CHANNEL
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- FOLIAGE
- DITCH
- VERGE
- OHL — OHL — OVERHEAD CABLES
- GATE
- HEDGE
- TREE - BROAD LEAVED
- TREE - CONIFEROUS
- BUSH
- BUILDING
- BOREHOLE
- SURVEY STATION
- ORDNANCE SURVEY BENCH MARK

A/C	AIR CONDITIONING UNIT	KO	KERB OFFLET
AV	AIR VALVE	LC	LIGHTING COLUMN
BOL	BOLLARD	LP	LAMP POST
BH	BOREHOLE	NP	NAME PLATE
BL	BED LEVEL	NB	NOTICE BOARD
BM	BENCH MARK	PR	PIPE RISER
BT	BRITISH TELECOM	RP	RODDING POINT
CTV	CABLE TV	RS	ROAD SIGN
CL	COVER LEVEL	SP	SIGN POST
CR	CABLE RISER	SV	STOP VALVE
DP	DOWN PIPE	TL	TRAFFIC LIGHT
ER	EARTH ROD	TP	TELEGRAPH POLE
EP	ELECTRICITY POLE	TOF	TOP OF FENCE
EM	ELECTRICITY MARKER	TOH	TOP OF HEDGE
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GM	GAS MARKER	VP	VENT PIPE
GU	GULLY	WL	WATER LEVEL
HM	HYDRANT MARKER	WM	WATER MARKER
IL	INVERT LEVEL	WO	WASH OUT

NOTE:
The area surveyed, supersedes in part the earlier topographical survey provided. Survey recorded in document ref. NP-DSM-41XX-XXX-DR-WA-090005 and represented here as greyed out background.

INDICATIVE ONLY

crushed concrete
3079m³

crushed concrete
969m³

6F2 Stockpile
volume 1183m³

IVC14 - Switch room

IVC15 - Switch room

IVC16 - Transformer

Fence cut at foundation, beam remains.

Water Service

hardcore

heras fencing

concrete

Client	NLHPP
Contract number	C12514
Address	Ardra Road, London N9 0BD
Drawing	Zone 1B

dsm
Arden House, Arden Road, Heartlands, Birmingham, B8 1DE
Tel: +44 (0)121 322 2225, Fax: +44 (0)121 322 2227
Email: mail@dsmgroup.info

Scale	Sheet Size	
n/a	A1	
Date	Drawn	Checked
14/07/2023	BTB	
Job No	Drawing No	Rev

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70 Chancery Lane
London
WC2A 1AF

wsp.com

PUBLIC