

# **Site Condition Report**

**Bespoke Environmental Permit Application**

**EPR/QP3706LH/A001,**

**JVC Business Park, Staples Corner, London,  
NW2 7BA**

Client: **Pure Data Centres Group Limited**

Report Reference: **SP/SCR18**

Report Date: **March 2021**



## Document Control

Client:	<b>PDCG (Group Services) Limited</b>
Report Title:	<b><u>Site Condition Report</u>, Bespoke Environmental Permit Application EPR/QP3706LH/A001, JVC Business Park, Staples Corner, London, NW2 7BA</b>
Report Number:	SP/SCR18
Report Status:	DRAFT
Prepared and Authorised by:	Stephen Sykes, Managing Partner, The Sykes Partnership LLP
Statement of Authority	This Site Condition Report has been completed by an experienced environmental professional with 30 years' experience of advising in relation to land quality matters.
Signed:	Issued as a PDF
Date of Issue:	12/03/2021

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# 1. Introduction

Sykes Partners LLP has been commissioned by PDCG Group Services Limited ('Pure Data Centres') to prepare a Site Condition Report ('SCR') to accompany a Permit Application for a data centre which it will operate (reference EPR/QP3706LH/A001) at JVC Business Park, Staples Corner, London, NW2 7BA ('the Site').

## 1.1 Document Objectives

This document represents a Site Condition Report (SCR) developed in line with the Environment Agency's (EA) H5 guidance for applicants titled *Site Condition Report – Guidance and Template* (LIT 8001 Version 3.0 April 2013). The reports structure is based on the EA's v2.0 template for SCR's as issued in August 2008 and sourced at:

<https://www.gov.uk/government/publications/environmental-permitting-h5-site-condition-report>

## 1.2 Information Sources

This SCR has been derived on the following client-supplied information:

- Buro Happold – Interpretative Geotechnical and Contamination Assessment Report (Report Reference 7236, dated October 2002);
- CJ Associates Geotechnical Limited – Site Investigation Factual Report (ref P0230, dated April 2003);
- Buro Happold – Phase 2 Interpretative Geotechnical and Contamination Assessment Report (ref 7236, dated May 2003);
- Ramboll – Harpview Business Park, Priestley Way, Staples Corner, London, NW2 7BA Sustainability Review (ref UK14-23954, dated March 2017);
- Ramboll – Harpview Business Park, Priestley Way, Staples Corner, London NW2 7BA – Phase I Environmental Review (ref UK14-23954, dated March 2017);
- Ramboll – Harpview Business Park, Priestley Way, Staples Corner, London NW2 7BA – Phase II Environmental Site Investigation (dated March 2017);
- Ramboll – Harpview Business Park, Staples Corner, London NW2 7BA – Drainage Survey and Sampling (ref LUK14-24569\_1, dated July 2017);
- Ramboll – Harpview Business Park, Staples Corner – Additional Environmental Investigation (Stage 1 and Stage 2) (ref L1700000548\_1, dated February 2018);
- Ramboll – JVC Business Park, Staples Corner – Groundwater Monitoring, Round 3 of 3, December 2018 (ref R1700000548, dated January 2019);
- Ramboll – JVC Business Park, Staples Corner – Detailed Groundwater Quantitative Risk Assessment (ref 1700000548\_1, dated March 2019);
- Ramboll – Harpview Business Park, Staples Corner – Groundwater Monitoring, Round 2 of 3, July 2018 (ref R1700000548\_2, dated September 2019); and,
- Ramboll – JVC Business Park, Staples Corner, Annual Groundwater Monitoring 2019 (referenced 1620008335, dated January 2020).

In addition, available on the Local Planning Authority's Planning portal, the following report has been reviewed and referenced:

- A Geotechnical & Environmental Associates Limited desk study and ground investigation report titled JVC Business Park, Staples Corner. London, NW2 7BA (referenced J20117B dated October 2020).

## 1.3 Limitations

This SCR has been prepared to support Pure Data Centres application for a Bespoke Environmental Permit for a data centre which it will operate. No reliance must be made, nor warranty is offered, for those persons using the content of this report for any other purpose. Should this document, or any part of it, be made known to any other party not listed in the Distribution List, and such party relies thereon, that party does so wholly at its own risk and Sykes Partners disclaims any liability to such parties.

The conclusions and determinations presented herein represent Sykes Partner's professional judgement and are based on supplied information and data provided by the client, its advisor, Sustainable Direction Limited and Pure Data Centres Ltd. Whilst all efforts have been made to verify the information supplied, the document is only valid to the extent that the information and data provided to Sykes Partners is accurate and complete. If additional information or data becomes available, which may affect the content of this report, Sykes Partners reserve the right to review such information and, if warranted, to modify its contents accordingly.

At the time of production of this report, UK travel restrictions relating to the Covid-19 pandemic prevented a site visit and walkover. Although the available information has provided a detailed understanding of the Site's condition, Sykes Partners reserve the right to amend its findings should additional information or evidence become available that would have been identifiable during a site visit.

## 2. Pre-application Site Condition Report

### 2.1 Site Details

<b>Name of the applicant</b>	Pure Data Centres Ltd
<b>Activity address</b>	JVC Business Park, Staples Corner, London, NW2 7BA
<b>National grid reference</b>	TQ 22308 87195
<b>Document reference and dates for Site Condition Report at permit application and surrender</b>	Document reference: 95001-01 Application Date: <b>XXX 2020</b> Expected Surrender Date: <b>XXX 20XX</b>
<b>Document references for site plans (including location and boundaries)</b>	Drawing 01: Site Location Drawing 02: Site Boundary and Area Covered by SCR Drawing 03: Receptor Locations Drawing 04: Future Activities Locations Drawing 05: Proposed Monitoring Points Drawing 06: Site Drainage and Discharge Point

### 2.2 Pre-application Condition of the Land

<b>Environmental setting including:</b> <ul style="list-style-type: none"> <li>▪ Geology</li> <li>▪ Hydrogeology</li> <li>▪ Surface waters</li> </ul>	<p>The Site's c.27,500m<sup>2</sup> surface covering currently comprises buildings, hard standing and limited (less than 1,200m<sup>2</sup>) of soft landscaping for grasses, shrubs, and small trees.</p> <p>Beneath the surface cover, at least four separate intrusive site investigations have determined the presence of 1.8 to 6m deep deposits of Made Ground (variously described as clayey sand with gravel, and grey clay with brick, concrete and rubble). The greatest deposits of which are located in the west of the Site where two c.6.5m deep lime pits have been infilled. The base of these pits are known to contain between 0.45 to 5.8m deep deposits of lime fill or spent calcium carbide.</p> <p>The Made Ground predominantly lies above deposits of London Clay. The on-site depth extent of this clay deposit has not been determined but it is known to extend to at least 30 meters below ground level (mbgl). Along the northern boundary, an organic rich silty clay (likely to represent alluvial deposits associated with the Brent River and the Brent Reservoir) deposit of 2.5 to 3m thickness is also present above the London Clay deposits.</p> <p>A discontinuous shallow groundwater body (1 to 4.8 mbgl) is known to be present on and within the London Clay deposits. Although undetermined, the flow direction of this water body is likely to be to the north and north-east, towards the Brent River and River Brent Reservoir. The Environment Agency consider the London Clay to be an unproductive stratum for groundwater resources, with low permeability (ranging from 1x10<sup>-11</sup> to 1x10<sup>-9</sup> m/s) that represents a negligible significant contributor for water supply or river base flow.</p>
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	<p>The BGS Geology of Britain online map viewer shows the site to be located on a Principal Aquifer associated the Chalk Formation. Within a radius of 2km from the Site, no evidence of this aquifer being exploited by licenced abstractions has been identified, and the site is not located within a Source Protection Zone.</p> <p>c.50m to the north of the Site, the Brent River runs from east to west and flows into the Brent Reservoir located c.90m to the north-west. The Site is located within the Dollis Brook and Upper River Brent catchment areas. Both are considered to have moderate ecological quality status and good chemical quality status as defined by the Water Framework Directive. Within a radius of 2km, no evidence of licensed surface water abstractions has been identified.</p> <p>Two south to north running Thames Water surface water mains enter the southern boundary of the site and converge on the northern boundary before discharging into the River Brent. The site's surface waters are captured by a drainage network located along the northern boundary and pass through an interceptor prior to joining the Thames Water infrastructure and discharging to the River Brent.</p> <p>The River Brent Reservoir is a Site of Special Scientific Interest (SSSI) and a Local Nature Reserve, the boundaries of which abut the northern Site boundary. These areas were declared predominantly due to the presence of breeding wetland birds and due to the variety of plant species growing along the water's margins.</p>
<p><b>Pollution history including:</b></p> <ul style="list-style-type: none"> <li>▪ <b>pollution incidents that may have affected land</b></li> <li>▪ <b>historical land-uses and associated contaminants</b></li> <li>▪ <b>any visual/olfactory evidence of existing contamination</b></li> <li>▪ <b>evidence of damage to pollution prevention measures</b></li> </ul>	<p>Between c.1920 to c.1955, three pits of c.2,000m<sup>2</sup> were present in the western portion of the Site. These 1.5 to 6.5m deep pits have been described as Lime Pits and were associated with the production of acetylene by the British Oxygen Company (BOC) located in the east of the Site. It is assumed that BOC used these pits to dispose of, and to dry, carbide lime wastes produced during the production of acetylene. BOC would have mixed water with calcium carbide to produce the acetylene, but the process also produces a highly alkaline (pH greater than 12) lime slurry that would have also contained heavy metals, ammonium hydroxide and silicates.</p> <p>One of these pits was excavated and backfilled with ash, gravel, wood, brick and clay sometime after 1955. The other two pits were covered over sometime prior to the 1960s. As well as containing an estimated 22,000m<sup>3</sup> of spent carbide, these pits are also known to contain discrete layers of ash, clay, gravel, wood, brick and concrete.</p> <p>Between 1955 and 1999, the Site's identifiable land-use types included a depot, a works, a warehouse and a factory; the exact activities associated with these land-use types is unknown.</p> <p>c.1977, two fenced-off electrical sub-stations (now owned and operated by UK Power Networks) were installed in the west of the Site and sometime shortly after, a third was installed in the east of the Site. Since 2005, the Site was used as JVC's UK and its European headquarters (offices and distribution warehouse) until its closure in c.2010.</p> <p>All the above land-use activities have the potential to cause land contamination and impact the Made Ground, the London Clay and the shallow groundwaters on the site.</p> <p>In addition, the Environment Agency record two pollution incidents relating to this Site. In 1990, a significant surface water pollution event involving unknown chemicals was recorded at the combined storm outflow discharging from the Site. A minor incident was then recorded in 1991 at the same discharge point. By 2015, this consented discharge was surrendered and all discharges from this point are now thought to have ceased.</p>

<p><b>Evidence of historic contamination, for example, historical site investigation, assessment, remediation, and verification reports (where available)</b></p>	<p>Since 2002, a number of intrusive site investigations have determined that the Made Ground is impacted with heavy metals (lead, copper, nickel and zinc), inorganics (sulphide, sulphate and cyanide) asbestos containing materials and asbestos fibres (crocidolite, chrysotile and amosite). The greatest concentrations of these contaminants were located within the areas where the pits had been located.</p> <p>To mitigate a potential risk associated with the horizontal migration of impacted shallow groundwaters towards the Brent River, in 2004 the lime pits were subjected to an encapsulation and containment remedial method. This incorporated the installation of a vertical barrier encircling the pits and tied into the underlying London Clay to a depth of 1m.</p> <p>Post barrier installation monitoring has determined that the shallow groundwater levels within this area remain constant and that there is no evidence of the contained waters presented an unacceptable risk to the river or reservoir to the north. Within the barrier installation, shallow groundwaters are known to have high pH, alkalinity, ammoniacal nitrogen and naphthalene levels. When compared against background concentrations, these contaminants are also elevated across the remainder of the Site.</p> <p>The verification report for the installation of the vertical barriers makes no reference as to whether an impermeable layer was installed over the lime pit areas and details the northern section where buried infrastructure was encountered preventing complete installation as per the specification. Consequently, there is a potential risk that groundwaters within these pits could rise and top-over the installed vertical barriers, and or penetrate the barrier to the north. To monitor this potential risk, annual groundwater level and chemical composition monitoring has been conducted at the site since 2017 and, to date, no evidence of either potential occurrence has been identified.</p>
<p><b>Baseline soil and groundwater reference data</b></p>	<p>On the basis of the information available, the range of chemical constituents within the Made Ground on the Site have been collated and summarised in Table 1.</p> <p>Baseline previously monitored ground gas data is presented in Table 2, surface water chemical composition in Table 3, and site-wide shallow groundwater composition in Table 4.</p>
<p><b>Supporting information</b></p>	<ul style="list-style-type: none"> <li>▪ Buro Happold – Interpretative Geotechnical and Contamination Assessment Report (Report Reference 7236, dated October 2002);</li> <li>▪ CJ Associates Geotechnical Limited – Site Investigation Factual Report (ref P0230, dated April 2003);</li> <li>▪ Buro Happold – Phase 2 Interpretative Geotechnical and Contamination Assessment Report (ref 7236, dated May 2003);</li> <li>▪ Ramboll – Harpview Business Park, Priestley Way, Staples Corner, London, NW2 7BA Sustainability Review (ref UK14-23954, dated March 2017);</li> <li>▪ Ramboll – Harpview Business Park, Priestley Way, Staples Corner, London NW2 7BA – Phase II Environmental Site Investigation (Dated March 2017);</li> <li>▪ Ramboll – Harpview Business Park, Staples Corner, London NW2 7BA – Drainage Survey and Sampling (ref LUK14-24569_1, dated July 2017);</li> <li>▪ Ramboll – Harpview Business Park, Staples Corner – Additional Environmental Investigation (Stage 1 and Stage 2) (ref L1700000548_1, dated February 2018);</li> <li>▪ Ramboll - JVC Business Park, Staples Corner – Groundwater Monitoring, Round 3 of 3, December 2018 (ref R1700000548, dated January 2019);</li> <li>▪ Ramboll – JVC Business Park, Staples Corner – Detailed Groundwater Quantitative Risk Assessment (ref 1700000548_1, dated March 2019);</li> <li>▪ Ramboll - Harpview Business Park, Staples Corner – Groundwater Monitoring, Round 2 of 3, July 2018 (ref R1700000548_2, dated September 2019);</li> </ul>



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|  | <ul style="list-style-type: none"> <li>▪ Ramboll – JVC Business Park, Staples Corner, Annual Groundwater Monitoring 2019 (referenced 1620008335, dated January 2020); and,</li> <li>▪ Geotechnical &amp; Environmental Associates Ltd report titled Desk Study &amp; Ground Investigation Report, JVC Business Park, Staples Corner, London (referenced J20117B, dated October 2020).</li> </ul> |
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All above reports are available on request.

**Table 1 – Baseline Chemical Composition of Near-surface Made Ground.**

<b>Heavy Metals</b>	
Arsenic (inorganic)	9.3 to 120
Beryllium	0.7 to 1.8
Boron	0.7 to 9.3
Cadmium	<0.2 to 4.1
Chromium	20 to 140
Chromium (VI)	<0.3 to 4.2
Copper	25 to 66,000
Lead	16 to 9,600
Mercury	<0.3 to 29
Nickel	3.6 to 380
Selenium	<1.0 to 2.7
Vanadium	21 to 87
Zinc	85 to 7,900
<b>Inorganics and soil parameters</b>	
Asbestos	<0.001 to 0.14% w/w (Chrysotile, Crocidolite and Amosite)
Free Cyanide	<1 to 5
Total Cyanide	<1 to 14
Total Sulphate	4.4
Sulphide	<1.0 to 540
pH	7.83 to 11.8
<b>Organics</b>	
Acenaphthene	<0.05 to 31.5
Acenaphthylene	<0.05 to 9.4
Anthracene	<0.05 to 115
Benzo(a)anthracene	<0.05 to 164
Benzo(a)pyrene	<0.05 to 143
Benzo(b)fluoranthene	<0.05 to 240
Benzo(g,h,i)perylene	<0.05 to 73
Benzo(k)fluoranthene	<0.05 to 67
Chrysene	<0.05 to 145
Dibenzo(a,h)anthracene	<0.05 to 15.8
Fluoranthene	<0.05 to 465
Fluorene	<0.05 to 54.4
Indeno(1,2,3-cd)pyrene	<0.05 to 82
Naphthalene	<0.05 to 10.5
Phenanthrene	1 to 412
Pyrene	1 to 351
Aliphatic EC 5-6	<0.1
Aliphatic EC >6-8	<0.1
Aliphatic EC >8-10	<0.1
Aliphatic EC >10-12	<0.1 to 13.9
Aliphatic EC >12-16	<0.1 to 79
Aliphatic EC >16-35	<0.1 to 7,040
Aromatic EC >5-7	<0.1
Aromatic EC >7-8	<0.1
Aromatic EC >8-10	<0.1
Aromatic EC >10-12	<0.1 to 15.7
Aromatic EC >12-16	<0.1 to 368
Aromatic EC >16-21	12 to 3,364
Aromatic EC >21-35	63 to 10,409
MTBE	<0.1
Benzene	<0.1
Toluene	<0.1
Ethylbenzene	<0.1

o-xylene	<0.1
m-xylene	<0.1
p-xylene	<0.1
VOCs	<0.1
SVOCs	<0.1
Dioxins, Furans, PCBs	<0.1
Phenol	<0.1 to 0.6

All units in mg/kg unless otherwise stated. Sources:

1. Buro Happold – Interpretative Geotechnical and Contamination Assessment Report (Report Reference 7236, dated October 2002);
2. CJ Associates Geotechnical Limited – Site Investigation Factual Report (ref P0230, dated April 2003);
3. Buro Happold – Phase 2 Interpretative Geotechnical and Contamination Assessment Report (ref 7236, dated May 2003);
4. Ramboll – Harpview Business Park, Priestley Way, Staples Corner, London NW2 7BA – Phase II Environmental Site Investigation (Dated March 2017); and,
5. Ramboll – Harpview Business Park, Staples Corner – Additional Environmental Investigation (Stage 1 and Stage 2) (ref L1700000548\_1, dated February 2018).

**Table 2 – Baseline Ground Gas Conditions**

Gas	
Methane	Up to 30 %v/v
Carbon Dioxide	Up to 5.8 %v/v
Carbon Monoxide	<0.05 %v/v
Hydrogen Sulphide	0 ppm
Acetylene	<1 ppm
Total VOCs	<1.7 ppm

Sources:

1. Buro Happold – Phase 2 Interpretative Geotechnical and Contamination Assessment Report (ref 7236, dated May 2003);
2. Ramboll – Harpview Business Park, Priestley Way, Staples Corner, London NW2 7BA – Phase II Environmental Site Investigation (Dated March 2017); and,
3. Ramboll – Harpview Business Park, Staples Corner – Additional Environmental Investigation (Stage 1 and Stage 2) (ref L1700000548\_1, dated February 2018).

**Table 3 – Baseline Surface Water Chemical Composition**

Parameter	
pH	7.2 to 8.1
Dissolved Oxygen	20 to 87 %
Electrical Conductivity	388 to 900 µS/cm
Redox Potential	32 to 97mV
Ammoniacal Nitrogen	0.37 to 5.4
Ammonium (NH <sub>4</sub> )	0.47 to 6.9
Calcium	61 to 120
Iron	0.02 to 0.14
Magnesium	3.1 to 23
Potassium	5.4 to 12
Sodium	21 to 120

All units in mg/l unless otherwise stated.

Source: Ramboll – Harpview Business Park, Staples Corner, London NW2 7BA – Drainage Survey and Sampling (ref LUK14-24569\_1, dated July 2017).

**Table 4 – Baseline Shallow Groundwater Chemical Composition**

<b>Heavy Metals</b>	
Aluminium	<10 to 6,800
Arsenic	<10 to 26.5
Barium	25 to 1,338
Boron	17 to 1,370
Cadmium	<0.5
Total Chromium	<10 to 3,200
Copper	<10 to 27
Iron	<10 to 16,510
Lead	<10 to 22
Magnesium	<10 to 886,000
Mercury	<0.2 to 6
Nickel	<10 to 34
Selenium	<2 to 14
Vanadium	<10 to 115
Zinc	<10 to 93
<b>Inorganics and water parameters</b>	
pH	4 to 12.75 pH
Alkalinity	100 to 2,672,000 mg/l
Electrical Conductivity	810 to 7,400 $\mu$ S/cm
Dissolved Oxygen	2 to 76% saturation
Biochemical Oxygen Demand	<1 to 39 mg/l
Chemical Oxygen Demand	11 to 304 mg/l
Ammonia	1.7 to 4 mg/l
Calcium	67 to 950 mg/l
Chloride	32 to 1,325 mg/l
Cyanide	<0.05 to 0.88 mg/l
Sulphate as SO <sub>4</sub>	<10 to 1,500 mg/l
Sulphide	0.74 mg/l
Ammoniacal Nitrogen	610 to 49,260 mg/l
<b>Organics</b>	
Floating Free Product	Non detected
Acenaphthene	0.05 to 11.5
Acenaphthylene	<0.02 to 11
Anthracene	<0.02 to 3
Benzo(a)anthracene	<0.02
Benzo(a)pyrene	<0.02 to 0.07
Benzo(b)fluoranthene	<0.02
Benzo(g,h,i)perylene	<0.02
Chrysene	<0.02
Fluoranthene	<0.02 to 6
Fluorene	0.06 to 15.7
Indeno(1,2,3-cd)pyrene	<0.02
Naphthalene	0.94 to 45.1
Phenanthrene	0.03 to 22.5
Pyrene	0.11 to 4.3
Aliphatic EC 5-6	<10 to 16
Aliphatic EC >6-8	<10
Aliphatic EC >8-10	<10
Aliphatic EC >10-12	<10
Aliphatic EC >12-16	<10
Aliphatic EC >16-35	<10 to 3,120
Aliphatic EC >35-44	<10
Aromatic EC >5-7	<10
Aromatic EC >7-8	<10

Aromatic EC >8-10	<10
Aromatic EC >10-12	<10
Aromatic EC >12-16	<10
Aromatic EC >16-21	<10
Aromatic EC >21-35	<10
Total Aliphatic	<10 to 230
Total Aromatic	<10 to 272
Benzene	<10
Toluene	<10
Ethyl benzene	<10
mp-xylene	<10
o-xylene	<10
MTBE	<10
Total Phenol	<0.1 to 25
SVOCs	<DL
VOCs	<DL

All units in ug/l unless otherwise stated. <DL refers to less than laboratory detection limits. Sources:

1. Buro Happold – Phase 2 Interpretative Geotechnical and Contamination Assessment Report (ref 7236, dated May 2003;
2. Ramboll – Harpview Business Park, Priestley Way, Staples Corner, London NW2 7BA – Phase II Environmental Site Investigation (Dated March 2017);
3. Ramboll – Harpview Business Park, Staples Corner – Additional Environmental Investigation (Stage 1 and Stage 2) (ref L1700000548\_1, dated February 2018);
4. Ramboll - JVC Business Park, Staples Corner – Groundwater Monitoring, Round 3 of 3, December 2018 (ref R1700000548, dated January 2019);
5. Ramboll – JVC Business Park, Staples Corner – Detailed Groundwater Quantitative Risk Assessment (ref 1700000548\_1, dated March 2019);
6. Ramboll - Harpview Business Park, Staples Corner – Groundwater Monitoring, Round 2 of 3, July 2018 (ref R1700000548\_2, dated September 2019); and,
7. Ramboll – JVC Business Park, Staples Corner, Annual Groundwater Monitoring 2019 (referenced 1620008335, dated January 2020).

## 2.3 Permitted Activities

<b>Permitted activities</b>	A c.12,000m <sup>2</sup> data storage facility that will require 16No. 3.2-megawatt electric rate (giving a total of 51.2MWe) diesel-powered standby generators and the on-site storage of XXX litres of diesel (a Relevant Hazardous Substance). Consequently, it is the combustion plant and its associated fuel storage that the becomes the Permitted Activity.
<b>Non-permitted activities undertaken</b>	Car parking, office space, and staff welfare facilities.
<b>Document references for:</b> <ul style="list-style-type: none"> <li>plan showing activity layout; and</li> <li>environmental risk assessment.</li> </ul>	<ul style="list-style-type: none"> <li>Drawing 04 presents the Planning approved future activity layout.</li> <li>A tabulated Environmental Risk Assessment is presented in Appendix 1.</li> </ul>

## 2.4 Changes to the Permitted Activity

<b>Have there been any changes to the activity boundary?</b>	To be populated on surrender of permit
<b>Have there been any changes to the permitted activities?</b>	To be populated on surrender of permit
<b>Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a result of the permitted activities?</b>	To be populated on surrender of permit
<b>Checklist of supporting information</b>	To be populated on surrender of permit

## 2.5 Measures Taken to Protect Land During Permitted Activities

<p><b>Land and groundwater records and data collected throughout the lifetime of the permit to summarise whether pollution prevention measures worked.</b></p>	<p>The site will operate under an Environmental Management System to provide additional mitigation to the risks identified in this Report, including support monitoring and analysis, and ensuring competency regarding fuel system inspections.</p> <p>Furthermore, in order to quantify, monitor and manage latent potential environmental risks associated with the Site's former industrial uses, a number of existing groundwater monitoring boreholes are located across the Site. To monitor whether the Permitted Activity is having a detrimental impact on the shallow groundwater five of these existing wells will be utilised (BV Well 2, BV Well 3, BH103, BH104 and BH105). The borehole logs and exact location of these shallow groundwater monitoring locations are detailed within the Ramboll report titled JVC Business Park, Staples Corner, Annual Groundwater Monitoring 2019 (referenced 1620008335 dated January 2020) and are approximately presented in Drawing 05.</p> <p>Two additional monitoring wells will also be installed to the west and north east of the generator compound. In addition, two boreholes will be installed on the southern boundary of the site</p> <p>These additional shallow wells will provide further coverage of the down-gradient quality of the groundwaters in the immediate surrounds of the generator compound; two aforementioned boreholes will help to identify off-site sources (if any) impacting the groundwater as it migrates northwards.</p> <p>Annual monitoring of these wells will include level monitoring and determining whether there are any discernible levels of floating free product. For each of the seven wells, if free product is not present, a representative sample will be taken for laboratory analysis to be carried out by a UKAS accredited laboratory in accordance with BS ISO 5667-11. This analysis will include standard chemical parameters such as pH, EC and dissolved oxygen, and petroleum hydrocarbons speciated in accordance with the Total Petroleum Hydrocarbon Criteria Working Group methodology.</p> <p>Should this monitoring determine that shallow groundwaters are being impacted to the extent that Environmental Quality Standards for TPH are being exceeded, then, due to the previous recorded absence of significant hydrocarbon contamination on the Site, it will be assumed that the pollution prevention measures have failed and further investigations and possibly remedial measures will be commenced.</p> <p>In addition, in accordance with PPG3 (Use and Design of Oil Separators in Surface Water Drainage System), the Site's interceptor will be subjected to 6-monthly visual inspections to determine whether excessive floating product is present and whether it requires removal for off-site disposal. Any significant increase in floating product between inspections would be indicative of a pollution prevention measure failure and further investigations and possibly remedial measures will be commenced.</p> <p>Should both the groundwater and interceptor monitoring determine that no discernible failure of the pollution prevention measures have occurred throughout the lifetime of the permit and based on the determined Environmental Risk Assessment (Appendix 1), no 10-year or Permit surrender soil sampling and assessment is deemed warranted.</p> <p>Given proximity of surface water drainage to the generator compound and the sensitivity (and statutory status) of the receiving environment, a Penstock valve will be installed.</p> <p>Finally, throughout the lifetime of the Permit, wet-stock records will be maintained and used to identify any potential loss of diesel, waste documentation will be used to demonstrate appropriate off-site disposal of spent engine oils, and the hours of generator operation will be recorded to ensure that emissions to air of exhaust gases are well within the relevant reporting thresholds.</p>
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	All findings, observations, any necessary actions, and all run hours of each engine (regardless of reason) will be documented within an Annual Environmental Review report.
<b>Checklist of supporting information.</b>	<ul style="list-style-type: none"> <li>▪ Drawing 05 Proposed Monitoring Locations</li> <li>▪ Ramboll - JVC Business Park, Staples Corner – Groundwater Monitoring, Round 3 of 3, December 2018 (ref R1700000548, dated January 2019);</li> <li>▪ Ramboll - Harpview Business Park, Staples Corner – Groundwater Monitoring, Round 2 of 3, July 2018 (ref R1700000548_2, dated September 2019); and,</li> <li>▪ Ramboll – JVC Business Park, Staples Corner, Annual Groundwater Monitoring 2019 (referenced 1620008335, dated January 2020).</li> </ul>

• **Section 2.5 (Measures taken to protect land during permitted activities) and Risk Assessment section:**

o *Noting we are awaiting information on layout / design of permitted plant; there are a number of design features we should be able to point to here that reduce or mitigate risks, eg. no fuel storage tanks or pipework installed below ground level, bunded areas / kerbing around fuel transfer areas etc. If this is still TBC, we should feed back to the client the minimum standards likely to be required.*

## 2.6 Pollution Incidents and their Remediation During Permitted Activities

<b>Summarise any pollution incidents that may have damaged the land and describe how this was investigated and each one remedied.</b>	To be populated on surrender of permit
<b>Checklist of supporting information.</b>	To be populated on surrender of permit

## 2.7 Soil Gas and Water Quality Monitoring Conducted During Permitted Activities

<b>Provide details of any soil gas and/or water monitoring you did. Include a summary of the findings. Say whether it shows that the land deteriorated as a result of the permitted activities. If it did, outline how you investigated and remedied this.</b>	To be populated on surrender of permit
<b>Checklist of supporting information.</b>	To be populated on surrender of permit

## 2.8 Decommissioning and Removal of Pollution Risk on Surrender of Permit

Describe how the site was decommissioned. Demonstrate that all sources of pollution risk have been removed. Describe whether the decommissioning had any impact on the land. Outline how you investigated and remedied this.	To be populated on surrender of permit.
Checklist of supporting information.	To be populated on surrender of permit.

## 2.9 Reference Data and Remediation

Say whether you had to collect land and/or groundwater data. Or say that you didn't need to because the information from sections 3, 4, 5 and 6 of the Surrender Site Condition Report shows that the land has not deteriorated.	To be populated on surrender of permit.
Checklist of supporting information.	To be populated on surrender of permit.

## 2.10 Statement of Post Surrender Site Condition

To be completed on surrender of permit; statement declaring that all permitted activities have ceased, that the decommissioning has been completed and that the land is returned to a pre-permit state will be completed on surrender of the permit.



Drawing 01: Site Location (Google Earth, April 2020 image)





**Drawing 02: Site Boundary and Area Covered by SCR**

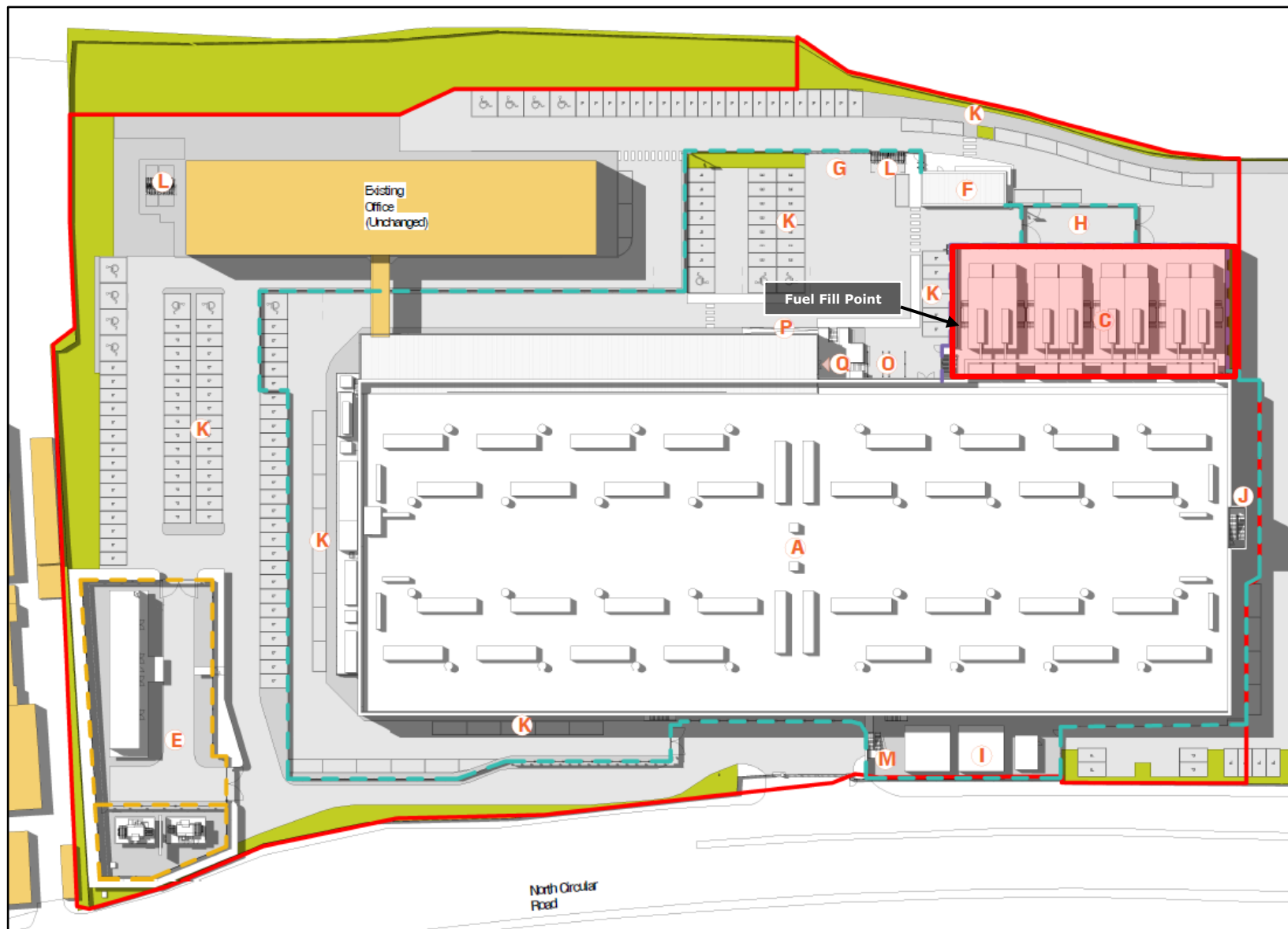
Note: Red line boundary shown is indicative and relates to the SCR and not land ownership





**Drawing 03:** Receptor Locations

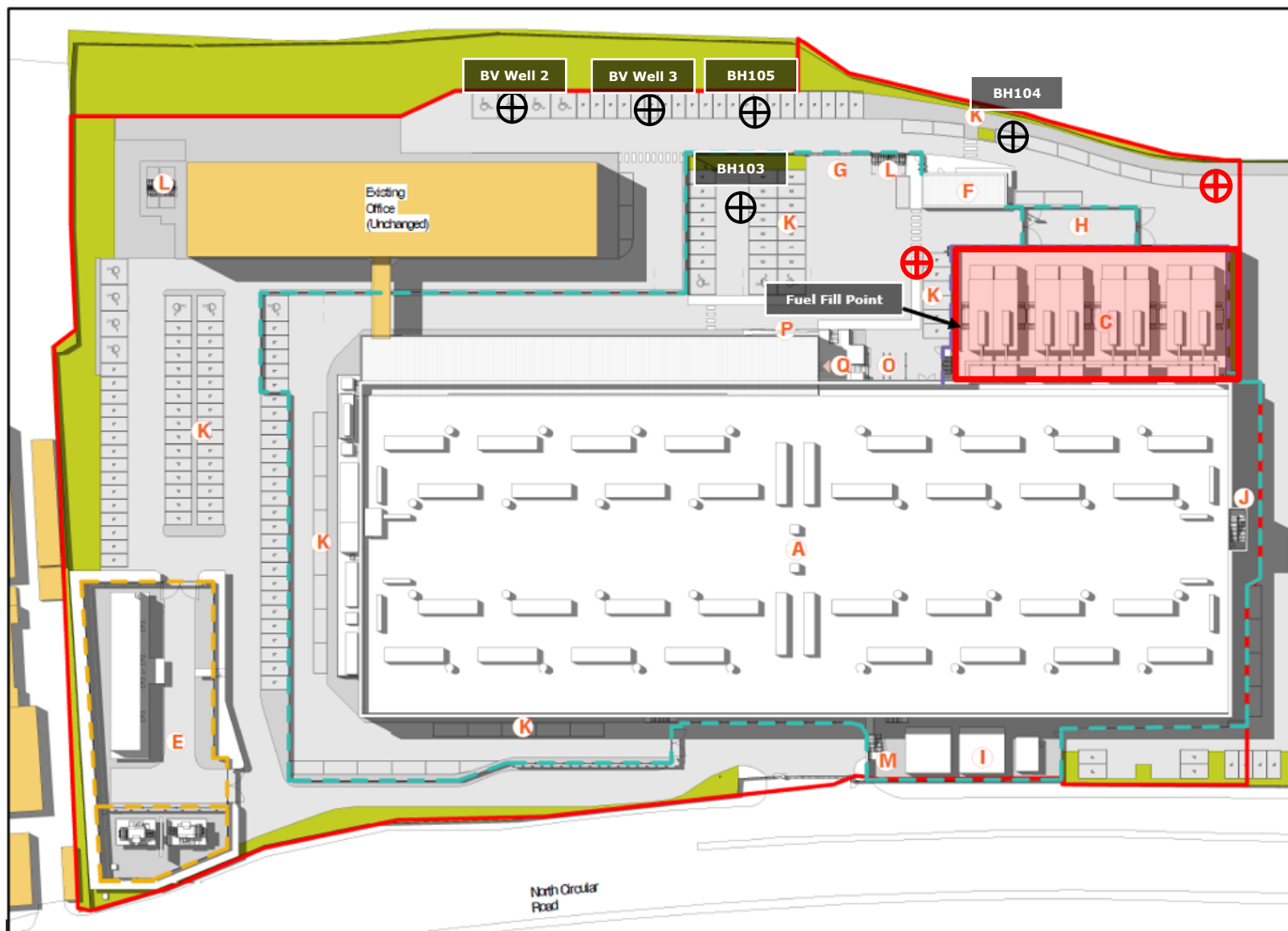
- Areas predominantly used for residential
- Brent Reservoir Site of Special Scientific Interest



**Drawing 04:** Future Activities Location

Location of standby generators and associated fuel storage (Permitted Activity)

Source: Scott Brownrigg drawing 18976-SBR-ZZ-00-DR-A-81001 submitted in support of Planning Application Ref 20/1828



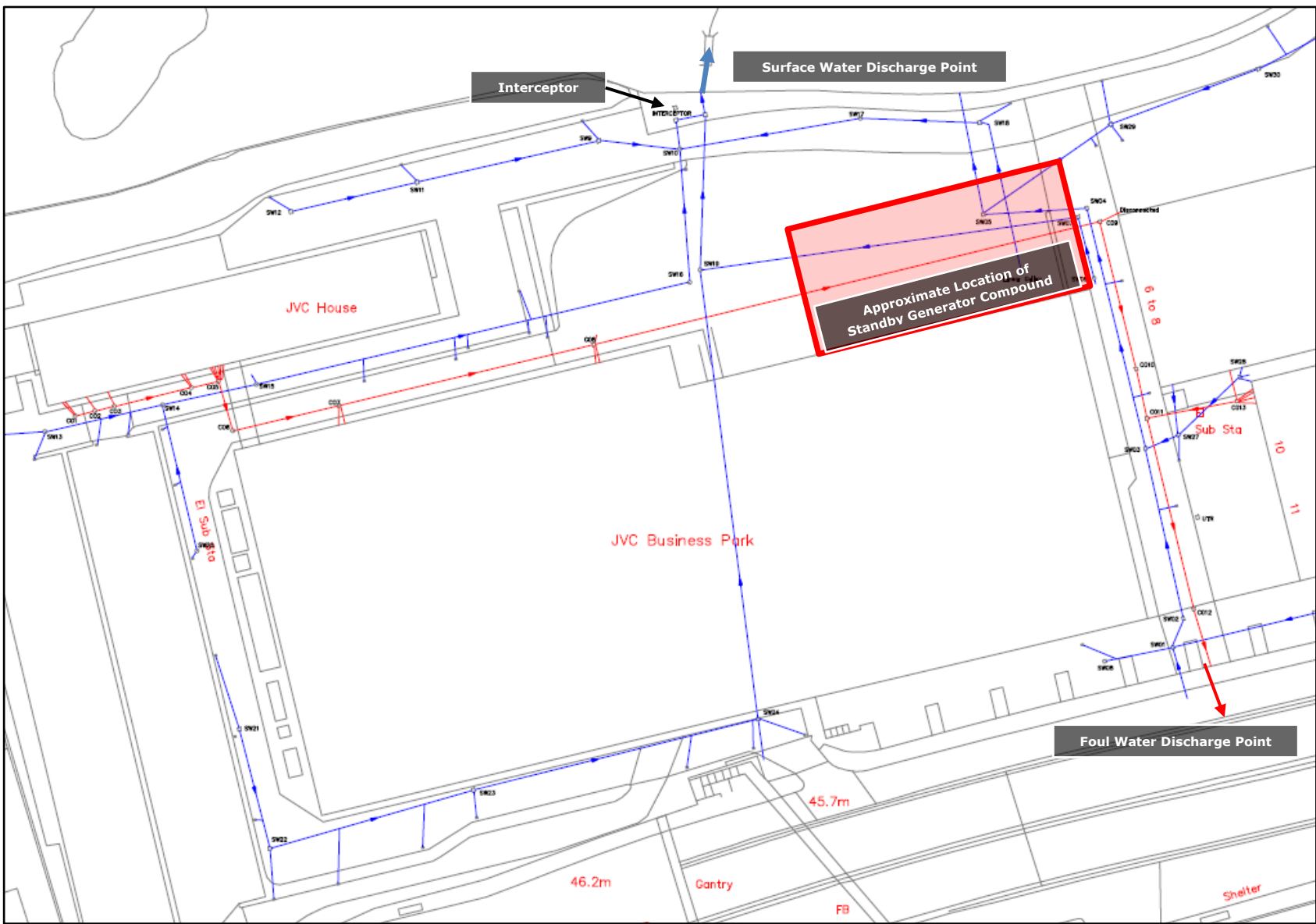
**Drawing 05:** Proposed Future Groundwater Monitoring Locations

⊕ Approximate location of existing groundwater monitoring boreholes

⊕+ Approximate location of additional groundwater monitoring boreholes

Location of existing boreholes in Ramboll-JVC Business Park, Staples Corner, Annual Groundwater Monitoring 2019 (referenced 1620008335 dated January 2020).





**Drawing 06:** Site Drainage and Surface Water Discharge Point

➔ Surface Water Drainage Infrastructure
 ➔ Foul Water Drainage Infrastructure

Source: Ramboll – Harpview Business Park, Staples Corner, London NW2 7BA – Drainage Survey and Sampling (ref LUK14-24569\_1, dated July 2017).



## Appendix 1:     **Tabulated Environmental Risk Assessment**

Hazard	Receptor	Pathway	Risk management techniques	Probability of exposure	Consequence should the event occur	Overall risk classification
<b>Escape of stored diesel to ground from tank and pipework infrastructure</b>	Near-surface Made Ground	Vertical and lateral migration through the hardstanding and into underlying Made Ground.	All diesel storage infrastructure will be designed, installed and maintained in accordance with The Control of Pollution (Oil Storage) (England) Regulations 2001, and industry and Environment Agency good practice guidance documents.	There is a Low Likelihood that an escape of diesel could occur from correctly installed and maintained tanks and pipework infrastructure. It is unlikely that such an event could occur without being noticed and mitigation measures being put into action.	There is a Minor consequence of degrading the Made Ground to the extent that future ground workers and site occupiers would require protective equipment during works, or that the site owner would incur expenditure to resolve the damage caused, or that discernible damage to the wider environment would occur.	Very Low
<b>Escape of stored diesel to drainage infrastructure from tank and pipework infrastructure</b>	Brent River and SSSI	Surface water drainage infrastructure via interceptor to discharge point on northern boundary	All diesel storage infrastructure will be designed, installed and maintained in accordance with The Control of Pollution (Oil Storage) (England) Regulations 2001, and industry and Environment Agency good practice guidance documents. The interceptor will be inspected visually every 6 months and maintained according to good practice and manufacturer's guidelines.	There is a Low Likelihood that an escape of diesel could occur from correctly installed and maintained tanks and pipework infrastructure. It is unlikely that such an event could occur a correctly maintained interceptor would prevent site discharge.	There is a Medium consequence of degrading the River Brent waters and impacting the SSSI should this event occur.	Moderate to Low
<b>Escape of diesel to ground during refuelling activities</b>	Near-surface Made Ground	Vertical and lateral migration through the hardstanding and into underlying Made Ground.	Written fuel delivery procedures will detail measures required to minimise spillage and to immediately contain and rectify any spillage should one occur.	There is an Unlikely probability that a spill during refuelling would be of the magnitude or be left unresolved for a time period that would allow for the hardstanding to be penetrated to occur.	There is a Minor consequence of degrading the Made Ground to the extent that future ground workers and site occupiers would require protective equipment during works, or that the site owner would incur expenditure to resolve the damage caused, or that discernible damage to the wider environment would occur.	Very Low

Hazard	Receptor	Pathway	Risk management techniques	Probability of exposure	Consequence should the event occur	Overall risk classification
<b>Escape of diesel to drainage infrastructure during refuelling activities</b>	Brent River and SSSI	Surface water drainage infrastructure via interceptor to discharge point on northern boundary	Written fuel delivery procedures will detail measures required to minimise spillage and to immediately contain and rectify any spillage should one occur. The interceptor will be inspected visually every 6 months and maintained according to good practice and manufacturer's guidelines.	There is an Unlikely probability that a spill during refuelling would be to the magnitude that it could enter the drainage infrastructure and overwhelm the interceptor.	There is a Medium consequence of degrading the River Brent waters and impacting the SSSI should this event occur.	Low
<b>Emissions to air of exhaust gases when generators in use</b>	On-site users, neighbouring users, SSSI and wider environment	Wind-blown	Installed generators will be Best Available Technology, and maintained and managed in accordance with manufacturer's guidelines so that performance and exhausts meets and exceeds relevant Industrial Emissions Directive	As the generators will only be required on the Unlikely event of a power outage, there is a Low Likelihood that their operation would cause discernible emissions outside of the immediate surrounds of the exhausts.	There is a Minor consequence of the emissions impacting local air quality for short periods of time.	Very Low
<b>Noise emissions when generators in use</b>	On-site users, neighbouring users, and wider environment	Wind-blown	Installed generators will be Best Available Technology, and maintained and managed in accordance with manufacturer's guidelines so that performance and dB ratings meet or exceed relevant Industrial Emissions Directive	As the generators will only be required on the Unlikely event of a power outage, there is a Low Likelihood that their operation would cause nuisance outside of the immediate surrounds of the generator compound.	There is a Minor consequence of the emissions impacting local noise levels for short periods of time.	Very Low

Notes:

1. Environmental Risk Assessment based on the procedure described in the Environment Agency's guidance *Risk Assessments for your Environmental Permit* (published 1<sup>st</sup> February 2016, updated on 10<sup>th</sup> December 2020, and accessed in February 2021 at [Click Here](#));
2. The above constitutes a risk assessment developed in support of Site Condition Report for an Environmental Permit application required under The Environmental Permitting (England and Wales) Regulations 2016 and is not relevant under any other regulatory regime;
3. Overall risk classifications and definitions are those described in CIRIA's 2001 document *Contaminated Land Risk Assessment, A Guide to Good Practice* (C552).

