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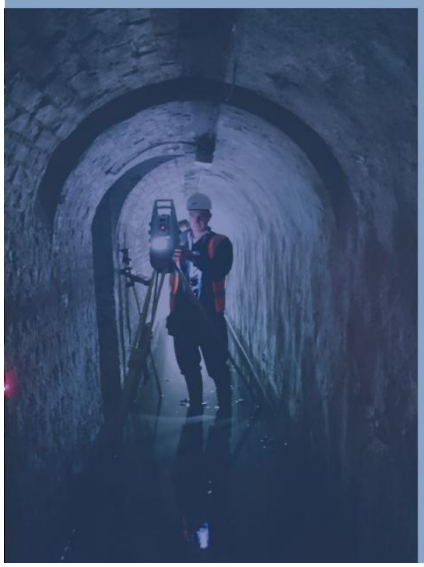
Proposed Redevelopment
David Lloyd Leisure Club, Thames Valley Business Park
Reading
RG6 1PT









Piling Risk Assessment

October 2026
Revision 01
R-PRA-30799-01-01

JPP Geotechnical and Environmental Ltd Registered in England 11117245

Registered office

NORTHAMPTON	KETTERING	POOLE	MILTON KEYNES	LEAMINGTON
01604 781811	01536 737224	01202 540888	01908 889433	01926 670722

T01-10

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JPP Geotechnical & Environmental, Grand Union Works, Whilton Locks, Northampton, NN11 2NH
T: 01604 781811 E: mail@jppgroup.co.uk W: jppgroup.co.uk

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Report Originators

Prepared by
[redacted]
Darryl Kelly MGeol FGS
Director
Darryl.kelly@jppuk.net

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1.0 Introduction

1.1 Client Instructions and Reliance

1.1.1 Willis Hazell Engineers Ltd on behalf of David Lloyd Leisure Ltd instructed JPP to produce a Piling Risk Assessment for the proposed redevelopment of the existing David Lloyd Leisure Club within Thames Valley Business Park in Reading, RG6 1PT.

1.1.2 The site has been subject to a previous ground investigation undertaken by JPP, ref. R-GI-30799-01-00 dated June 2026.

1.1.3 Interpretations and recommendations within this report are based upon information drawn from the previous report (detailed in Section 2) and this report should be read in conjunction with those reports. We do not accept liability or guarantee the authenticity or reliability of the information obtained or provided by others. There is a potential for ground conditions to vary from those encountered during previous investigations and may differ where not exposed by previous investigations.

1.1.4 This report has been produced for the benefit of David Lloyd Leisure Ltd and JPP Geotechnical & Environmental Ltd will not accept liability for the third-party use of the information herein without prior reliance agreed. This report is valid for 6 years from the date of issue however any significant changes to the proposals or followed legislation and guidance within this time could dictate a review of our findings and recommendations.

1.2 Site Proposals

1.2.1 The proposed development includes removing and rebuilding the indoor pool within a similar footprint, along with extensions including a spa garden to the east of the existing buildings. The proposed site plan is set out on the Hadfield Cawkwell Davidson drawing referenced 2025-219/HCD-A0-00-DR-A-PL-003/P03.

1.3 Scope

1.3.1 This document provides an assessment of the risk presented by the proposed ground improvement works (CMC Columns) to the underlying Secondary A Aquifers (Alluvium and Kempton Park Gravel Member) and the Principal Aquifer associated with the Seaford Chalk Formation and the Newhaven Chalk Formation. The site is also situated approximately 250m to the south of the River Thames.

2.0 Previous Reports

2.1 JPP- Phase I and Phase II Ground Investigation

2.1.1 JPP undertook a combined Phase I and Phase II Ground Investigation across the site in June 2026, ref. R-GI-30799-01-00. The intrusive ground investigation comprised 6 No. hand excavated trial pits, 7 No. windowless sampler boreholes to a maximum depth of 6.45m bgl, including installation of 6 No. ground gas and groundwater monitoring wells, 4 No. Dynamic probes to a maximum depth of 6.00m bgl. 2 No. cable percussive boreholes were drilled utilising clean drilling techniques (200mm casing, bentonite seal then reducing to 150mm casing) to a maximum depth of 20.45m bgl including installation of 3No. groundwater monitoring wells

2.1.2 The investigation concluded, in regard to the environmental risk associated with the site, that the risk posed to the wider environment and future development is low based on the nature of the development proposed and the low concentrations of contaminants recorded across the site.

2.1.3 Three of the eight samples of Made Ground submitted for asbestos screening were reported positive. The positive samples contained chrysotile, crocidolite and amosite loose fibres as sheeting cement. Samples from WS107 and WS105 contained loose fibres. Quantification testing was completed on all of the positive samples, the results were less than the laboratory detection limit of <0.001% in all samples. Due to the presence of asbestos in the Made Ground, the report recommended limited remediation will be required due to the asbestos contamination present, where new landscaped areas are proposed.

2.1.4 In addition, three return visits to monitor ground gas and groundwater monitoring, including groundwater sampling were completed. Based on the preliminary assessment carried out, the site is classified as Characteristic Situation 2 (CS2), therefore ground gas protection measures are required.

2.1.5 The reader is referred to the report for further detail including monitoring data and results of contamination testing including groundwater sampling.

3.0 Site Setting

3.1 Location

3.1.1 The site is located within an area known as the Thames Valley Business Park, located to the south of the River Thames in the northeastern area of Reading (RG6 1PT). The site is centred at the approximate National Grid Reference of 474302, 174234. The site is irregularly shaped, comprising an existing David Lloyd Leisure Club, approximately 0.52ha in size.

3.1.2 The site is accessed from the southeast, via an access road from a roundabout to the south located along Thames Valley Park Drive. The main building occupies the majority of the site with the car park located to the east, north and west of the building, with further parking to the south outside of the site boundary.

3.1.3 The subject site is predominantly covered by tarmac, block paving and buildings with some small, landscaped areas containing shrubs and bushes. A plant room is located on the western side of the building. Vegetation is present along the northern and eastern boundary of the site, including the strip between the site and the adjacent empty plot of land to the east.

3.1.4 The car park is bordered to the north, west and east by shrubs and trees along the site boundaries. To the south is further parking outside of the site boundary, with a children's nursery beyond along with some industrial buildings.

3.1.5 To the north and northeast of the site is public open space, a pond, trees and the River Thames all within Thames Valley Park Nature Reserve. To the east is a disused parcel of land and to the south is Thames Valley Business Park.

3.1.6 The levels around the existing David Lloyd leisure centre range from 37.80m AOD in the southeast adjacent to the access point for the site, to 36.08m AOD in the north close to the building, with levels in the east of this existing area generally around 37.00m AOD to 37.30m AOD. There are no significant changes in level across the existing David Lloyd leisure centre car park based on the topographical survey or observations during the site walkover.

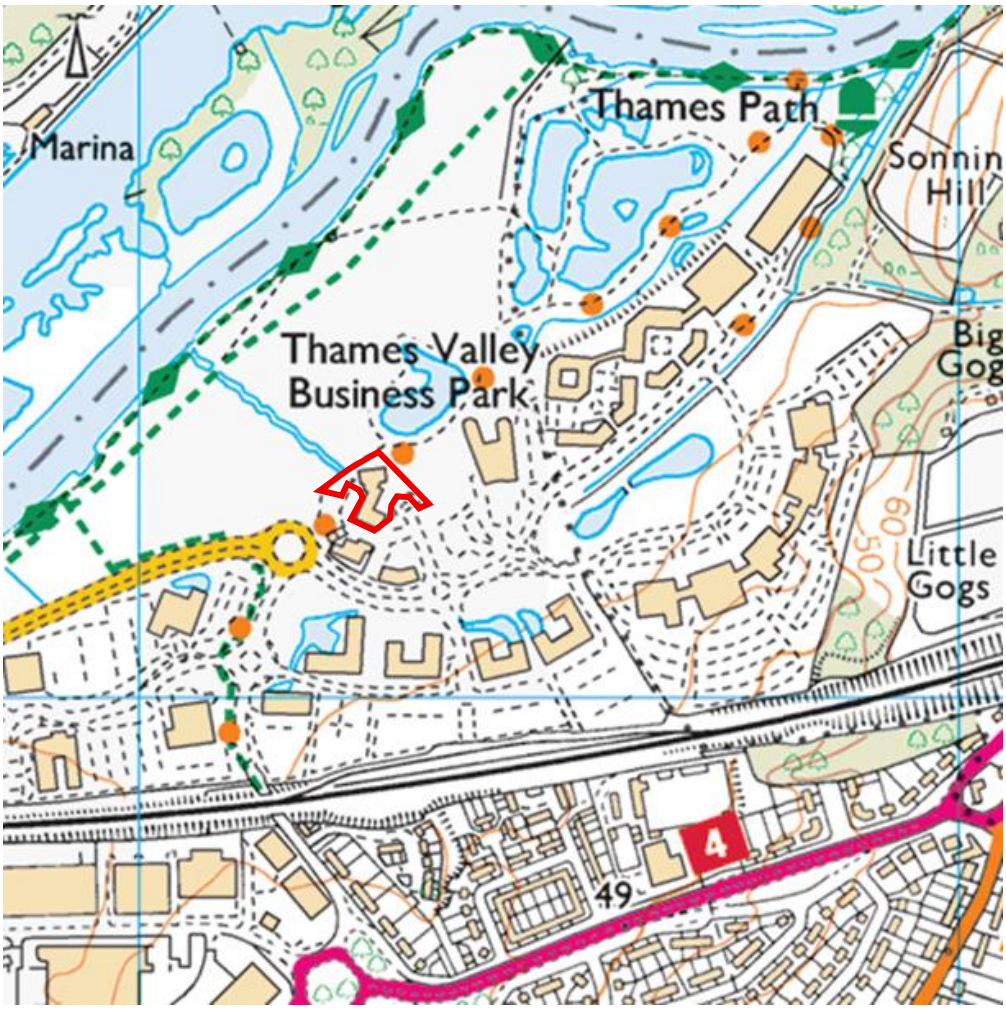


Figure 3.1: Site Location Plan - base is Ordnance Survey Mapping (red line site boundary)

3.2 Geology

3.2.1 British Geological Survey (BGS) mapping indicates that the site and surrounding area are underlain by Made Ground (Artificial Deposit).

3.2.2 Superficial deposits mapped include Alluvium across the site, with a band of Langley Silt some 75m south of the existing David Lloyd building. In the wider area there are deposits of the Kempton Park Gravel Member further to the south. The underlying bedrock geology is mapped as the Seaford Chalk Formation and the Newhaven Chalk Formation (Undifferentiated).

3.2.3 Reference has been made to the BGS mapping sheet 268 (2000) which presents sections of the wider area. The geological map indicates that alluvium is likely to be overlying the Kempton Park Gravel Member which unconformably overlies the Chalk bedrock.

3.3 Hydrogeology

3.3.1 The superficial Alluvium and Kempton Park Gravel Member are both mapped as Secondary A Aquifers with the Langley Silt Member mapped as Unproductive strata. The Seaford Chalk Formation and the Newhaven Chalk Formation is classified as a Principal Aquifer. Groundwater vulnerability is recorded as a High for the Secondary aquifers and medium for the bedrock aquifers, both have a high pollutant speed.

3.3.2 There are two groundwater source protection zones (SPZs) within 1km of the site with the nearest one being located approximately 448m northwest of the site recorded as zone III (total catchment) and the second being located approximately 886m northwest of the site recorded as zone II (outer protection zone).

3.3.3 The nearest surface water feature is approximately 4m west of the site and relates to either a pond or drainage ditch. The drainage ditch flows to the northwest to join the River Thames which is located approximately 275m north of the site. Further surface water ponds, lakes and ditches are located to the northeast, southeast, south and southwest of the site.

3.4 Site History

3.4.1 A Stage 1 Tier 1 Preliminary Risk Assessment (Phase I) Desk Study was undertaken by JPP for the site at David Lloyd Leisure Park, Thames Valley Business Park, Reading (Reference: R-DS-30799-01-01, dated March 2026).

3.4.2 The desk study identified that the site comprises an existing leisure complex with associated hardstanding and landscaped areas, with historical mapping indicating that a former cooling water channel crossed the site between the 1940s and 1980s, which may remain culverted beneath the site. Historical land uses within the surrounding area included former gravel extraction and infilling activities, a brickfield to the southwest, and a former electricity works immediately south of the site.

3.5 Site Based Monitoring Programme

3.5.1 Groundwater sampling was undertaken as part of the JPP ground investigation, with samples recovered from the Made Ground, underlying Kempton Park Gravel Member and Chalk bedrock. The results were assessed against relevant drinking water standards (DWS) and environmental quality standards (EQS).

3.5.2 Elevated concentrations of arsenic were identified within shallow groundwater associated with the Made Ground, together with a localised exceedance for mercury. These elevated concentrations were not identified within the deeper groundwater samples recovered from the Kempton Park Gravel Member or Chalk. The report considered that the elevated concentrations were likely associated with localised perched groundwater within the Made Ground.

3.5.3 Groundwater testing also identified elevated hydrocarbon concentrations within CP102, with Total Petroleum Hydrocarbon (TPH) concentrations of 950µg/l and 300µg/l recorded within the Kempton Park Gravel Member and Chalk respectively. An oily sheen was also observed during well development.

3.5.4 The report concluded that the identified groundwater contamination did not indicate a significant risk to the underlying aquifers and that no specific groundwater remediation was required. However, appropriate precautions should be adopted where groundwater is encountered during excavation works, particularly within the Made Ground.

3.5.5 JPP have provided a site-specific borehole management report and monitoring/maintenance plan for the site under separate cover to this report, reference R-GMP-30799-01-01, dated October 2026. This report provides details on the existing boreholes which are to be decommissioned to prevent them acting as future pollutant pathways and the existing boreholes which are to be maintained for future groundwater monitoring and sampling to assess compliance and where required undertake further groundwater level assessment and sampling.

3.6 Ground Model

3.6.1 The ground investigation undertaken by JPP at the David Lloyd Reading site (ref. 30799) confirmed that the site is underlain by significant thicknesses of Made Ground associated with its historical use. The Made Ground was encountered beneath existing hardstanding, block paving, gravel surfacing and subbase materials, extending to depths of between 3.50m and 7.50m below ground level (bgl) within the deeper boreholes.

3.6.2 The shallow Made Ground generally comprised variable layers of cohesive and granular soils, including clay, sand and gravel, with deeper deposits predominantly comprising pulverised fuel ash (PFA) with variable gravel, sand, silt and clay content. The Made Ground was found to vary considerably in composition, strength and density, with locally loose deposits, cobbles and obstructions encountered during the investigation.

3.6.3 Underlying the Made Ground, natural granular deposits considered representative of the Kempton Park Gravel Member were encountered at depths of 7.50m bgl within CP101 and 3.50m bgl within CP102. These deposits generally comprised slightly sandy to sandy flint gravel and extended to approximately 8.50m bgl within both boreholes.

3.6.4 Bedrock geology associated with the Seaford Chalk and Newhaven Chalk Formations was encountered beneath the superficial deposits at approximately 8.50m bgl within both deeper boreholes. The Chalk was proven to the maximum investigation depth of 20.45m bgl.

3.6.5 Groundwater was encountered during the investigation at depths of between 1.60m and 7.00m bgl, with subsequent monitoring generally recording groundwater levels between approximately 1.6m and 3.3m bgl. The groundwater regime is considered to comprise localised perched groundwater within the Made Ground, together with groundwater associated with the underlying natural gravel deposits and Chalk bedrock. Seasonal variations in groundwater levels should be anticipated.

3.6.6 The Made Ground deposits were found to be locally unstable, with borehole collapse recorded during the investigation. The variable nature of the Made Ground, together with the presence of shallow groundwater, presents a potential risk of excavation instability, groundwater ingress and difficult digging conditions. Appropriate temporary excavation support and groundwater control measures may therefore be required.

3.6.7 The ground investigation provides a reasonable indication of the anticipated ground conditions across the site. However, given the historical landfill use and significant variability of the Made Ground, localised changes in ground conditions, including the presence of obstructions, potentially contaminated materials and perched groundwater, should be anticipated during construction.

General Ground Model

Stratum	Description	Thickness (m)
Surfacing/Sub base	Blacktop, block paving or topsoil over predominantly sandy gravel subbase containing flint, brick, concrete and other construction materials	0.1m to 0.6m
Made Ground	Variable deposits comprising brown, grey and black sandy gravelly Clay, clayey Sand and sandy Gravel. Locally very loose black silty Sand containing ash, clinker and slag, with occasional brick, concrete, timber, glass and metal fragments.	3.3m to 7.1m
Kempton Park Gravel	Loose to dense orange-brown very sandy fine to coarse Gravel. Gravel comprises predominantly rounded to angular flint.	2.0m to 5.0m
Chalk (Grade Dm)	Structureless off-white CHALK comprising silty sandy gravelly Clay with fine to coarse weak, low to medium density chalk fragments.	1.0m (CP101 only)
Chalk (Grade Dc)	Structureless off-white CHALK comprising silty sandy fine to coarse GRAVEL, predominantly chalk with occasional flint.	10.0m+

Table 3.6

3.7 Groundwater

3.7.1 Groundwater monitoring was undertaken as part of the works by JPP, which is summarised in the table below.

Summary of Groundwater Monitoring Results				
Location	Monitoring Date Depth below ground level m bgl Ordnance Datum [m AOD]			
	14/04/2026	06/05/2026	18/05/2026	01/06/2026
CP101	3.31 [33.77)	2.20 [34.98]	2.23 [34.95]	2.26 [34.82]
CP102 (shallow)	1.88 [34.90]	1.90 [34.95]	1.95 [34.90]	1.97 [34.81]
CP102 (deep)	2.30 [34.48]	1.89 [34.96]	1.95 [34.90]	1.98 [34.80]
WS101	1.60 [35.23]	1.60 [35.25]	1.68 [35.17]	1.74 [34.07]
WS102	1.78 [35.35]	1.73 [35.43]	1.84 [35.32]	1.89 [35.24]
WS103	Dry	Dry	Dry	1.57 [35.51]
WS105	Dry	Dry	Dry	Dry
WS106	1.85 [35.09]	1.91 [35.03]	1.99 [34.95]	1.98 [34.96]
WS107	Dry	Dry	Dry	Dry

Table 3.7

3.7.2 Groundwater monitoring undertaken during the investigation identified relatively consistent groundwater elevations within the underlying Kempton Park Gravel Member and Chalk bedrock, with a limited hydraulic gradient evident between the deeper monitoring installations. Based on the recorded groundwater elevations and spatial distribution of the monitoring wells, groundwater flow is considered likely to be broadly towards the north to northwest, although the limited number of deeper monitoring locations prevents a definitive flow direction from being established.

3.7.3 Groundwater elevations within the shallow Made Ground were found to be more variable, indicating the potential for localised perched groundwater and differing hydraulic gradients. Consequently, groundwater flow within the Made Ground may not necessarily follow the same direction as the underlying natural aquifers.

4.0 Foundation Assessment

4.1.1 The proposed development includes removing and rebuilding the indoor pool within a similar footprint, along with extensions including a spa garden to the east of the existing buildings.

4.1.2 The proposed building footprint is underlain by Made Ground associated with a former landfill. Given the thickness and variable nature of the Made Ground, a shallow foundation solution was not considered to be viable, with deep foundation solutions recommended. Based on the ground investigation data obtained and following design of the site by the clients engineers, Controlled Modulus Columns (CMC) have been selected as the preferred foundation solution.

4.1.3 The ground investigation identified significant variations in the thickness of Made Ground, with the underlying Kempton Park Gravel Member encountered at depths of 3.50m and 7.50m bgl within CP102 and CP101 respectively. The proposed displacement CMC columns are anticipated to extend to depths of approximately 6.00m to 8.00m bgl based on the designs provided alongside preliminary supporting information from Menard ref. CS/V31645/CMC, terminating in either the Made Ground or Kempton Park Gravel.

4.1.4 The Controlled Modulus Column (CMC) technique improves the bearing capacity and settlement characteristics of weak or low-density soils through the installation of rigid concrete columns using a displacement auger. The technique laterally displaces the surrounding soils during installation, with minimal spoil generation, before concrete or grout is pumped into the void as the auger is withdrawn. The installed columns transfer structural loads through the weaker soils to more competent underlying strata, typically via a load transfer platform, thereby reducing total and differential settlement. Unlike vibro stone columns, CMCs do not primarily rely on densification of the surrounding soils to achieve the required ground improvement.

4.1.5 The use of displacement Controlled Modulus Columns (CMCs) can be considered a sustainable ground improvement solution, with the technique generating minimal excess spoil requiring off-site disposal. The installation process involves the lateral displacement of soils using a displacement auger, followed by the injection of concrete or grout to form rigid columns, thereby improving the bearing capacity and settlement characteristics of the underlying soils.

4.1.6 The installation of displacement CMCs can present a potential contamination risk through the mobilisation of contaminants within the Made Ground and the formation of preferential pathways between the underlying geological strata. However, unlike vibro stone columns, CMCs comprise low-permeability concrete or grout rather than permeable granular material, thereby reducing the potential for vertical contaminant migration through the completed columns. In this instance, the proposed CMCs are anticipated to extend to depths of approximately 6.0m to 8.0m bgl, potentially penetrating the underlying Kempton Park Gravel Member, depending on the local thickness of Made Ground. The proposed floor slabs and hardstanding will also limit downward infiltration of surface water within the treated areas, further reducing the potential for contaminant mobilisation.

5.0 Contamination

5.1 Soils

5.1.1 The ground investigation undertaken by JPP included contamination testing of the Topsoil and Made Ground, which included heavy metals, metalloids, hydrocarbons, PAHs and asbestos. The results were assessed against the relevant Commercial/Industrial end-use screening values.

5.1.2 The soil contamination testing identified no exceedances of the adopted Commercial/Industrial screening values for heavy metals, metalloids, hydrocarbons or PAHs. The report concluded that the soils generally presented a low risk from chemical contamination with respect to the proposed commercial development.

5.1.3 Asbestos screening was undertaken on nine soil samples, comprising one Topsoil and eight Made Ground samples. Asbestos was identified within three samples, comprising chrysotile, crocidolite and amosite in the form of loose fibres and asbestos-containing cement and sheeting/board debris. Subsequent quantification testing returned concentrations of less than 0.001% in all three samples.

5.1.4 Although the concentrations of asbestos were low, the presence of asbestos-containing materials within the variable Made Ground presents a potential exposure risk during excavation works. The report recommended a minimum 300mm clean capping layer within proposed landscaped areas and clean service corridors to limit future exposure. Appropriate precautions for working with potentially asbestos-impacted soils and procedures for managing unexpected contamination should be adopted during construction.

5.2 Groundwater

5.2.1 Groundwater sampling was undertaken as part of the JPP ground investigation, with samples recovered from the Made Ground, underlying Kempton Park Gravel Member and Chalk bedrock. The results were assessed against relevant drinking water standards (DWS) and environmental quality standards (EQS).

5.2.2 Elevated concentrations of arsenic were identified within shallow groundwater associated with the Made Ground, together with a localised exceedance for mercury. These elevated concentrations were not identified within the deeper groundwater samples recovered from the Kempton Park Gravel Member or Chalk. The report considered that the elevated concentrations were likely associated with localised perched groundwater within the Made Ground.

5.2.3 Groundwater testing also identified elevated hydrocarbon concentrations within CP102, with Total Petroleum Hydrocarbon (TPH) concentrations of 950µg/l and 300µg/l recorded within the Kempton Park Gravel Member and Chalk respectively. An oily sheen was also observed during well development.

5.2.4 The report concluded that the identified groundwater contamination did not indicate a significant risk to the underlying aquifers and that no specific groundwater remediation was required. However, appropriate precautions should be adopted where groundwater is encountered during excavation works, particularly within the Made Ground.

6.0 Environmental Risk Assessment

6.1 Introduction and Pile Type

6.1.1 The proposed ground improvement works comprise the installation of displacement Controlled Modulus Columns (CMCs) to improve the bearing capacity and settlement characteristics of the underlying soils to depths of between 6.0m to 8.0m bgl

6.1.2 The proposed installation methodology involves the advancement of a displacement auger through the underlying strata, followed by the introduction of concrete or grout during withdrawal to form rigid columns. Whilst this technique generally produces minimal spoil, the displacement process has the potential to mobilise existing contaminants and create temporary pathways for contaminant migration between geological strata.

6.1.3 An environmental risk assessment has therefore been undertaken to consider the potential impacts of the proposed CMC installation on human health, groundwater and other identified environmental receptors, taking account of the ground conditions and contamination identified during the previous site investigations.

6.2 Assessment Methodology

6.2.1 The potential environmental risks associated with the proposed displacement CMCs have been assessed with reference to the guidance published by CL:AIRE (2025), Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention, which supersedes the previous Environment Agency guidance NC/99/73 (2001).

6.2.2 The assessment considers the potential for piling and penetrative ground improvement techniques to mobilise contaminants, introduce preferential pathways and adversely affect sensitive environmental receptors. The updated guidance identifies seven potential pollution scenarios (set out below) associated with these activities, which have been considered in relation to the proposed ground improvement works.

1) Creation of preferential pathways, through a low permeability layer (an aquitard), to allow potential contamination of an underlying aquifer;
2) The driving of solid contaminants down into an aquifer during pile driving;
3) Contamination of groundwater and, subsequently, surface waters by turbidity, support fluids, concrete, cement paste or grout;
4) Direct contact of the piles or engineered structures with contaminated soil or leachate causing degradation of pile materials (where the secondary effects are to increase the potential for contaminant migration);
5) Creation of preferential pathways, including through a low permeability layer, to allow upward migration of landfill gas, soil gas, mine gas or contaminant vapours (e.g. Volatile Organic Compounds (VOCs)) to the surface;

6) Causing off site migration of ground gas or increased vertical emissions as a result of vibration or other effects from the pile installation process; and
7) Direct contact of site workers and others with contaminated soil arisings which have been brought to the surface.

6.2.3 The assessment has been undertaken using a source–pathway–receptor approach, taking account of the nature and distribution of contamination, the underlying geological and hydrogeological conditions, the proposed installation methodology and the sensitivity of the identified receptors.

6.2.4 The principal potential contaminant sources comprise the variable Made Ground deposits underlying the site, including materials associated with historical landfilling activities. The underlying Kempton Park Gravel Member is classified as a Secondary A Aquifer, whilst the underlying Chalk is designated as a Principal Aquifer. These represent the principal controlled waters receptors requiring consideration.

6.2.5 The assessment considers both the temporary risks associated with CMC installation and the residual risks following completion of the ground improvement works. Particular consideration has been given to the potential displacement of contaminated materials, the formation of preferential migration pathways and the introduction of concrete or grout into the underlying geological strata.

6.2.6 An initial screening assessment has been undertaken with reference to the CL:AIRE (2025) guidance to determine the requirement for a detailed Foundation Works Risk Assessment (FWRA). The screening assessment considers the identified contaminant sources, potential migration pathways, sensitivity of environmental receptors and the proposed ground improvement methodology. Where potentially significant pollutant linkages are identified, these are further considered within the site-specific assessment, together with appropriate mitigation and verification measures.

6.3 Initial Screening Assessment

6.3.1 An initial screening assessment has been undertaken with reference to the CL:AIRE (2025 guidance to establish the potential for the proposed displacement CMC installation to create or enhance pollutant linkages between identified contamination sources and sensitive environmental receptors.

6.3.2 The screening assessment considers the findings of the previous site investigation, including the nature and extent of Made Ground, identified contamination in soil and groundwater, geological and hydrogeological conditions, and the anticipated installation methodology and depth of the proposed CMCs.

6.3.3 A summary of the principal site-specific considerations and their implications for the proposed ground improvement works is presented in Table 6.3 overleaf.

Initial Environmental Screening Assessment		
Screening Consideration	**Site Specific Findings**	**Assessment**
Historical land use	The site has been subject to historical landfilling and subsequent redevelopment, resulting in variable and locally substantial thicknesses of Made Ground.	Potential contamination sources associated with historical landfilling cannot be discounted.
Made Ground	Variable Made Ground was encountered to depths of 3.50m and 7.50m bgl within CP102 and CP101, respectively, comprising variable granular and cohesive deposits with anthropogenic inclusions.	Potential for displacement and mobilisation of contaminated materials during CMC installation.
Soil Contamination	Chemical testing of Made Ground did not identify exceedances of the adopted human health screening criteria. Asbestos fibres were identified within selected Made Ground samples.	The Made Ground presents potential risks to construction workers and requires appropriate management during ground improvement works.
Groundwater Contamination	Shallow groundwater within the Made Ground contained arsenic concentrations of 57.9 µg/l and 110 µg/l, exceeding the adopted screening criteria, together with a marginal mercury exceedance of 0.08 µg/l. These exceedances were not identified within groundwater samples from the underlying Kempton Park Gravel Member or Chalk. Low levels of hydrocarbons were, however, detected within deeper groundwater samples	Potential for mobilisation of contaminated shallow groundwater during CMC installation. The underlying aquifers remain sensitive receptors, although the available results do not demonstrate migration of the elevated arsenic and mercury concentrations into these deposits.
Geology	The Made Ground is underlain by the Kempton Park Gravel Member, encountered at depths of between 3.50m to 7.50m bgl, with bedrock Chalk encountered at depths of between 8.50m to 9.50m bgl.	Potential for CMC installation to penetrate the underlying natural deposits and create temporary migration pathways.
Groundwater	Groundwater was encountered within the underlying deposits, with strikes recorded at 3.20m and 7.00m bgl in CP102 and CP101, respectively. Shallower standing groundwater levels of between 1.60m to 3.31m bgl were subsequently recorded.	Installation may interact with saturated deposits, presenting potential for contaminant mobilisation and groundwater disturbance.
Controlled Waters	The Kempton Park Gravel Member is designated as a Secondary A Aquifer and the underlying bedrock Chalk as a Principal Aquifer.	Sensitive groundwater receptors are present beneath the site.
Ground Gas	Historical landfilling represents a potential source of ground gas. Previous monitoring identified a Characteristic Situation 2 (CS2) ground gas regime.	Potential for temporary gas migration or displacement during installation requires consideration.
Proposed Ground Improvement	CMCs will be installed using a displacement auger, followed by injection of concrete or grout during withdrawal. Final column depths and installation parameters remain subject to specialist design.	Potential for lateral displacement of contaminated soils, temporary hydraulic connections and localised effects associated with concrete or grout introduction.

Completed Ground Improvements	The completed CMCs will comprise low-permeability concrete or grout columns beneath the proposed development.	The completed columns are unlikely to provide the same preferential flow pathways as permeable granular columns, although potential migration along column interfaces requires consideration.

Table 6.3

6.3.4 The screening assessment set out in Table 6.3 above, identifies potential pollutant linkages associated with the displacement of contaminated Made Ground, interaction with groundwater-bearing strata and the possible formation of temporary preferential migration pathways during CMC installation.

6.3.5 Whilst the completed CMCs are expected to present a relatively low potential for contaminant migration through the column material, the potential environmental effects associated with their installation cannot be discounted, particularly where the columns extend into the underlying Kempton Park Gravel Member or Chalk.

6.3.6 In accordance with the risk ranking set out in the latest guidance, the site would be considered a moderate to high risk site based on the presence of a Principal Aquifer of mixed intergranular and fracture flow with a high permeability. Proposed pile lengths are considered to extend into the underlying aquifers.

6.3.7 On this basis, the proposed works are considered to warrant a site-specific Foundation Works Risk Assessment (FWRA), addressing the seven potential pollution scenarios identified within the CL:AIRE (2025) guidance.

6.4 Foundation Works Risk Assessment

6.4.1 A site-specific Foundation Works Risk Assessment (FWRA) has been undertaken to consider the potential environmental impacts associated with the proposed displacement CMC installation. The assessment considers the seven pollution scenarios identified within the CL:AIRE (2025) guidance, taking account of the identified ground conditions, contamination sources, groundwater receptors and proposed installation methodology.

6.4.2 The assessment considers the potential for the proposed works to create or enhance pollutant linkages during installation and following completion. Where potential risks have been identified, appropriate mitigation and control measures have been considered to reduce the likelihood of adverse environmental impacts.

6.4.3 The site-specific assessment is presented in Table 6.4 overleaf.

Foundation Works Risk Assessment		
Pollution Scenario	**Site Specific Assessment**	**Risk Significiance and Control Measures**
1. Preferential pathways to an underlying aquifer	Made Ground directly overlies the Kempton Park Gravel Member, with bedrock Chalk beneath. No continuous aquitard has been proven between these deposits.	Given the absence of an aquitard between the predominantly granular Made Ground and the underlying Kempton Park Gravel and bedrock Chalk, the installation of CMC columns is not considered to create new long term preferential pathways.
2. Downward displacement of solid contaminants	Displacement auguring through variable Made Ground may displace contaminated material or fines towards or into the underlying Kempton Park Gravel Member, depending on installation depth and ground conditions.	Potential risk requiring control. Contractor to demonstrate measures limiting downward migration of Made Ground deposits into the Kempton Park Gravel Member.
3. Turbidity, support fluids, concrete or grout	Support fluids are not normally required for displacement CMCs. Soil displacement may cause localised turbidity. Uncontrolled concrete or grout losses could also affect groundwater chemistry.	Potential risk requiring control. Specify suitable materials, controlled injection and recording of pressures, volumes and any unexpected losses of grout/concrete.
4. Degradation of column materials	Concrete or grout will contact Made Ground and natural deposits. Aggressive ground or groundwater chemistry could affect long-term durability and potentially influence contaminant migration.	Manageable through design. Confirm chemical exposure classification and concrete or grout specification against SI testing.
5. Upward gas or vapour migration	Historical landfill materials and the reported CS2 gas regime indicate a potential gas source. Installation may temporarily alter gas migration pathways, including along column interfaces.	Potential risk requiring control. Include gas precautions in construction methodology and maintain continuity of building gas protection.
6. Off-site gas migration or increased emissions	CMC installation does not use vibro-compaction, but soil displacement and pressure changes may temporarily affect gas movement or emissions.	Anticipated limited significance, subject to confirmation. Consider monitoring and contingency measures appropriate to the gas regime.
7. Contact with contaminated arisings	CMCs generally generate limited arisings, but arisings may occur from obstructions, trimming and ancillary excavation. Made Ground includes localised chemical contamination and asbestos.	Manageable through construction controls. Implement suitable PPE, dust control, materials handling and waste classification where required.

Table 6.4

6.4.4 The assessment identifies the principal environmental risks as the potential displacement of contaminated Made Ground into underlying groundwater-bearing deposits and temporary disturbance of groundwater. These risks are particularly relevant where the proposed columns penetrate the underlying Kempton Park Gravel Member.

6.4.5 The identified contamination within the Made Ground and shallow groundwater table is variable and includes contaminants presenting differing risks to human health and controlled waters. The presence of contamination does not necessarily indicate that significant groundwater pollution will occur, with the potential for mobilisation and migration dependent on contaminant characteristics, groundwater conditions and installation methodology.

6.4.6 The completed CMCs will comprise relatively low-permeability concrete or grout, reducing the potential for contaminant migration through the column material when compared with permeable granular ground improvement techniques. However, potential migration along column interfaces and the effects of installation remain relevant considerations.

6.4.7 Subject to the implementation of appropriate installation controls, material specifications, groundwater monitoring and contingency procedures, the identified environmental risks are considered capable of being managed. The required mitigation and verification measures are detailed below in Section 6.5.

6.5 Mitigation and Verification Measures

6.5.1 The FWRA has identified environmental risks associated with the potential displacement of contaminated Made Ground and disturbance of groundwater-bearing deposits. Appropriate mitigation and verification measures will therefore be required to minimise the potential for adverse impacts on identified controlled waters and other identified receptors.

6.5.2 Prior to commencement of the works, the specialist CMC contractor shall prepare a site-specific installation method statement and associated risk assessments, taking account of the ground conditions, contamination identified and recommendations presented within this report. The method statement should detail the proposed column layout, diameters, installation depths, auger configuration, installation sequence, concrete or grout specification and procedures for managing unexpected ground conditions.

6.5.3 Particular consideration shall be given to the potential for downward displacement of contaminated Made Ground into the underlying Kempton Park Gravel Member. The contractor shall demonstrate that the proposed installation technique and sequence are appropriate for the anticipated geological conditions and will minimise the potential for contaminant mobilisation and the creation of preferential migration pathways. Where practicable, penetration into the underlying groundwater-bearing deposits should be minimised, subject to the geotechnical performance requirements of the ground improvement design.

6.5.4 The proposed CMC termination depths shall be established by the specialist designer, taking account of the variable thickness of Made Ground and the underlying natural deposits. The installation methodology shall be reviewed where significant departures from the anticipated ground conditions are encountered, particularly where columns penetrate the Kempton Park Gravel Member or approach the underlying bedrock Chalk.

6.5.5 Concrete or grout used for CMC formation shall be suitable for the identified ground and groundwater chemistry and the required design life. The contractor shall adopt controlled pumping and withdrawal procedures to minimise uncontrolled grout losses, excessive injection pressures and the potential for migration of cementitious materials into groundwater-bearing strata.

6.5.6 Appropriate records shall be maintained for each installed column, including location, diameter, installation depth, penetration resistance or other relevant installation parameters, concrete or grout volumes and pressures, and any unusual ground conditions or installation behaviour. These records shall be reviewed by the specialist contractor to identify potential anomalies requiring further investigation or remedial measures.

6.5.7 Although displacement CMC installation is anticipated to generate minimal spoil, any arisings associated with obstruction removal, column trimming or associated excavation works shall be managed in accordance with the site's contamination management procedures. Appropriate measures shall be implemented to minimise direct contact, dust generation and uncontrolled runoff, with waste classified and disposed of at suitably permitted facilities where necessary.

6.5.8 The potential for ground gas migration during installation shall be considered within the contractor's construction-phase risk assessments. Appropriate precautions shall be implemented where necessary, particularly during works involving excavations or enclosed spaces. The proposed ground improvement works are not considered to compromise the continuity or effectiveness of any gas protection measures incorporated within the existing development.

6.5.9 Groundwater monitoring shall be undertaken in accordance with the project-specific Groundwater Monitoring Plan, with appropriate baseline and post-construction monitoring to assess potential changes in groundwater quality associated with the works. The monitoring requirements are discussed further in Section 6.6.

6.5.10 Any unexpected contamination, significant groundwater inflows, unusual grout losses, unexpected obstructions or other installation anomalies with the potential to affect environmental receptors shall be investigated and managed in accordance with the agreed contingency procedures. Where necessary, the affected works shall be suspended pending assessment and implementation of appropriate corrective measures.

6.5.11 Following completion of the works, the specialist contractor shall provide an installation and verification report documenting the completed CMC works, relevant installation records, departures from the approved methodology, unexpected ground conditions and any corrective measures undertaken. This information shall be retained to demonstrate that the environmental controls identified within the FWRA have been implemented.

6.6 Groundwater Monitoring

6.6.1 Groundwater monitoring shall be undertaken in accordance with the project-specific Groundwater Monitoring Plan (GMP), prepared by JPP, to assess the potential impacts of the proposed displacement CMC installation on groundwater quality within the underlying aquifers.

6.6.2 The monitoring programme shall comprise baseline and post-construction monitoring, as detailed within the GMP. The programme is intended to establish the existing groundwater conditions, identify any changes potentially associated with the proposed ground improvement works and provide evidence of the effectiveness of the environmental mitigation measures.

6.6.3 Groundwater samples shall be obtained from the designated monitoring installations and analysed for the determinands specified within the GMP, taking account of the contaminants identified during the previous site investigations and the potential impacts associated with CMC installation, including groundwater turbidity and the introduction of cementitious materials.

6.6.4 Monitoring results shall be reviewed against the established baseline groundwater conditions and any applicable assessment criteria or trigger levels detailed within the GMP. Consideration shall be given to natural groundwater variability, differences between monitoring locations and the potential influence of activities unrelated to the proposed CMC installation.

6.6.5 Where monitoring identifies unexpected or potentially significant deterioration in groundwater quality, the results shall be investigated to establish the likely cause and determine whether additional monitoring, mitigation or corrective measures are required. Where appropriate, the affected works shall be suspended pending further assessment.

6.6.6 The monitoring results shall be documented and reviewed following completion of the works to assess whether the proposed CMC installation has resulted in any identifiable adverse impacts on groundwater quality. The findings shall be presented within the relevant monitoring and verification reporting, together with recommendations for any further monitoring or remedial measures considered necessary.

6.7 Contingency Measures

6.7.1 Notwithstanding the proposed mitigation measures, unexpected ground conditions or environmental impacts may arise during the installation of the displacement CMCs. Appropriate contingency procedures shall therefore be established prior to commencement of the works to ensure that potential risks to controlled waters, human health and other environmental receptors are identified and managed.

6.7.2 The specialist contractor shall implement procedures for identifying and responding to unexpected conditions, including the following:

- Encountering previously unidentified contamination, potentially contaminated liquids or unexpected materials within the Made Ground;
- Significant departures from the anticipated ground conditions, including unexpected groundwater inflows or obstructions;
- Uncontrolled concrete or grout losses, excessive injection pressures or other installation anomalies that could indicate unintended migration into surrounding strata;
- Unexpected ground gas emissions or conditions presenting a potential risk to site personnel or neighbouring receptors; and
- Deterioration in groundwater quality identified through the monitoring programme, where potentially attributable to the proposed works.

6.7.3 Where unexpected conditions are encountered, works within the affected area shall be suspended where there is a credible risk of environmental harm. The specialist contractor shall notify the client and JPP, and appropriate investigations shall be undertaken to establish the nature, extent and significance of the identified condition.

6.7.4 Where necessary, additional environmental monitoring, sampling or assessment shall be undertaken to determine the potential impacts on identified receptors. Appropriate corrective measures shall be developed and implemented before the affected works recommence. These may include modifications to the installation methodology, additional containment measures, revised construction procedures or further groundwater monitoring.

6.7.5 Where groundwater monitoring identifies potentially significant changes in groundwater quality, the response procedures detailed within the project-specific Groundwater Monitoring Plan shall be implemented. The need for consultation with the Environment Agency or other relevant regulatory authorities shall be considered in accordance with the nature and significance of the identified impacts.

6.7.6 All unexpected conditions, investigations, corrective measures and associated monitoring results shall be appropriately documented. The specialist contractor shall maintain records of relevant installation anomalies and actions undertaken, with the findings incorporated into the construction verification documentation.

7.0 Conclusions

7.1.1 JPP has undertaken a Foundation Works Risk Assessment (FWRA) to assess the potential environmental risks associated with the proposed installation of displacement Controlled Modulus Columns (CMCs) at Thames Valley Business Park, Reading. The assessment has been undertaken with reference to the CL:AIRE (2025) guidance, *'Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention'*.

7.1.2 The site is underlain by variable Made Ground associated with historical landfilling activities, extending to depths of between 3.50m and 7.50m bgl within the cable-percussion boreholes. The Made Ground is underlain by the Kempton Park Gravel Member, designated as a Secondary A Aquifer, with the underlying bedrock Chalk classified as a Principal Aquifer. Previous investigations identified localised soil contamination and a Characteristic Situation 2 (CS2) ground gas regime.

7.1.3 The assessment has considered the seven potential pollution scenarios identified within the CL:AIRE (2025) guidance. The principal environmental risks relate to the potential displacement of contaminated Made Ground into underlying groundwater-bearing deposits, localised groundwater disturbance and the formation of temporary preferential migration pathways during CMC installation. Additional considerations include the introduction of concrete or grout, potential ground gas migration and the management of contaminated arisings.

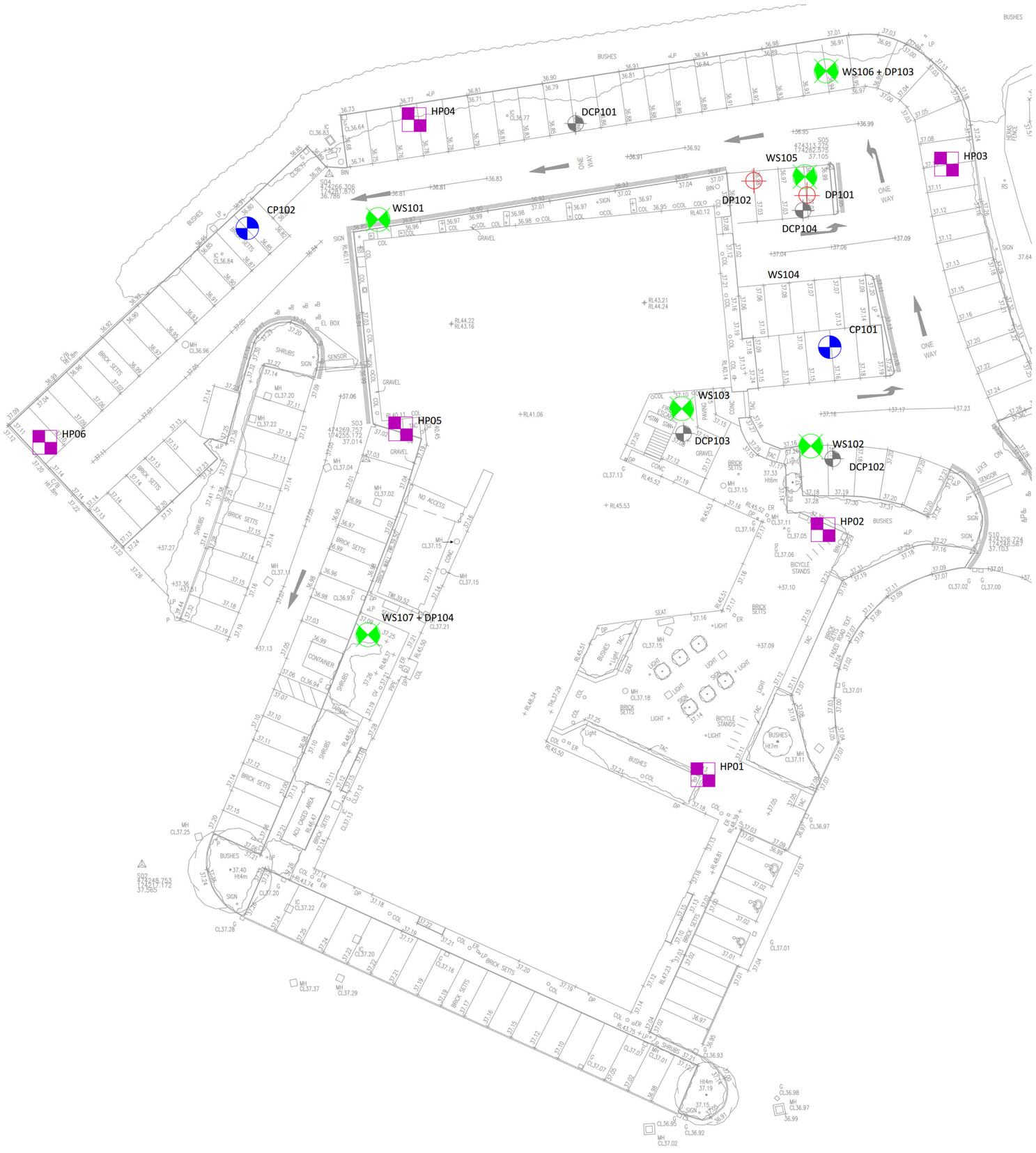
7.1.4 The proposed displacement CMC technique is anticipated to generate minimal spoil, whilst the completed concrete or grout columns will provide relatively low-permeability elements within the ground. Nevertheless, the potential for contaminant mobilisation during installation remains dependent upon the proposed column depths, installation methodology and local ground conditions.

7.1.5 The identified environmental risks are considered capable of being appropriately managed through the implementation of suitable installation controls, concrete or grout specifications, verification procedures and groundwater monitoring. The specialist CMC contractor shall develop a site-specific installation methodology incorporating the mitigation and contingency measures identified within this assessment.

7.1.6 Groundwater monitoring shall be undertaken in accordance with the project-specific Groundwater Monitoring Plan prepared by JPP.

7.1.7 On the basis of the available ground investigation information, the proposed displacement CMC technique is considered a potentially acceptable ground improvement solution from an environmental perspective, subject to the implementation of the mitigation measures detailed within this report, confirmation of the final CMC design and installation methodology, and satisfactory groundwater monitoring results. The findings of this assessment shall be reviewed where material changes to the proposed installation methodology or anticipated ground conditions arise.

Appendix A
Groundwater Monitoring Borehole Locations



Notes;

1. Do not scale from this drawing.
2. This drawing shall be printed in full colour.
3. Exploratory hole locations are based on JPP survey data (November 2025 and April 2026).
4. TRL DCP tests not surveyed in.
5. This drawing is based on N2684-R0-2D.dwg/ REV 0, produced by Laser Surveys Ltd.

Key;

WS	Windowless sample borehole	WS	Windowless sample borehole with monitoring well installation
DCP	Approximate location of TRL dynamic cone penetration test.	BH	Cable-Percussion borehole with monitoring well installation
TP	Machine excavated trial pit	DP	Dynamic Probe location
HP	Hand dug trial pit with TRL DCP test		

jpp
- Infrastructure Design
- Structural Engineering
- Development Planning
- Professional Advice
- Geotechnical & Environmental
- Surveying

Northampton
Grand Union Works, Whilton Locks, Daventry
Northamptonshire, NN11 2NH
T: 01604 781811

Poole | Milton Keynes | Warwick

E: mail@jppuk.net **W:** jppuk.net

Client	David Lloyd Leisure Ltd
Project	Thames Valley Business Park Reading, RG6 1PT
Title	Exploratory Hole Location Plan

Scale at A1	NTS	Drawn by	MG	Checked by	ES	Date	22 May 2026
Status **FOR INFORMATION**		Project ref 30799		Drawing no. 02		Revision -	

Appendix B
Borehole Logs

Cable-Percussion Borehole Log

Project Name: Thames Valley Business Park	Client: David Lloyd Leisure Ltd	Date: 30/03/2026 - 31/03/2026
Location: Reading	Contractor:	Co-ords: E474313.21 N174265.67
Project Number: 30799	Crew Name:	Drilling Equipment: Dando 2000

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
CP101	CP	37.08m OD	AH	1:30	Sheet 1 of 4

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth Base (m bgl) Thickness (m)	Level (m OD)	Legend	Stratum Description
					(0.10)	37.08		Blacktop
		0.20	ES		0.10			Orange brown mottled beige slightly silty slightly clayey very gravelly fine to coarse SAND. Gravel consists of fine to coarse subrounded to angular brick, concrete, sandstone, flint and clinker. (SUBBASE)
		0.30 - 0.50	B		(0.30)			
		0.60	ES		0.40	36.98		Orange brown and grey fine to coarse very sandy subrounded to angular brick, concrete, sandstone, flint, timber and metal GRAVEL. Sand is fine to coarse. (MADE GROUND)
▼		0.80 - 1.20	B		(0.40)			
		0.90	ES		0.80	36.68		Soft dark brown mottled black gravelly very sandy CLAY with occasional decomposed roots. Gravel consists of fine to coarse flint brick and clinker. Sand is fine to coarse. (MADE GROUND)
		0.90	PP	40 kPa				
		1.50 - 2.00	B		(0.70)			
		1.50	SPT	N=22 (4,5/7,6,5,4)	1.50	36.28		Loose black slightly clayey silty gravelly fine SAND. Gravel consists of fine to coarse subangular ash, clinker and slag. (MADE GROUND)
		2.30 - 2.50	B					
		2.50 - 3.00	B					*Becoming loose at 2.50m bgl.*
		2.50	SPT	N=6 (1,2/2,1,2,1)				
▼		3.50 - 3.95	SPTL					*Becoming very loose at 3.50m bgl.*
		3.50	SPT	N=1 (1,0/0,1,0,0)				
		4.50 - 5.00	B		(6.00)			
		4.50	SPT	N=1 (1,0/0,0,1,0)				
		5.50 - 6.00	B					
		5.50	SPT	N=1 (1,0/0,1,0,0)				

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
7.50	200	7.50	200								
20.00	150	20.00	150								

Remarks

Service avoidance hand pit dug to 0.80m bgl. Groundwater strike at 7.00m bgl, standing water level recorded at 3.10m bgl after 20 minutes. Monitoring well installed to 20.00m bgl with a flush cover, targeting Chalk strata.

Cable-Percussion Borehole Log

Project Name: Thames Valley Business Park	Client: David Lloyd Leisure Ltd	Date: 30/03/2026 - 31/03/2026
Location: Reading	Contractor:	Co-ords: E474313.21 N174265.67
Project Number: 30799	Crew Name:	Drilling Equipment: Dando 2000

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
CP101	CP	37.08m OD	AH	1:30	Sheet 2 of 4

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth Base (m bgl) Thickness (m)	Level (m OD)	Legend	Stratum Description
		7.00 7.00 - 7.45 7.00 - 7.50 7.00	D SPTL B SPT	N=9 (1,2/2,2,2,3)				Loose black slightly clayey silty gravelly fine SAND. Gravel consists of fine to coarse subangular ash, clinker and slag. (MADE GROUND) *Soft green sandy silty CLAY observed mixed with ash at 7.00m bgl.*
					7.50	35.58		Medium dense orange and brown fine to coarse subrounded to angular flint GRAVEL. (KEMPTON PARK GRAVEL MEMBER) *Becoming loose at 7.50m bgl.*
		8.50 - 9.00 8.50	B SPT	N=29 (7,15/10,7,6,6)	(2.00)			
					9.50	29.58		Structureless CHALK composed of an off white silty sandy gravelly CLAY. Sand is fine to medium. Gravel consists of fine to coarse subangular chalk. Clasts are fine to medium weak low to medium density chalk. (SEAFORD CHALK FORMATION/NEWHAVEN CHALK FORMATION Grade Dm)
		10.00 10.00 - 10.45 10.00	D SPTL SPT	N=8 (1,2/2,2,2,2)	(1.00)			
					10.50	27.58		Structureless CHALK composed of an off white silty sandy fine to coarse subangular chalk GRAVEL. Sand is fine to medium. (SEAFORD CHALK FORMATION/NEWHAVEN CHALK FORMATION Grade Dc)
		11.50 - 11.95	UT					

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
7.50 20.00	200 150	7.50 20.00	200 150								

Remarks

Service avoidance hand pit dug to 0.80m bgl. Groundwater strike at 7.00m bgl, standing water level recorded at 3.10m bgl after 20 minutes. Monitoring well installed to 20.00m bgl with a flush cover, targeting Chalk strata.

Cable-Percussion Borehole Log

Project Name: Thames Valley Business Park	Client: David Lloyd Leisure Ltd	Date: 30/03/2026 - 31/03/2026
Location: Reading	Contractor:	Co-ords: E474313.21 N174265.67
Project Number: 30799	Crew Name:	Drilling Equipment: Dando 2000

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
CP101	CP	37.08m OD	AH	1:30	Sheet 3 of 4

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth Base (m bgl) Thickness (m)	Level (m OD)	Legend	Stratum Description
		13.00	D					Structureless CHALK composed of an off white silty sandy fine to coarse subangular chalk GRAVEL. Sand is fine to medium. (SEAFORD CHALK FORMATION/NEWHAVEN CHALK FORMATION Grade Dc)
		13.00 - 13.45	SPTL					
		13.00	SPT	N=28 (3,4/6,7,8,7)				
		13.50 - 13.95	UT					
		14.00	D					
		15.00	D					
					(9.95)			
		16.00	D					
		16.00 - 16.45	SPTL					
		16.00	SPT	N=25 (3,5/5,5,7,8)				
		17.00	D					
		17.00 - 17.45	UT					
		18.00	D					

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
7.50 20.00	200 150	7.50 20.00	200 150								

Remarks

Service avoidance hand pit dug to 0.80m bgl. Groundwater strike at 7.00m bgl, standing water level recorded at 3.10m bgl after 20 minutes. Monitoring well installed to 20.00m bgl with a flush cover, targeting Chalk strata.

Cable-Percussion Borehole Log

Project Name: Thames Valley Business Park	Client: David Lloyd Leisure Ltd	Date: 30/03/2026 - 31/03/2026
Location: Reading	Contractor:	Co-ords: E474313.21 N174265.67
Project Number: 30799	Crew Name:	Drilling Equipment: Dando 2000

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
CP101	CP	37.08m OD	AH	1:30	Sheet 4 of 4

Well	Water Strikes	Sample and In Situ Testing			Depth Base (m bgl) Thickness (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		19.00 19.00 - 19.45 19.00	D SPTL SPT	N=23 (3,7/7,5,6,5)				Structureless CHALK composed of an off white silty sandy fine to coarse subangular chalk GRAVEL. Sand is fine to medium. (SEAFORD CHALK FORMATION/NEWHAVEN CHALK FORMATION Grade Dc)
W		20.00 20.00 - 20.45 20.00	D SPTL SPT	N=44 (3,8/8,6,17,13)				
					20.45	26.58		End of Borehole at 20.45m

19 20 21 22 23 24

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
7.50 20.00	200 150	7.50 20.00	200 150								

Remarks

Service avoidance hand pit dug to 0.80m bgl. Groundwater strike at 7.00m bgl, standing water level recorded at 3.10m bgl after 20 minutes. Monitoring well installed to 20.00m bgl with a flush cover, targeting Chalk strata.

Cable-Percussion Borehole Log

Project Name: Thames Valley Business Park	Client: David Lloyd Leisure Ltd	Date: 31/03/2026 - 02/04/2026
Location: Reading	Contractor:	Co-ords: E474258.62 N174276.81
Project Number: 30799	Crew Name:	Drilling Equipment: Dando 2000

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
CP102	CP	36.78m OD	AH	1:30	Sheet 1 of 4

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth Base (m bgl) Thickness (m)	Level (m OD)	Legend	Stratum Description
					(0.09)	36.78		Block paving.
					0.09			Dark grey slightly sandy fine angular granite GRAVEL. Sand is fine to coarse. (SUBBASE)
		0.20 - 0.50	B		(0.04)	36.69		
					0.13			Grey very gravelly subangular limestone COBBLE. Gravel consists of medium to coarse subangular limestone. (MADE GROUND)
					(0.37)			
					0.50	36.65		*Geotextile membrane observed at 0.13m bgl.*
		0.70 - 1.20	B					Orange brown silty very gravelly fine to coarse SAND. Gravel consists of fine subangular brick and flint. (MADE GROUND)
					(1.00)			*Geotextile membrane observed at 0.60m bgl.*
		1.50 - 2.00	B		1.50	36.28		
		1.50	SPT	N=10 (2,2/2,3,3,2)				Black slightly clayey silty gravelly fine SAND. Gravel consists of fine to coarse subangular ash and clinker. (MADE GROUND)
		1.75	PP	50 kPa				
		2.00 - 2.50	B					
		2.25	PP	15 kPa				
		2.50 - 3.00	B		(2.00)			
		2.50	SPT	N=7 (1,1/1,2,2,2)				
		3.50 - 4.00	B		3.50	35.28		
		3.50	SPT	N=13 (2,2/3,4,3,3)				Medium dense orange brown very sandy fine to coarse rounded to subangular flint GRAVEL. Sand is fine to coarse. (KEMPTON PARK GRAVEL MEMBER)
		4.50 - 5.00	B					
		5.50 - 6.00	B					
		5.50	SPT	N=17 (2,3/3,4,4,6)				
					(5.00)			

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
4.50	200	4.50	200								
20.00	150	20.00	150								

Remarks

Service avoidance hand pit dug to 1.20m bgl. Groundwater strike at 3.20m bgl rising to 2.20m bgl after 20 minutes, sealed with casing. Dual monitoring wells installed; to 10.00m bgl targeting Kempton Park Gravel Member and 20.00m bgl targeting Chalk strata. Both with a single flush cover.

Cable-Percussion Borehole Log

Project Name: Thames Valley Business Park	Client: David Lloyd Leisure Ltd	Date: 31/03/2026 - 02/04/2026
Location: Reading	Contractor:	Co-ords: E474258.62 N174276.81
Project Number: 30799	Crew Name:	Drilling Equipment: Dando 2000

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
CP102	CP	36.78m OD	AH	1:30	Sheet 2 of 4

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth Base (m bgl) Thickness (m)	Level (m OD)	Legend	Stratum Description
		7.00 - 7.50 7.00	B SPT	N=40 (3,6/7,15,10,8)				Medium dense orange brown very sandy fine to coarse rounded to subangular flint GRAVEL. Sand is fine to coarse. (KEMPTON PARK GRAVEL MEMBER) *Becoming dense at 7.00m bgl.*
	▼	8.50 - 9.00 8.50	B SPT	N=12 (2,2/3,3,3,3)	8.50	33.28		Structureless CHALK composed of an off white silty fine to coarse subangular flint and chalk GRAVEL. Sand is fine to medium. (SEAFORD CHALK FORMATION/NEWHAVEN CHALK FORMATION Grade Dc)
		10.00 - 10.45 10.00	SPTL SPT	N=7 (2,1/2,2,1,2)				
		10.50 - 11.00	B					
		11.50 - 11.95 11.50	SPTL SPT	N=17 (2,2/3,6,5,3)				
		12.00	D					

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
4.50 20.00	200 150	4.50 20.00	200 150								

Remarks

Service avoidance hand pit dug to 1.20m bgl. Groundwater strike at 3.20m bgl rising to 2.20m bgl after 20 minutes, sealed with casing. Dual monitoring wells installed; to 10.00m bgl targeting Kempton Park Gravel Member and 20.00m bgl targeting Chalk strata. Both with a single flush cover.

Cable-Percussion Borehole Log

Project Name: Thames Valley Business Park	Client: David Lloyd Leisure Ltd	Date: 31/03/2026 - 02/04/2026
Location: Reading	Contractor:	Co-ords: E474258.62 N174276.81
Project Number: 30799	Crew Name:	Drilling Equipment: Dando 2000

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
CP102	CP	36.78m OD	AH	1:30	Sheet 3 of 4

Well	Water Strikes	Sample and In Situ Testing			Depth Base (m bgl) Thickness (m)	Level (m OD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		13.00 13.00 - 13.45 13.00	D SPTL SPT	N=15 (4,6/1,1,6,7)				Structureless CHALK composed of an off white silty fine to coarse subangular flint and chalk GRAVEL. Sand is fine to medium. (SEAFORD CHALK FORMATION/NEWHAVEN CHALK FORMATION Grade Dc)	13
		14.00 14.00	D SPT	N=39 (4,7/8,8,10,13)					14
		14.50 - 15.00	B		(11.95)				15
		16.00 16.00 - 16.45 16.00	D SPTL SPT	N=28 (2,4/6,7,7,8)					16
		17.00 17.00 - 17.45	D UT						17
		18.00	D						18

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
4.50 20.00	200 150	4.50 20.00	200 150								

Remarks

Service avoidance hand pit dug to 1.20m bgl. Groundwater strike at 3.20m bgl rising to 2.20m bgl after 20 minutes, sealed with casing. Dual monitoring wells installed; to 10.00m bgl targeting Kempton Park Gravel Member and 20.00m bgl targeting Chalk strata. Both with a single flush cover.

Cable-Percussion Borehole Log

Project Name: Thames Valley Business Park	Client: David Lloyd Leisure Ltd		Date: 31/03/2026 - 02/04/2026
Location: Reading	Contractor:		Co-ords: E474258.62 N174276.81
Project Number: 30799	Crew Name:		Drilling Equipment: Dando 2000

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
CP102	CP	36.78m OD	AH	1:30	Sheet 4 of 4

Well	Water Strikes	Sample and In Situ Testing			Depth Base (m bgl) Thickness (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		19.00 19.00 - 19.45 19.00	D SPTL SPT	N=42 (7,10/8,10,12,12)				Structureless CHALK composed of an off white silty fine to coarse subangular flint and chalk GRAVEL. Sand is fine to medium. (SEAFORD CHALK FORMATION/NEWHAVEN CHALK FORMATION Grade Dc)
		20.00 20.00 - 20.45 20.00	D SPTL SPT	N=48 (4,6/10,10,12,16)				
					20.45	28.28		End of Borehole at 20.45m

19 20 21 22 23 24

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
4.50 20.00	200 150	4.50 20.00	200 150								

Remarks

Service avoidance hand pit dug to 1.20m bgl. Groundwater strike at 3.20m bgl rising to 2.20m bgl after 20 minutes, sealed with casing. Dual monitoring wells installed; to 10.00m bgl targeting Kempton Park Gravel Member and 20.00m bgl targeting Chalk strata. Both with a single flush cover.

Windowless Sampling Borehole Log

Project Name: Thames Valley Business Park	Client: David Lloyd Leisure Ltd	Date: 01/04/2026
Location: Reading		Co-ords: E474270.88 N174277.62
Project Number: 30799		Drilling Equipment: Dart 310

Borehole Number	Hole Type	Ground Level	Logged By	Scale	Page Number
WS101	WS	36.83m AoD	AH	1:35	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m bgl)	(Thickness) (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
					0.10	(0.10)		Blacktop.	
		0.30	ES			(0.30)		Very dense light orange brown slightly silty very gravelly fine to coarse SAND. Gravel consists of fine to coarse subrounded to subangular brick, flint, concrete and chalk fragments. (SUBBASE)	
		0.30	SPT	50 (25 for 60mm/50 for 50mm)	0.40				
		0.90	ES			(0.90)		Stiff becoming firm dark brown and black gravelly very sandy CLAY. Sand is fine to coarse. Gravel consists of fine to coarse subangular to angular brick and flint. (MADE GROUND)	1
		1.00	PP	100 kPa					
		1.00	SPT	N=29 (1,2/5,11,8,5)					
		1.40	D		1.30	(0.25)		Medium dense orange brown clayey very sandy fine to coarse subrounded to angular flint GRAVEL. Sand is fine to coarse. (MADE GROUND)	
		1.60	PP	60 kPa	1.55				
		1.70	D			(0.25)			
		1.75	PP	40 kPa	1.80			Soft to firm greenish brown gravelly very sandy CLAY. Sand is fine to coarse. Gravel consists of fine to medium rounded to subrounded flint. (MADE GROUND)	
		2.00	SPT	N=31 (6,8/8,8,8,7)					2
		2.30	ES					Dense black silty fine SAND. (MADE GROUND)	
		2.50	D					Fibrous material observed at 1.80m bgl.	
		3.00	SPT	N=0 (0,0/0,0,0,0)				Becoming clayey at 3.00m bgl.	3
						(3.05)		Becoming very loose at 3.00m bgl, SPT penetrated under self-weight.	
								Becoming gravelly and damp at 3.70m bgl.	
		4.00	SPT	N=0 (0,0/0,0,0,0)				Very loose at 4.00m bgl, SPT penetrated under self-weight.	4
					4.85	(0.15)		Very soft greenish brown gravelly very sandy CLAY. Sand is fine to coarse. Gravel consists of fine to medium subrounded to subangular flint. (MADE GROUND)	
		5.00	SPT	N=5 (1,0/1,1,2,1)	5.00				5
						(0.50)		Loose black silty fine SAND. (MADE GROUND)	
		5.60	PP	5 kPa	5.50			Very soft dark green gravelly very sandy CLAY. Sand is fine to medium. Gravel consists of fine to medium rounded to subrounded flint. (MADE GROUND)	
		5.70	ES						
		5.80	PP	0 kPa					
		5.90	D						
		6.00	PP	0 kPa		(0.95)			6
		6.00	SPT	N=1 (1,0/0,1,0,0)					
					6.45			End of Borehole at 6.45m	7

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Service avoidance hand pit dug to 0.50m bgl. Groundwater strike at 3.70m bgl, water level recorded at 2.00m bgl 15 minutes after completion. Borehole cased to 6.00m bgl. Monitoring well installed to 5.80m bgl with a flush cover, targeting Made Ground strata.

Windowless Sampling Borehole Log

Project Name: Thames Valley Business Park	Client: David Lloyd Leisure Ltd	Date: 01/04/2026
Location: Reading		Co-ords: E474311.43 N174256.40
Project Number: 30799		Drilling Equipment: Dart 310

Borehole Number	Hole Type	Ground Level	Logged By	Scale	Page Number
WS102	WS	37.13m AoD	AH	1:35	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m bgl)	(Thickness) (m)	Legend	Stratum Description	Scale
					0.10	(0.10)		Blacktop.	
		0.20	ES					Dense [est] light orange brown and beige slightly silty very gravelly fine to coarse SAND. Gravel consists of fine to coarse subrounded to subangular flint, brick, concrete and sandstone. (SUBBASE)	
						(0.50)			
					0.60				
		0.70	PP	70 kPa				Firm dark grey and black gravelly very sandy CLAY. Sand is fine to coarse. Gravel consists of fine to coarse subangualr flint and brick. (MADE GROUND)	
		0.80	ES						
		0.90	PP	90 kPa					
		1.00	SPT	N=37 (1,1/3,7,16,11)		(0.80)			1
		1.10	D						
					1.40				
		1.60	ES			(0.30)		Medium dense light orange brown and beige slightly silty very gravelly fine to coarse SAND. Gravel consists of fine to coarse subrounded to subangular flint brick concrete and sandstone. (MADE GROUND)	
					1.70				
		1.90	PP	80 kPa		(0.30)			
		2.00	SPT	N=14 (2,4/4,2,3,5)	2.00			Firm dark grey and black gravelly very sandy CLAY. Sand is fine to coarse. Gravel consists of fine to coarse subangualr flint and brick. (MADE GROUND)	2
		2.20	ES						
								Medium dense dark grey and black slightly clayey slightly silty slightly gravelly fine SAND. Gravel consists of fine rounded to subrounded flint. (MADE GROUND)	
		3.00	SPT	N=4 (0,2/1,0,1,2)				Recovered as damp from 3.00m bgl.	3
		3.20	D					Becoming dark greyish from 3.00m to 3.30m bgl.	
								Becoming very loose at 3.00m bgl.	
W		4.00	SPT	N=0 (0,0/0,0,0,0)					4
						(4.45)			
		5.00	SPT	N=0 (0,0/0,0,0,0)					5
		6.00	SPT	N=0 (0,0/0,0,0,0)					6
					6.45			End of Borehole at 6.45m	7

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Borehole collapsed to 4.00m bgl upon completion. No groundwater encountered during drilling. Monitoring well installed to 4.00m bgl with a flush cover, targeting Made Ground strata.

Windowless Sampling Borehole Log

Project Name: Thames Valley Business Park	Client: David Lloyd Leisure Ltd	Date: 01/04/2026
Location: Reading		Co-ords: E474299.34 N174259.90
Project Number: 30799		Drilling Equipment: Dart 310

Borehole Number	Hole Type	Ground Level	Logged By	Scale	Page Number
WS103	WS	37.10m AoD	FH	1:35	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m bgl)	(Thickness) (m)	Legend	Stratum Description
					0.10	(0.10)		Loose [est] brown fine to medium subangular to subrounded flint GRAVEL. (MADE GROUND)
		0.15	ES		0.30	(0.20)		
		0.40	PP	100 kPa				Firm brown gravelly very sandy CLAY. Sand is fine to coarse. Gravel consists of fine to coarse subangular to angular flint, brick and chalk fragments. (MADE GROUND)
		0.45	ES					
		0.60	PP	200 kPa				
		0.70	D					
		0.80	PP	150 kPa		(1.10)		Firm dark grey sandy gravelly CLAY. Sand is fine to coarse. Gravel consists of fine to coarse subangular to angular flint and brick. (MADE GROUND)
		1.00	PP	105 kPa				
		1.00	SPT	N=27 (1,2/2,6,9,10)				Cobble of angular brick at 0.30m bgl.
	▼				1.40			
		1.50	ES			(0.30)		Medium dense [est] orange brown very sandy fine to coarse subrounded to angular flint GRAVEL. Sand is fine to coarse. (MADE GROUND)
					1.70			
		1.80	D			(0.30)		Recovered as damp from 1.40m bgl.
		1.80	PP	40 kPa				
		2.00	PP	40 kPa	2.00			Firm brown sandy gravelly CLAY. Sand is fine to coarse. Gravel consists of fine to coarse subrounded to subangular flint. (MADE GROUND)
		2.00	SPT	N=19 (3,3/5,4,4,6)		(0.30)		
		2.30	ES		2.30			Medium dense orange brown very sandy fine to coarse subrounded to angular flint GRAVEL. Sand is fine to coarse. (MADE GROUND)
		2.60	ES			(0.70)		
					3.00			Medium dense dark grey and black slightly clayey slightly silty slightly gravelly fine SAND. Gravel consists of fine rounded to subrounded flint. (MADE GROUND)
								Wood fragments observed at 2.30m bgl.
								End of Borehole at 3.00m

Scale: 1, 2, 3, 4, 5, 6, 7

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Groundwater strike at 1.60m bgl. Borehole terminated at 3.00m bgl due to instability. Borehole redrilled to 3.50m bgl and collapsed to 1.80m bgl upon completion. Monitoring well installed to 1.80m bgl with flush cover, targeting Made Ground strata.

Windowless Sampling Borehole Log

Project Name: Thames Valley Business Park	Client: David Lloyd Leisure Ltd	Date: 01/04/2026
Location: Reading		Co-ords: E474306.17 N174271.14
Project Number: 30799		Drilling Equipment: Dart 310

Borehole Number	Hole Type	Ground Level	Logged By	Scale	Page Number
WS104	WS	37.03m AoD	AH	1:35	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m bgl)	(Thickness) (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
					0.10	(0.10)		Blacktop.	
		0.30	ES			(0.34)		Light orange brown and beige slightly silty very gravelly fine to coarse SAND. Gravel consists of fine to coarse subrounded to angular flint, brick, concrete, sandstone and glass. (SUBBASE)	
		0.40	SPT	N=29 (15,10/10,9,5,5)	0.44				
						(0.56)		Firm dark grey and black gravelly very sandy CLAY. Sand is fine to coarse. Gravel consists of fine to coarse subangular to angular flint brick and glass. (MADE GROUND)	1
		0.90	PP	170 kPa					
		1.00	ES		1.00				
		1.00	SPT	N=40 (3,4/3,15,12,10)					
		1.30	D			(0.66)		Very soft dark greenish brown sandy silty gravelly CLAY. Sand is fine to coarse. Gravel consists of fine to medium flint. (MADE GROUND)	
		1.50	PP	10 kPa					
	▼				1.66	(0.24)		Medium dense orange brown and beige very sandy fine to coarse subrounded to angular flint chalk and sandstone GRAVEL. Sand is fine to coarse. (MADE GROUND)	
	▽				1.90				2
		2.00	SPT	N=15 (4,4/3,3,4,5)		(0.70)		Medium dense dark greenish brown slightly clayey very sandy fine to coarse subrounded to subangular flint GRAVEL. Sand is fine to coarse. (MADE GROUND)	
					2.60			Loose black slightly clayey silty fine SAND. (MADE GROUND)	
		2.80	D			(0.40)			
		3.00	SPT	N=6 (1,2/1,1,2,2)	3.00			End of Borehole at 3.00m	3
									4
									5
									6
									7

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Groundwater strike at 2.00m bgl, water level at 1.72m bgl 10 minutes on completion. Borehole collapsed to 2.00m bgl during drilling. Borehole terminated at 3.00m bgl due to instability. Borehole backfilled with arisings.

Windowless Sampling Borehole Log

Project Name: Thames Valley Business Park	Client: David Lloyd Leisure Ltd	Date: 02/04/2026
Location: Reading		Co-ords: E474310.88 N174281.64
Project Number: 30799		Drilling Equipment: Dart 310

Borehole Number	Hole Type	Ground Level	Logged By	Scale	Page Number
WS105	WS	36.94m AoD	AH	1:35	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m bgl)	(Thickness) (m)	Legend	Stratum Description
					0.10	(0.10)		Blacktop.
		0.30	ES		0.40	(0.30)		Dense [est] orange brown and beige slightly silty very gravelly fine to coarse SAND. Gravel consists of fine to coarse subrounded to angular brick, flint, concrete, sandstone and metal. (SUBBASE)
		0.60	ES		0.70	(0.30)		Dense [est] dark orange brown silty very gravelly fine to coarse SAND. Gravel consists of fine to coarse subrounded to angular brick and flint. (MADE GROUND)
		1.00	ES		1.00	(0.30)		Firm to stiff dark orange brown and black very sandy gravelly CLAY. Sand is fine to coarse. Gravel consists of fine to coarse subrounded to angular brick, flint, glass and wood. (MADE GROUND)
		1.00	SPT	50 (2,11/50 for 85mm)				End of Borehole at 1.00m

Scale: 1, 2, 3, 4, 5, 6, 7

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Service avoidance hand pit dug to 0.50m bgl. Borehole terminated at 1.00m bgl due to refusal. Monitoring well installed to 1.00m bgl with a flush cover, targeting Made Ground strata.

Windowless Sampling Borehole Log

Project Name: Thames Valley Business Park	Client: David Lloyd Leisure Ltd	Date: 02/04/2026
Location: Reading		Co-ords: E474311.08 N174279.92
Project Number: 30799		Drilling Equipment: Dart 310

Borehole Number	Hole Type	Ground Level	Logged By	Scale	Page Number
DP101 - Log	WS	36.96m AoD	AH	1:35	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m bgl)	(Thickness) (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
					0.10	(0.10)		Blacktop. (MADE GROUND)	
					0.30	(0.20)		Very dense [est] orange brown and beige slightly silty very gravelly fine to coarse SAND. Gravel consists of fine to coarse subrounded to angular brick, flint, concrete, sandstone and metal. (MADE GROUND)	
								End of Borehole at 0.30m	

1 2 3 4 5 6 7

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Position terminated at 0.30m bgl due to refusal.

Windowless Sampling Borehole Log

Project Name: Thames Valley Business Park	Client: David Lloyd Leisure Ltd	Date: 02/04/2026
Location: Reading		Co-ords: E474306.10 N174281.27
Project Number: 30799		Drilling Equipment: Dart 310

Borehole Number	Hole Type	Ground Level	Logged By	Scale	Page Number
DP102 - Log	WS	36.97m AoD	AH	1:35	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m bgl)	(Thickness) (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
					0.10	(0.10)		Blacktop. (MADE GROUND)	
					0.20	(0.10)		Very dense [est] orange brown and beige slightly silty very gravelly fine to coarse SAND. Gravel consists of fine to coarse subrounded to angular brick, flint, concrete, sandstone and metal. (MADE GROUND)	
								End of Borehole at 0.20m	

1 2 3 4 5 6 7

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Position terminated at 0.20m bgl due to refusal

Windowless Sampling Borehole Log

Project Name: Thames Valley Business Park	Client: David Lloyd Leisure Ltd	Date: 02/04/2026
Location: Reading		Co-ords: E474312.88 N174291.54
Project Number: 30799		Drilling Equipment: Dart 310

Borehole Number	Hole Type	Ground Level	Logged By	Scale	Page Number
WS106	WS	36.90m AoD	AH	1:35	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m bgl)	(Thickness) (m)	Legend	Stratum Description	Scale
					0.08	(0.08)		Block paving.	
					0.30	(0.22)		Loose grey fine to medium subangular granite GRAVEL. (SUBBASE)	
					0.60	(0.30)		Medium dense grey medium to coarse subangular limestone GRAVEL. (MADE GROUND)	
		0.80	ES		0.90	(0.30)		Geotextile membrane observed at 0.30m bgl.	
		1.30	ES					Loose orange brown and beige silty very gravelly fine to coarse SAND. Gravel consists of fine to medium subrounded to subangular flint and brick. (MADE GROUND)	1
		1.50	D			(0.75)		Geotextile membrane observed at 0.82m bgl.	
		1.70	PP	0 kPa	1.65			Loose beige slightly silty very gravelly fine to coarse SAND. Gravel consists of fine to coarse subrounded to subangular flint. (MADE GROUND)	
		1.80	ES			(0.25)		Grey medium to coarse subangular flint GRAVEL observed from 1.30m to 1.40m bgl.	
		1.80	PP	10 kPa	1.90			Recovered as damp from 1.50m bgl.	2
								Soft beige very sandy CLAY. Sand is fine to medium. (MADE GROUND)	
		2.50	D					Loose becoming very loose black slightly clayey slightly gravelly silty fine SAND. Gravel consists of fine to medium subangular clinker and possible slag. (MADE GROUND)	
		2.80	ES					Recovered as damp from 2.00m - 2.50m bgl.	3
		3.50	ES					Recovered as damp from 3.60m bgl.	
						(4.10)		Becoming very silty from 4.10m - 4.20m bgl.	4
		4.50	ES					Very soft dark grey mottled dark brown very silty very sandy CLAY observed from 4.20m - 4.68m bgl.	
								Becoming very silty from 4.60m bgl.	5
		5.50	ES						
					6.00			End of Borehole at 6.00m	6
									7

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Drilled in same position as DP103 - SPTs not carried out. Borehole remained dry and stable on completion. Monitoring well installed to 5.90m bgl with a flush cover, targeting Made Ground strata.

Windowless Sampling Borehole Log

Project Name: Thames Valley Business Park	Client: David Lloyd Leisure Ltd	Date: 02/04/2026
Location: Reading		Co-ords: E474269.93 N174238.71
Project Number: 30799		Drilling Equipment: Dart 310

Borehole Number	Hole Type	Ground Level	Logged By	Scale	Page Number
WS107	WS	37.17m AoD	FH	1:35	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m bgl)	(Thickness) (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
		0.05	ES		0.10	(0.10)		Grass over dark brown slightly clayey slightly gravelly sandy TOPSOIL with occasional roots and rootlets. Gravel consists of fine to coarse subangular to angular flint concrete and chalk fragments.	
		0.50	ES		0.60	(0.50)		Dense [est] light grey very gravelly fine to coarse SAND with a low cobble content. Gravel consists of fine to coarse subangular to angular flint, brick, concrete and chalk fragments. Cobbles are subangular concrete. (MADE GROUND)	
W		1.00	ES			(0.50)			1
		1.10	SPT	N=50 (9,10/50 for 235mm)	1.10			Very dense light brown very gravelly fine to coarse SAND with a low cobble content. Gravel consists of fine to coarse subrounded to angular flint and chalk. Cobbles are subangular flint and concrete. (MADE GROUND)	
								End of Borehole at 1.10m	2
									3
									4
									5
									6
									7

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Service avoidance hand pit dug to 1.10m bgl. Position terminated at 1.10m bgl due to hand pit and borehole refusal. Monitoring well installed to 1.10m bgl with flush cover, targeting Made Ground strata. Borehole drilled in the same location as DP104.