



Islington Wharf Phase 4, Ancoats Remediation Strategy

For Waterside Places

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1. INTRODUCTION

1.1 Background and terms of reference

In September 2020, Hydrock Consultants Limited (Hydrock) was commissioned by Waterside Places (email to Danny Hope of Hydrock on 30th September 2020) to prepare a Remediation Strategy for a site known as Islington Wharf Phase 4, located to the southeast of the Junction of Old Mill Street and Great Ancoats Street, Manchester, M4 6DN. A site location plan is presented in Appendix A (ref. IW4-HYD-XX-XX-DR-GE-0001).

Preparation of this remediation strategy follows completion of ground investigations carried out at the site by Hydrock in 2020.

The site covers approximately 0.18Ha and is vacant, recently used as a construction compound for the adjacent Islington Wharf Phases. The majority of the site is surfaced with asphalt hardstanding with some areas of exposed sub base material and relic concrete base/floors.

The proposed development, as shown on Ryder Architecture drawing (ref. IW4-RYD-00-XX-VS-A-3610), presented in Appendix A, is to comprise a mixed commercial and residential end use with associated car parking in the south west and soft landscaping at the north and east perimeter. The apartment blocks will vary in height between 16 storeys and 11 storeys high.

Planning permission Ref. 126669/FO/2020 (included in Appendix D) has been issued by Manchester City Council. Land contamination is covered by condition 7, as follows:

7) a) Before the development hereby approved commences, a report (the Preliminary Risk Assessment) to identify and evaluate all potential sources and impacts of any ground contamination, groundwater contamination and/or ground gas relevant to the site shall be submitted to and approved in writing by the City Council as local planning authority. The Preliminary Risk Assessment shall conform to City Council's current guidance document (Planning Guidance in Relation to Ground Contamination).

In the event of the Preliminary Risk Assessment identifying risks which in the written opinion of the Local Planning Authority require further investigation, the development shall not commence until a scheme for the investigation of the site and the identification of remediation measures (the Site Investigation Proposal) has been submitted to and approved in writing by the City Council as local planning authority.

The measures for investigating the site identified in the Site Investigation Proposal shall be carried out, before the development commences and a report prepared outlining what measures, if any, are required to remediate the land (the Site Investigation Report and/or Remediation Strategy) which shall be submitted to and approved in writing by the City Council as local planning authority.

7) b) When the development commences, the development shall be carried out in accordance with the previously agreed Remediation Strategy and a Completion/Verification Report shall be submitted to and approved in writing by the City Council as local planning authority.

In the event that ground contamination, groundwater contamination and/or ground gas, not previously identified, are found to be present on the site at any time before the development is occupied, then development shall cease and/or the development shall not be occupied until, a report outlining what measures, if any, are required to remediate the land (the Revised Remediation Strategy) is submitted to and approved in writing by the City Council as local planning authority and the development shall be

carried out in accordance with the Revised Remediation Strategy, which shall take precedence over any Remediation Strategy or earlier Revised Remediation Strategy.

Reason - To ensure that the presence of or the potential for any contaminated land and/or groundwater is detected and appropriate remedial action is taken in the interests of public safety, pursuant to policies DM1 and EN18 of the Core Strategy.

The Planning Decision Notice (126669/FO/2020) is included in Appendix D.

1.2 Objectives

The objective of this remediation strategy is to present details of the remedial objectives, undertake a remedial options appraisal; describe how the remediation of the site will be undertaken; and outline how the works will be validated. In addition, the strategy explains how the works will be permitted under the current regulatory regime.

The remedial works will ensure that upon completion, the ground conditions at the site can be shown to be appropriate for its intended use and that it will not pose an unacceptable contamination risk to identified receptors. This document therefore, includes the protective measures required during the enabling works and construction phases in preparing the site for a residential end use.

Careful consideration of the historic ground conditions and the implementation of sound materials management practices as part of the remediation works are critical in ensuring that the redevelopment addresses all regulatory requirements.

This is a working document and it may need to be updated, in agreement with the relevant regulatory bodies, at any stage during development dependent on the conditions encountered. This version therefore constitutes IW4-HYD-XX-XX-RP-GE-0004-S2-P01. This document is subject to the approval of the regulators.

This strategy forms part of a series of documents produced for the site and provides an overview of the site development proposals and discusses remediation procedures.

This document does not cover the geotechnical requirements for the development, which will be covered by a separate Geotechnical Design Report and Earthworks Specification.

1.3 Scope

The scope of work for this commission comprises:

- Review of risk assessment and recognition of unacceptable risks that the remediation is intended to mitigate;
- Remediation options appraisal;
- Remedial strategy implementation details;
- A consideration of Materials Management Plan issues; and
- Validation requirements.

1.4 Sources of Information

The site has been the subject of environmental investigations and assessments carried out by Hydrock. These reports are listed below.

In preparing the strategy, the following documents (and all documents referenced within) were consulted and should be read in conjunction with this report:

- Hydrock, Ground Conditions Desk Study, Islington Wharf Phase 4, October 2018, ref. IW4-HYD-XX-XX-RP-GE-0001_Desk_Study.
- Hydrock, Ground Investigation Report, Islington Wharf Phase 4, June 2020, ref. 10042-HYD-XX-XX-RP-GE-0002_S02_P03.
- Hydrock, Technical Design Note: Investigation of PAH, Arsenic and Lead impacted soils, June 2020, ref. 10042-HYD-XX-XX-RP-GE-0003.
- Hydrock, Piling Risk Assessment, Islington Wharf Phase 4, October 2020, ref. IW4-HYD-XX-XX-RP-GE-0005-S02-P01.

1.5 Limitations

Hydrock has prepared the report based on available information obtained during the project period. Although every reasonable effort has been made to gather all relevant information, all potential environmental constraints or liabilities associated with the site may not have been revealed.

The report has been prepared for the exclusive benefit of Waterside Places Ltd and those parties designated by them for the purpose of providing information on the remediation and validation works to be undertaken during the enablement and construction phase of the development. The report contents should only be used in that context. Furthermore, new information, changed practices or new legislation may necessitate revised interpretation of the report after the date of its submission.

Hydrock has used reasonable skill, care and diligence in the design of the remediation of the site. The inherent variation of ground conditions allows only definition of the actual conditions at the locations and depths of trial pits and boreholes at the time of the investigation. At intermediate locations, conditions can only be inferred. Information provided by third parties has been used in good faith and is taken at face value. However, Hydrock cannot guarantee the accuracy or completeness of any information provided by others.

2. CONCEPTUAL MODEL

2.1 Context

This section presents a summary of the conceptual model pertaining to the site which was developed in the Hydrock reports:

- Hydrock, Ground Conditions Desk Study, Islington Wharf Phase 4, October 2018, ref. IW4-HYD-XX-XX-RP-GE-0001_Desk_Study.
- Ground Investigation Report, Islington Wharf Phase 4, June 2020, ref. 10042-HYD-XX-XX-RP-GE-0002_S02_P03.
- Technical Design Note: Investigation of PAH, Arsenic and Lead impacted soils, June 2020, ref. 10042-HYD-XX-XX-RP-GE-0003.

2.2 Site Referencing and Description

The site is referenced in Table 2.1 below.

Table 2.1: Site referencing information

Item	Brief Description
Site name	Islington Wharf Phase 4
Site location and National Grid Reference	located immediately to the southeast of the Junction of Old Mill Street and Great Ancoats Street, Manchester, M4 6DN. The National Grid Reference of the approximate centre of the site is 385246,398249.
Site Description	the site was vacant, covering approximately 0.18 ha and currently comprises an area of relatively flat brownfield land. The site has recently been used as a construction compound for the adjacent Islington Wharf Phases. The majority of the site is surfaced with asphalt hardstanding with some areas of exposed sub base material and relic concrete base/floors. Local ground levels across the site vary slightly, largely depending on the presence of hardstanding areas. The site falls towards the west, from a high point of 51.11m OD in the east to a low point of 46.10m OD in the west.

2.3 Site History

From 1851 the site was completely covered by buildings and associated yards comprising a public house, a timber yard, a smithy and a number of houses. The east of the site was occupied by a building and yard associated with Moore's cotton mill, which extended off-site towards the north and east, with houses in the southeast of the site.

By 1889 the timber yard and smithy in the west had gone, and Moore's mill had been demolished and replaced with a school, with buildings and playgrounds forming the eastern part of the site. Some of the buildings present in 1938 in the north western part of the site had disappeared in the 1948 maps, indicating possible damage from German bombing.

The school in the east of the site had been demolished by 1985, with the east of the site being left as open ground. The remaining buildings occupying the site had been completely cleared by 1987, and the site left vacant until 2017 when it was used as a construction compound.

2.4 Unexploded Ordnance

A UXO desk study indicates the site to be a medium risk from UXO with a requirement for mitigation measures during any earthworks. Details of mitigation measures are provided in the UXO report (EOD

Contracts, Reference: 20124). This report is appended to the Hydrock ground investigation report and can be made available on request.

The following mitigation measures are required:

- Specific procedures, training, briefings and permitting is required for all excavation works. These are to comprise:
 - » UXO safety awareness training of site personnel and project staff.
 - » Awareness training by a competent person as part of the project safety induction.
 - » Specific safety briefings and toolbox talks to individuals involved in conducting intrusive earthworks.
 - » UXO recognition and safety procedures to be written and followed on discovery of a suspicious object or the alarm being sounded.
 - » Emergency procedures to be followed in the event of an explosion. This should include evacuation routes, muster stations and accounting for personnel.
 - » Work permits, works methodology and specific UXO risk mitigation methods are to be written and followed.
 - » Post-incident inspections and returning to normal works procedures will need to be written.

Prior to any intrusive piling or drilling commencing, UXO safety testing and appropriate clearance certification to sufficient depth into the ground to provide clearance from UXO is required.

2.5 Geology and Physical Ground Conditions

The Hydrock 2020 ground investigations proved the following ground conditions:

- Made Ground – between 1.2 and 4.0m below ground level (bgl), comprising clayey gravel and cobbles and sandy gravel and cobbles with brick, concrete, metal and plastic fragments.
- Upper cohesive Glacial Till – underlying the Made Ground proven to depths between 15.0m and 17.0m bgl. Comprising firm becoming stiff brown slightly silty gravelly clay.
- Lower granular Glacial Till – underlying the cohesive Glacial Till and proven to 21.6 and 26.0m bgl. The base of this strata is unproven. Comprising very dense sand and gravels with low to medium cobble content.

2.6 Mining

The site is considered to be at low risk from historic underground coal extraction.

2.7 Hydrology

The nearest surface water bodies are canals, located 50m and 70m away, and an unnamed river located 240m away. The River Medlock is located 465m to the southwest of the site.

The site is not within a groundwater Source Protection Zone (SPZ) and there are no active, licensed groundwater abstractions within 1km of the site.

2.8 Hydrogeology

The Made Ground is classified by the Environment Agency as Unproductive Strata. The Glacial Till is classified as being a Secondary (undifferentiated) aquifer, and the Chester Formation is a Principal aquifer.

The Hydrock 2020 ground investigations proved the following groundwater conditions:

- Groundwater was encountered at depths between 3.1m bgl and 11.5m bgl during the investigation.
- Water levels recorded post-fieldwork ranged from 1.23m bgl to 21.55m.
- There is shallow groundwater in the Made Ground and cohesive Glacial Till. A deeper groundwater unit is present at approximately 21m below ground level (bgl) within lower granular Glacial Till.

2.9 Waste Management and Hazardous Substances

There are no recorded landfill sites within 250m of the site.

There are no potentially significant contaminative land uses in the vicinity of the site.

2.10 Radon

The site is not within a radon affected area (less than 1% of homes are at or above the action level). Therefore, no radon protection measures are required in new buildings constructed at the site.

2.11 Presence of Invasive Species

No invasive species were noted during the site walkovers or site investigation works undertaken by Hydrock. However, this may need to be confirmed by an ecological consultant.

3. RISK ASSESSMENT REVIEW

3.1 Introduction

This section summarises the risk assessment findings from the ground investigations carried out at the site.

3.2 Human Health Risks

3.2.1 Soil Contamination

Based on the results of the investigations and risk assessments, the following contaminants in soils are identified as representative of the contamination present posing a risk to end users of the site:

- Significantly elevated concentrations of localised PAH, in the Made Ground.
- Significantly elevated concentrations of localised Arsenic and Lead in the Made Ground at TP02 and TP106-TP108.
- Asbestos fibres (<0.001%v/v of chrysotile) detected in the Made Ground at three locations (BH02, TP03 and TP01) and one asbestos cement fragment identified in TP05.
- Elevated concentrations of petroleum hydrocarbons Aliphatic 12-16 and Aromatics >EC21-EC35 at BH02.

3.2.2 Controlled Waters

Elevated concentrations of metals, inorganics, PAH and petroleum hydrocarbons have been identified in the perched groundwater at BH02. The shallow Made Ground potentially poses a risk to the underlying Secondary A (Glacial Till) and Principal Aquifers (Chester Formation) by creating a temporary pathway during piling work.

The Piling Risk Assessment carried out by Hydrock, has identified that there is no evidence of any free phase hydrocarbons being present at BH02, which presents a low possibility of an additional pathway being created. on this basis Hydrock consider the risk from perched groundwater to the underlying aquifers to be low during piling works. No further mitigation is required.

3.3 Ground Gas Risks

There is a low risk from ground gases and CS1 conditions apply.

3.4 Water Supply Pipelines

The localised presence of some aliphatic and aromatic petroleum hydrocarbon fractions may pose a risk to drinking water supply pipelines, and barrier pipes may be required, subject to discussions with the water supply provider.

3.5 Invasive Species

No invasive species were identified within the site boundaries during the site walkover and site investigation undertaken by Hydrock. However, the presence of invasive species cannot be fully discounted and it is recorded a survey is carried out by an ecological consultant.

3.6 Summary

A summary of the geo-environmental risk assessment findings and outcomes is presented in Table 3.2.

Table 3.1: Final Conceptual Model and Residual Risks Following Risk Evaluation

Contaminant Linkage				Comments	
Pollutant Linkage	Sources	Pathways	Receptors	General	Mitigation
PL 1.	Significantly elevated concentrations of PAH in the Made Ground.	Ingestion or direct contact.	Human health.	The additional trial pitting established the presence of impacted material in the north east of the site, in significant exceedance of the GAC.	The proposed development will see the introduction of hard standing across the majority of the site footprint. Acting as a barrier between the Made Ground and end user to sever the pathway between source and receptor.
		Temporary Vertical Migration through the superficial deposits during piling works.	Controlled water of the Secondary A Aquifer (Glacial Till) and Principal Aquifer (Sandstone).		The piling risk assessment has identified low risk to the underlying aquifers during piling operations. However, due to the significant PAH concentrations, hotspot removal is required as a matter of betterment of site soils.
PL 2.	Significantly elevated concentrations of arsenic and lead in the Made Ground.	Ingestion or direct contact.	Human health.	The additional trial pitting established the presence of impacted material north east corner of the proposed building, in significant exceedance of the GAC.	The proposed development will see the introduction of hard standing across the majority of the site footprint. Acting as a barrier between the Made Ground and end user to sever the pathway between source and receptor.
		Temporary Vertical Migration through the superficial deposits during piling works.	Controlled water of the Secondary A Aquifer (Glacial Till) and Principal Aquifer (Sandstone).		The piling risk assessment has identified low risk to the underlying aquifers during piling operations. However, due to the significant arsenic and lead concentrations, hotspot removal is

Contaminant Linkage				Comments	
Pollutant Linkage	Sources	Pathways	Receptors	General	Mitigation
					required as a matter of betterment of site soils.
PL 3.	Asbestos fibres in the Made Ground at BH02, TP03 and TP01 and one asbestos cement fragment at TP05.	Inhalation	Human health.	Loose Fibres identified in WS02 at concentration of <0.001% and ACM is hard cement bound material.	The proposed development will see the introduction of hard standing across the majority of the site footprint. Acting as a barrier between the Made Ground and end user to sever the pathway between source and receptor. The proposed strip of soft landscaping along the western perimeter will require a cover system.
PL 4.	Elevated concentrations of petroleum hydrocarbons at BH02.	Ingestion or direct contact.	Human health.	Exceedance of the GAC.	Located in the area of proposed soft landscaping. A cover system is required in areas of soft landscaping.
PL 5.	Elevated concentrations of metals, inorganics, PAH and petroleum hydrocarbons in the perched groundwater at BH02.	Temporary Vertical Migration through the superficial deposits during piling works.	Controlled water of the Secondary A Aquifer (Glacial Till) and Principal Aquifer (Sandstone).	Significant Exceedance of the EQS.	There is no evidence of any free phase hydrocarbons being present at BH02, therefore there is a low possibility of an additional pathway being created. The risk to underlying aquifers during piling works is low. No further mitigation is required.

4. REMEDIATION OPTIONS APPRAISAL

4.1 Introduction

This options appraisal has been undertaken in accordance with Land Contamination: Risk Management (Environment Agency, 2020). There are four main stages to this Appraisal.

1. Identifying key risk drivers.
2. Identifying feasible remediation options to identify the most appropriate option for any particular linkage.
3. Carrying out a detailed evaluation of feasible remediation options to identify the most appropriate option for any particular linkage.
4. Producing a remediation strategy that addresses all relevant pollutant linkages, where appropriate by combining remediation options.

The preliminary ground model of the site is the basis of the understanding of the ground conditions that will inform the geo-environmental exposure model and the geotechnical hazard assessment.

4.2 Key Risk Drivers

The key risk drivers for human health are:

- Asbestos fibres and asbestos containing material (ACM) in the Made Ground
- Significantly elevated concentrations of arsenic, lead and PAH in the Made Ground; and
- Elevated concentrations of petroleum hydrocarbons in the Made Ground at BH02.

4.3 Remediation Options and Evaluation of feasibility

4.3.1 Remediation Objectives

The objectives of the remediation works will be as follows:

1. to break the linkage between the contamination in soils and future site users (including users of neighbouring properties);
2. to create a geotechnically suitable development platform (subject to a fixed masterplan and detailed design requirements);
3. to import a suitable growing medium for landscaping and planting (if required);
4. to minimise the impact of the off-site disposal requirement;
5. to not create a new contaminant pathway to groundwater via the proposed foundation solution (addressed within the piling risk assessment).

4.3.2 Screening

An initial screening process is required to consider the available remedial techniques based on the following key criteria:

- Effectiveness. The strategy must be effective in the removal of contamination linkages.

- Practicality. The strategy has to have been successfully used in similar situations and be readily available within the UK market. Novel solutions or those still in the research stage are not considered here.
- Durability. The strategy needs to be durable and not reliant on ongoing maintenance to continue being effective.
- Relative Cost. The strategy must not be excessive in terms of cost.
- Relative Operational Time: The strategy should work in a feasible and realistic time scale.
- Sustainability. More sustainable options are preferred.

Table 4.1 below summarises all of the accepted remedial techniques readily available in the UK and assess each against the six key parameters listed above. The issues that require remediation are split into ground stability issues and contamination risk.

In the first instance, the feasibility of each of the listed remedial option is assessed in terms of effectiveness at treating the contamination, which is broken down into; effective (Y), partially effective (P) or ineffective (N).

The listed techniques are then assessed in terms of relative cost ranging from negligible cost (£) through moderately expensive (££) to prohibitively expensive (£££+).

Timescale over which the remediation technique is operational has been broadly assessed in units of weeks, months, years and decades. If for example a given technique is only effective over a period in the order of years to decades, then its overall feasibility is diminished.

Previous site experience, technical literature and Hydrock's in-house knowledge have been used to reject unsuitable remediation options. The primary reasons for rejection of an option are due to the ongoing operational constraints, the cost and the inability to treat all the required contaminants present. In some instances, there may be a number of treatment options identified with the best practicable option unable to be determined at this stage. In these instances, all potential remedial options are carried forward.

It should be noted that with regards to asbestos in buildings and potable water pipelines, these are not discussed in the Remediation Options Assessment as they are mitigated by prescriptive measures identified by British Standards and good practice which will be the responsibility of the incoming main contractor.

Table 4.1: Applicability of Remediation Options and Initial Assessment

Remedial Activity	Effective for Pollutant Linkage/ Issue	Relative Cost	Relative Operational Time	Comments (Practicality / Sustainability / Durability)	Feasibility (Y- Yes, N – no)
Civil Engineering Methods					
Cover System	PL1 PL2 PL3 PL4	££	Weeks	In areas of proposed soft landscaping a cover system will prevent contact between future site users and deeper soils and break the S-P-R linkage.	Y – in conjunction with other technologies. Any visible ACM present at formation level should be removed.
Introduction of hardstanding cover across the majority of the site footprint	PL1 PL2 PL3 PL4	-	-	Although not necessarily defined as a remediation activity, the site's redevelopment will see the introduction of hardstanding across the majority of the site footprint. Similar to a cover system the hardstanding will break any linkage between underlying soils and the end user.	Y – in conjunction with treatment of specific hotspots.
Excavation and disposal of all soils (may also involve pre-treatment by screening and sorting).	PL1 PL2 PL3 PL4	£££+	Weeks	Will effectively remove the source of the contamination. However, is less sustainable and more expensive compared to other feasible options. However, localised excavation and disposal of known areas of impacted Made Ground is likely to be a viable approach. Disposal to be minimised as much as possible by re-use of appropriate soils.	Y/N – not considered feasible to remove all contaminated soils from site. Targeted removal in conjunction with other approaches may be appropriate.
Materials Management (Excavation processing/treatment and Re-Use of Suitable Materials)	PL1 PL2 PL3 PL4	££	Weeks	Will effectively remove the source of the contamination and place it below the cover system or areas of hardstanding. Would need to be undertaken in accordance with a materials management plan (MMP).	Y – in conjunction with other technologies. Any ACM present should be dealt with in accordance with CAR 2012.
Chemical Methods					
Not applicable to soils in this instance					
Physical Methods - Soils					
Excavation of contaminated soils and Soil Washing	PL1 PL2 PL4	£££+	Months	Treat process streams (water, sediment) and route to appropriate off-site disposal, as required. Will potentially result in a significant proportion of soils which are geotechnically unsuitable without extensive treatment.	N – due to the creation of geotechnically unsuitable soils, which would require disposal.
Solidification/stabilisation	PL1 PL2 PL4	££	Weeks	Common method for the safe environmental remediation of contaminated land with cement. The cement solidifies the contaminated soil and prevents pollutants from migrating to potentially sensitive receptors. This can be combined with methods to improve the soil strength profile of a material.	Y– may be applicable with geotechnical ground improvement
Hand Picking of Asbestos Containing Material	PL1	££	Weeks	Hand picking visible ACM fragments using trained operatives during excavation works to be undertaken in accordance with CAR 2012.	Y– in conjunction with other technologies

4.3.3 Viable Remedial Options

As described above, certain technologies were rejected on the basis of ineffectiveness, excessive cost, sustainability, or those which are required to operate in timescales of years or greater. The short-list of options presented below in Table 4.2 represents those technologies which have been selected to treat the pollutant linkages identified in Section 3.6.

Table 4.2: Remedial approaches

Remedial Approach - Pollutant Linkage	Pollution Linkages Treated
The Introduction of hardstanding cover across the majority of the site footprint, which will sever the linkage between the source and the end user.	PL1, PL2, PL3, PL4
Materials management, comprising excavation, screening (including ACM hand picking), and re-use of suitable soils / off-site disposal of unsuitable soils in accordance with an approved MMP and utilising a cover system in areas of soft-landscaping.	PL1, PL2, PL3, PL4

5. REMEDIAL STRATEGY IMPLEMENTATION

The ground investigation rationale based on the findings of the preliminary risk assessment is summarised in Table 4.1.

Remediation will be undertaken such that the site is suitable for its proposed residential without plant uptake end use.

The required standard of remediation will be achieved through a variety of techniques as outlined in the following sections.

The implementation of the remediation strategy will be in accordance with documented quality assurance procedures. These will include the following:

- Detailed Remediation Strategy – This sets out the requirements for gathering data to demonstrate the effectiveness of the remediation in terms of meeting the remediation objectives. These are detailed in the following sections of this report.
- Verification Report - this will provide a complete record of the remediation activities undertaken at the site and the data collected as part of the verification plan to support compliance with remediation objectives and criteria. It will also include descriptions of the works with associated 'as built' drawings and details of any unforeseen conditions encountered during the works and how they were dealt with.

In addition to the above, the contractor (for all phases of works) will be required to secure all necessary permits and licences to allow remediation to be undertaken and prepare appropriate health and safety risk assessments and method statements.

5.1 Areas Requiring Remediation

The exploratory works completed to date indicate the presence of loose asbestos fibres, one occurrence of ACM, a hotspot of elevated petroleum hydrocarbons, and localised, significantly elevated concentrations of arsenic, lead and PAHs in the Made Ground. There remains the potential for sporadic occurrences of fragments of ACM throughout the Made Ground, which largely comprises demolition rubble in a gravel, cobbly or sandy matrix.

Due to the nature of asbestos contamination on sites where demolition works have taken place, it has to be assumed that all of the Made Ground at the site may have been impacted, and therefore the whole site will require remediation to break the pollutant linkage between the asbestos-contaminated soils and the site end users.

A remediation zonation plan is provided in Appendix A (ref. 10042-HYD-XX-XX-DR-GE-0009).

5.2 Summary of Remediation Proposals

Based upon the findings of the ground investigations and the remediation options appraisal presented in Section 4, the following works will be undertaken to create a site which is suitable for its proposed end use.

It should be noted that if soils are to be re-used on site, works will need to be completed in accordance with the 'CL:AIRE Definition of Waste Development Industry Code of Practice, 2nd Edition'. The supervising consultant or enabling works contractor will need to write an appropriate materials management plan (MMP) and provide a 'Qualified Person' (QP) declaration.

It should also be noted that the remediation works will aim to maximise the re-use of soils on site and minimise off-site disposal, whilst recognising the end goals of the various specifications.

The following remedial activities will be undertaken to ensure the site is suitable for use (SFU) for the defined residential without plant uptake end use. Sequencing has not yet been confirmed by the Contractor, though would normally be split into an enabling phase and a construction phase.

- Task 1: Project setup and management, including liaison with the Local Authority, Environment Agency and Health and Safety Executive, where necessary, with appropriate permits / licences / consents / approvals granted.
- Task 2: Appointment of contractors.
- Task 3: Pre-works air quality boundary monitoring for dust and asbestos, before earthworks commence and during the earthworks.
- Task 4: Break out of any areas of relict hardstanding, below ground obstructions and old drainage systems, processing of the arisings for re-use and inspection.
- Task 5: Earthworks (including hotspot removal).
- Task 6: Stockpile testing and re-use on-site or disposal off-site of excess soils to appropriate waste management facilities.
- Task 7: Placement of Service Corridor.
- Task 8: Installation of a cover system for landscaping areas.
- Task 9: Supervision, Verification and Reporting.

The Principal Contractor will be responsible for ensuring all working areas are cleared of public utilities or infrastructure and for preventing damage to these services and infrastructure.

Specialist asbestos remediation works (if required) are to be overseen by a suitably qualified consultant to undertake the necessary verification works.

To enable the discharge of envisaged planning conditions, the Earthworks Contractor shall provide all the information detailed in this remediation strategy and any further information for the Verification Report.

All works need to be undertaken in accordance with the Remediation Strategy outlined in this document, structural designs and any approved MMP.

All remediation works are to be overseen by suitably experienced site staff, and a site watching brief or periodic visits will be made by suitably qualified persons to undertake the necessary verification works described.

5.3 Task 1: Project Setup

Prior to commencement of site activities, detailed planning of the project should be undertaken including liaison with the stakeholders and will include issue of this report along with copies of previous environmental reports regarding the Site to the Local Authority and (if required), Building Control for comment.

The project will be notifiable, and will be undertaken, under the Construction, Design and Management (CDM) Regulations (2015).

It is the Principal Contractor's responsibility to decide, based on the information presented, whether the works required (both demolition and earthworks) are notifiable and/or require the assistance of a 'Licensed Asbestos Removal Contractor' with respect to the Control of Asbestos Regulations (CAR) 2012 and the associated industry guidance, CAR-SOIL™ (Interpretation for Managing and Working with Asbestos in Soils and Construction and Demolition Materials – 2016).

5.4 Task 2: Contractor Appointment

The Principal Contractor must manage the risks in accordance with the requirements outlined in this document and will need to prepare appropriate health and safety documentation and obtain appropriate approvals, licences, consents and permits prior to commencement.

The Principal Contractor will be responsible for implementing any MMP for the site developed by a suitably qualified and experienced consultant.

5.5 Task 3: Air Quality Boundary Monitoring for Asbestos and Dust

Loose asbestos fibres and one occurrence of ACM have been recorded in the Made Ground during the ground investigations carried out at the site. Consequently, boundary air quality monitoring will be needed to be undertaken before site works commence to establish baseline conditions, to include airborne asbestos fibres. This monitoring should also occur on at least two occasions during earthworks to determine if during the works there is evidence of an increase in the release of asbestos fibres to the air / surface soils.

Boundary air monitoring results during works shall be compared with acceptable maximum standards set by the HSE. For asbestos these air monitoring procedures and limits are given in HSG 248 entitled "Asbestos: The analysts' guide for sampling, analysis and clearance procedures" and CAR 2012. The limit used is governed by the levels stated in the above guidance documents and the accuracy of the testing used.

However for asbestos, Hydrock recommend using the most stringent limit set by the HSE. Asbestos air monitoring results are acceptable only if they fall below this limit and are as low as reasonably practical (<0.01f/ml). Exposure from work activities involving asbestos must be reduced to as far below the control limit as possible, personal monitoring results should be within the a 'Assigned Protection Factor' (APF) of any RPE in use.

5.6 Task 4: Break out of hardstanding and below ground obstructions, processing for re-use and inspection

The enabling works contractor shall demolish, break up and remove all below ground structures. These include, but are not limited to slabs, pits, drains, hardstanding, foundations, relic structures, service ducts, underground storage tanks and basements etc.

All broken up materials shall be segregated and stockpiled within the approved working area of the site. Material shall be stockpiled at locations to be agreed with the Client and after submission of the detailed method statements.

The contractor shall inform the consultant after each area is exposed so that they may attend and witness the excavation. The contractor shall survey to Ordnance Survey Grid (using Total Station survey equipment) the base and sides of all excavations and will provide a composite base of excavation drawing for reference during the works, and as built records.

During the excavation of any slabs etc. the contractor will undertake additional visual investigation, with any additional plausible source-pathway receptor linkages identified (hotspots/tanks/drainage runs etc) to be added to the remedial requirements.

The contractor shall provide adequate protection against collapse of the excavations and suitable groundwater control measures shall be put in place until the voids are backfilled to a suitable geotechnical specification.

The contractor shall ensure that, where structures or services cross the site boundary and are to remain, the risk of any future contamination entering or leaving the site area through these pathways is negligible. The contractor shall state his methodology for ensuring this requirement.

5.7 Task 5: Earthworks

5.7.1 General

Excavated materials will be stockpiled and tested to determine their fate (on-site re-use or off-site disposal) in accordance with a Materials Tracking System which the contractor will be required to formulate.

The Principal and Main Contractor will manage all works in accordance with relevant legislation.

Any areas of unexpected contamination encountered during the earthworks should be dealt with in line with the Discovery Strategy at Appendix C.

5.7.2 Hotspot Removal – Excavation of Arsenic, Lead and PAH impacted material

There are known areas of Made Ground that require remediation by excavation, which is addressed in the following sections.

Arsenic and Lead

As previously outlined in Hydrock Technical Design Note 'Investigation of PAH, Arsenic and Lead impacted soils' (ref. 10042-HYD-XX-XX-RP-GE-0003), it was identified that the presence of arsenic and lead at significant concentrations in the Made Ground at TP106-TP108 has the potential to present a plausible risk during piling work to the underlying Secondary (undifferentiated) Aquifer.

The Piling Risk Assessment has now been completed by Hydrock (ref. IW4-HYD-XX-XX-RP-GE-0005) which has identified that the use of piles (driven, CFA or CHD) at the site will not create additional risks to human health via direct contact or to the Secondary A aquifer of the Glacial Till or Principal Aquifer of the Chester Sandstone Formation.

The proposed footprint of the new building is in the north and west of the site, with the arsenic and lead impacted Made Ground present beneath the north east corner of the proposed building, shown on zonation plan 10042-HYD-XX-XX-DR-GE-0007 provided in Appendix A.

Although it has now been identified the risk is low of additional pathways being created to human health (via direct contact) or to the underlying aquifers by piling operations, it is recommended that the arsenic and lead hotspot is removed. Due to the significantly elevated concentrations of arsenic and lead within the hotspot it is considered good practice to remove this material as a matter of betterment of site soils. It is recommended the Made Ground at TP107 is excavated to 2.40m bgl. (the depth of impacted material), and the Made Ground at TP106 and TP108 is excavated to 1.50m bgl. It is recommended the material excavated from the hotspot is either disposed of off-site and replaced with

chemically and geotechnically suitable fill or moved to an area of the site where no piling work is undertaken.

The area of hot spot required for excavation at TP107 is 17.61m² and 2.40m depth, equalling a volume of approximately 42m³ of excavated material. The area of hot spot required for excavation at TP106 and TP108 is 34.19m² and 1.50m depth, equalling a volume of approximately 50m³ of excavated material. For the hot spot excavation locations refer to drawing 10042-HYD-XX-XX-DR-GE-0008 provided in Appendix A.

Further details of the excavation requirements and wider site earthworks for the development are to be confirmed in a Materials Management Plan for the approval of the local authority and Environment Agency.

Polycyclic aromatic hydrocarbons (PAH)

As previously outlined in Hydrock Technical Design Note 'Investigation of PAH, Arsenic and Lead impacted soils' (ref. 10042-HYD-XX-XX-RP-GE-0003) it was identified that the presence of PAH at significant concentrations in the Made Ground at TP101, TP102 and TP103 has the potential to present a plausible risk during piling work to the underlying Secondary (undifferentiated) Aquifer.

The Piling Risk Assessment has now been completed by Hydrock (ref. IW4-HYD-XX-XX-RP-GE-0005) which has identified that the use of piles (driven, CFA or CHD) at the site will not create additional risks to human health via direct contact or to the Secondary A aquifer of the Glacial Till or Principal Aquifer of the Chester Sandstone Formation.

The proposed footprint of the new building is in the north and west of the site, with the PAH impacted Made Ground only slightly encroaching beneath the proposed building, shown on zonation plan 10042-HYD-XX-XX-DR-GE-0007 provided in Appendix A.

As above, although it has now been identified the risk is low of additional pathways being created to human health (via direct contact) or to the underlying aquifers by piling operations, it is recommended that the PAH hotspot is removed. Due to the significantly elevated concentrations of PAHs within the hotspot it is considered good practice to remove this material as a matter of betterment of site soils.

It is recommended the Made Ground at TP103 is excavated to 2.70m bgl (the depth of impacted material). It is recommended the material excavated from the hotspot is either disposed of off-site and replaced with chemically and geotechnically suitable fill or moved to an area of the site where no piling work is undertaken.

The area of hot spot required for excavation is 7.06m² and 2.70m depth, equalling a volume of approximately 19m³ of excavated material. For the hot spot excavation location refer to drawing 10042-HYD-XX-XX-DR-GE-0008 provided in Appendix A.

Further details of the excavation requirements and wider site earthworks for the development are to be confirmed in a Materials Management Plan reviewed by an independent Qualified Person and declared with CL:AIRE (see Section 7.0 for further details).

5.7.3 *Control of Risk from Dust Emissions*

Dust Suppression

To reduce the potential for the generation of dust, it is recommended that double handling of soils is kept to a minimum and soils are disposed of by direct transfer to wagons and measures to minimise dust (e.g. wind or plant / vehicle movements) should be undertaken.

Appropriate risk assessment and mitigation measures should be in place throughout the development. As a minimum, this should include damping down of the site surface, excavations and stockpiles to prevent the generation of dust, additional measures may include:

- stockpiles (if any are created) should be kept to a minimum to reduce 'wind whip' causing potentially hazardous material to be blown from the pile;
- air quality and dust monitoring stations will be set up and monitored by the contractor to record the dust concentrations during the works;
- stockpiles shall be placed on a suitable and robust polythene membrane or hardstanding to prevent any cross contamination;
- care should be taken not to pierce the sheeting when placing the bulky elements of the material;
- stockpiles should be dampened down or covered to prevent dust - whilst the Contractor, based on site constraints, should make the final choice, the options may include covering with plastic/polythene membrane, or by a layer of clean soil material;
- plant will be appropriately loaded to prevent spillages;
- the drop distance from excavator bucket to stockpile/process plant will be kept as short as reasonably practicable to reduce dust; and
- appropriate signage should be displayed so that site workers/visitors are alerted to the potential hazards associated with the material to be stored on site, and roadways within the site will be kept moist by spraying from a water bowser.

5.7.4 *Vehicle Movements*

Risks associated with the transport of soils that potentially contain asbestos fibres, such as dust emission, should be appropriately managed.

The works could create mud from vehicle movements and subsequent tracking off site on vehicle tyres. This will be managed during the works to prevent off site mud transfer. Measures to control these issues may include the provision of a wheel wash facility and when necessary a mechanical road sweeper to further ensure that the road is kept clean.

5.7.5 *Personal Monitoring*

As a matter of good practice, construction workers and services personnel should follow guidance stated in 'HSG 66 Protection of Workers and the General Public during Redevelopment of Contaminated Land' during development works. Adequate standard personal protective equipment and the implementation of basic hygiene measures will be necessary.

Ground workers and sub-surface maintenance workers should be made aware of the possibility of encountering contaminants within soils or groundwater at the site through 'toolbox' talks.

Safe working procedures should be implemented in accordance with CIRIA132, good standards of personal hygiene should be observed, and appropriate levels of PPE provided and utilised.

Eating, drinking and smoking should be strictly prohibited in the development site other than in designated mess areas.

Groundworkers are to have appropriate personal UKAS accredited air monitoring to monitor for the presence of airborne asbestos fibres, along with access to a combination of suitable personal protective equipment (PPE) and respiratory protective equipment (RPE) for immediate use if required.

Should elevated levels of airborne asbestos fibres be recorded during personal monitoring, the work item or area shall be suspended and the area affected will be declared a total exclusion zone, the perimeter of which being 3m beyond the limit of the asbestos. A further 3m safety zone shall be established and clearly marked. The Principal Contractor Site Manager shall be immediately informed, who will consider if further mitigation measures are necessary, e.g. whether materials need to be further covered. The Site Manager will inform the client and the EHO within 24 hours of the encountering suspected asbestos materials / the airborne asbestos fibres recorded and agree measures necessary.

5.7.6 *Earthworks – Asbestos Implications*

All works should be undertaken in accordance with CAR 2012, with a watching brief by suitably trained personnel during any excavation works.

If gross asbestos is encountered during excavations, works should stop in this area and the area cordoned off to prevent access. Asbestos containing materials (ACM) should be hand-picked and disposed of off-site to a suitably licenced facility by suitably qualified personnel and waste carrier. A suitably qualified consultant should be contacted and additional testing and risk assessment works may be required to determine suitability for re-use or disposal of the surrounding excavated materials.

5.8 Task 6: Testing of stockpiled soils and on-site re-use or off-site disposal

5.8.1 *Earthworks Re-use Criteria*

Generic

Following excavation, suitable soils are to be placed in accordance with a geotechnical specification and all works are to be undertaken in accordance with the remediation strategy.

Re-use of soils is allowed and will need to be undertaken in accordance with the Contaminated Land: Applications In Real Environments (CL:AIRE) document: 'The Definition of Waste: Development Industry Code of Practice' (Version 2) (CoP), dated March 2011.

The supervising consultant or enabling works contractor is responsible for producing a MMP signed off by a QP. For further details with regards to materials management, please refer to section 7.0.

Testing

All treated materials re-used on site shall be tested and assessed prior to the re-use. Any unsuitable materials shall be removed from site in accordance with this remediation strategy.

All testing during the enabling works shall be undertaken by the enabling works contractor and all sampling, logging and testing of soils shall be undertaken in accordance with BS 5930:2015 'Code of

Practice for Site Investigations’ and BS 10175+A2:2017 ‘Investigation of Potentially Contaminated Sites – Code of Practice’.

The contractor shall undertake all testing at a laboratory which holds UKAS and MCERTS accreditation for the specific tests.

Remediation Target Values / Re-use Criteria

All soils to be re-used on site below the cover system or areas of hardstanding/buildings will not need additional testing but will require the following criteria to be met:

- no visual contamination (oil staining etc.);
- limited deleterious material (organics, wood, metal etc.), in accordance with any geotechnical specification;
- no visible asbestos containing material (ACM).

Soils to be re-used as part of the cover system will need to be tested at a rate of 1 sample per 50m³ and comply with the import/re-use criteria as detailed in Section 6.

If any of these thresholds are exceeded the material shall be considered to be unsuitable unless treatment, further testing and risk assessment shows it to be satisfactory.

5.8.2 Off-site disposal of Waste Material

Any material excavated on site may be classified as waste and it is the responsibility of the holders of a material to form their own view on whether or not it is waste. This includes determining when waste that has been treated in some way it can cease to be classed as waste for a particular purpose. All arisings should be regarded as contaminated unless proven otherwise.

Any Made Ground to be removed from site are to be removed to a licensed waste management facility. The waste is to be taken by a registered waste carrier in accordance with applicable Waste Management Regulations.

Waste consignment / transfer notices will be required and are to be retained by the Contractor. Copies of all waste consignment / transfer notices are to be provided for inclusion in the Validation Report.

Any soils deemed hazardous waste for whatever reason will require representative samples to be collected and chemical analysis for Waste Classification and Waste Acceptance Criteria (WAC) testing prior to acceptance of the waste at a licensed hazardous waste landfill.

5.9 Task 7: Placement of Service Corridor

Due to contamination within the Made Ground, the installation of any services should be installed as detailed below in this section.

To protect future maintenance workers, all service trenches which are to be excavated below the enablement works formation level are to be over-excavated 300mm either side and 300mm below the edge of the service being installed.

Once over excavation of service trenches has occurred, Protectaline (or similar) pipework is likely to be required for water supply pipework and the requirements of the water supply company should be sought before earthworks commence. Evidence must be provided that this has been installed in the validation reports.

5.10 Task 8: Installation of cover system in landscaped areas

At the time of writing a strip of soft landscaping is proposed along the site's western perimeter. The proposed cover system will consist of:

- 150mm of clean topsoil; over
- 300mm of clean subsoil; over
- a geomembrane.

Where the affected soils underlie buildings or other areas of hardstanding no further remedial works will be required as the presence of the hardstanding will prevent the site users from coming into contact with the contaminated soils, breaking the pollutant linkage.

5.11 Task 9: Supervision, Verification and Reporting

5.11.1 Site Supervision

A suitably qualified and experienced geo-environmental engineer will oversee the works on a part-time basis. It is recommended a geo-environmental engineer will attend site one day per week and full-time during the hotspot removal work.

To enable the discharge of future planning conditions, the Contractor will be required to provide all the information detailed in this remediation strategy and any further information requested for the Verification Report.

5.11.2 Collection of Samples

All samples will be taken in accordance with relevant guidance (e.g. BS 10175+A2:2017). Soils for inorganic analysis will be sealed in airtight polythene tubs. Soils for organic analysis will be sealed in amber glass jars with the minimal practicable headspace.

All samples were scheduled on chain of custody forms prior to being dispatched to the UKAS accredited laboratory for analysis.

The geo-environmental engineer will need to be suitably trained in taking samples for verification activities, including those specifically relating to asbestos.

Stockpile Verification

The Contractor shall work to ensure the following.

The Contractor shall identify all stockpiles with clear signage. Each stockpile of material should be given a clear reference number and designated sheet recording the following:

- Identification reference (e.g. Stockpile A, B, C etc.).
- Material Type (e.g. Made Ground / natural).
- Source area.
- The approximate volume.
- Destination of the material to be used

Each entry shall be signed and dated by the Site Manager or their Assistant. A template form is provided in Appendix B. Other templates or documentation may be used.

A Stockpile / Soil Tracker Sheet shall record where excavated materials originated from and destination used or disposed off-site.

These sheets should be available for inspection by the Engineer, Local Authority staff and others involved with this development. A copy should also be given to the Engineer when verification visits are made.

5.11.3 Verification

Verification shall comprise:

- records of materials management and treatment;
- verification of the suitability of imported soils; and
- verification of the cover system in areas of landscaping.

In landscaping areas, verification pits shall be excavated in order to measure the thickness of topsoil and subsoil, where required.

If the cover system is deemed to be insufficient, the Site Manager will be informed and advised on how much more material is needed for the capping to be adequate. In instances where the cover system is measured to be inadequate, following the addition of soils, the verification pits will be re-excavated to confirm that a sufficient thickness of soils is present.

On completion of the verification works the appropriate verification documentation, detailing the works that have been completed in accordance with the agreed Implementation Plan, will be forwarded to the client and the local authority.

The verification report is to include:

- confirmation of the source of imported material;
- Records of excavations, including:
 - » Ordnance Datum survey of extents and depth (including a final composite base of excavation drawing);
 - » Ordnance Datum survey of extents and depth of any residual features;
 - » record of decisions for over-excavation;
 - » photographic record of each excavation; and
 - » records of inspection and final extents of validation.
 - » the chemical test results for the samples taken from the imported soils and treated materials;
 - » confirmation of the capping thicknesses, including photographs of the verification pits with a scaled marker; and
 - » confirmation of the physical suitability of the material.

Details of all waste removed from the site (waste carrier transfer notes etc.).

Necessary changes to the agreed implementation plan, arising during the course of the works, are to be agreed in writing with the local authority prior to being undertaken on site.

6. IMPORT AND RE-USE OF MATERIALS

6.1 Context

Clean topsoil/subsoil will be required to be imported as part of the cover system and growing medium for the gardens and landscaped areas. Both requirements will be met by import of materials of a suitable quality.

Imported material may also be required in the areas of hotspot removal, where the Made Ground from elsewhere on site is unsuitable for re-use where piling works are to be undertaken. If it is proposed that material is to be cut from areas outside of the piling footprint for use as fill in the excavated hotspots, then this material will also be subject to chemical testing.

6.2 Sourcing of Material

The criteria for site won or imported material for re-use as part of the cover system and for general fill for use beneath hardstanding will be the remedial target values as detailed in Table 6.1. Sample frequency for verification testing will be undertaken as detailed in Section 6.5.

Any imported materials should be from a source not expected to be contaminated and meet both physical and chemical criteria, as detailed in Sections 6.4 and 6.5.

Prior to importation of materials, certification should be obtained from the supplier detailing the source site, its previous and current land use and relevant test results. A copy of this should also be retained for review and comparison against the import criteria.

In addition to certification from the supplier, chemical testing of the imported materials will be required once the material arrives at site. See Section 6.5 for quantities of testing and testing schedules.

6.3 Stockpiling of Materials

On importation of topsoil and other materials, the materials should be stockpiled. Copies of the carrier's consignment notes should be retained and be available on request.

Imported materials should be stockpiled separately and away from areas designated for storing other materials or potential sources of contamination.

Separate stockpiles should also be created for each different source. Topsoil stockpiles to be kept below 2m in height at all times and traffic is to be minimised on the stockpile.

All stockpiles should be identified with clear signs and each stockpile of imported material should be given a clear reference number and designated sheet recording the following:

- identification reference (e.g. Stockpile A, B, C etc.);
- material Type (e.g. Topsoil);
- source site;
- the carrier's consignment note reference numbers;
- the approximate volume (amount of loads); and
- where the material is to be used on and where.

Each entry shall be signed and dated by the site manager or their assistant.

6.4 Physical Requirements

Cover System

Imported topsoil should conform to the requirements of BS 3882:2015 (Specification for Topsoil and requirements for use), or as agreed with the client.

Subsoil should comprise chalk, clay or sand and should have a maximum of 30% of fragments in excess of 2mm, a maximum of 10% in excess of 20mm and nothing in excess of 50mm. This is to be confirmed by visual inspection of the material by a suitably qualified geo-environmental engineer and if necessary by laboratory particle size distribution assessment.

Topsoil and subsoil should be free of undesirable potentially injurious foreign object discernible by the naked eye, such as metal objects, plastics, asphalt, treated wood, textiles and sharp fragments of ceramics and glass.

In addition, all materials must be free from aggressive / invasive weeds (especially Japanese Knotweed and Giant Hogweed) and bulk vegetative growth, in order to ensure negligible risk of subsequent weed problems.

Fill materials re-used beneath building footprint

The physical requirements of reuse of imported material that is to be placed beneath the building footprint is to be defined within an earthwork's specification.

6.5 Chemical Requirements

Chemical testing of the imported soils will be required once the material arrives at site. For material from a natural source This should be undertaken at a rate of one test per 200m³.

If the source of the imported material is not natural, chemical testing should be undertaken at a rate of one test per 50m³.

Site-won materials re-used within the cover system should be tested at a rate of one test per 50m³.

Site-won material re-used as fill in hotspot removal excavations should be tested a rate of one test per 50m³.

Site-won material re-used as fill within a 1m proximity to pile locations should be tested a rate of one test per 50m³.

A minimum of 5 chemical suites will be undertaken on any individual source material or import round.

Depending on the source or variability of imported material, the Engineer may, at their discretion, request additional testing to be undertaken.

Testing should be carried out for the following general suite of contaminants:

- arsenic, boron (water soluble), beryllium, cadmium, chromium (total), chromium (VI), copper, mercury, nickel, lead, selenium, vanadium, zinc, cyanide (total), pH, asbestos fibres, speciated polycyclic aromatic hydrocarbons (US EPA 16, by GC-FID), total phenols, total petroleum hydrocarbons (TPH) and fraction of organic carbon.
- If high total cyanide is detected, this will be re-analysed for “free” and “complex” species if appropriate.

- If high concentrations of TPH are detected, then speciated testing (TPHCWG) will be required.

6.6 Import and Re-use Criteria

Cover System

The results of chemical testing are to be compared with the site import/re-use criteria presented in Table 6.1. The values are CLEA GACs applicable to a 1% SOM (most sensitive) Residential without Plant Uptake land-use.

If any of these thresholds are exceeded the material shall be considered to be unsuitable unless treatment, further testing and risk assessment shows it to be satisfactory.

Table 6.1: Import and Re-use Criteria as part of the Cover System

Chemical of Concern	Proposed RTV mg/kg		Chemical of Concern	Proposed RTV mg/kg
Arsenic	40		Acenaphthene	3000
Beryllium	73		Acenaphthylene	2900
Boron	11000		Anthracene	31000
Cadmium	87		Benz(a)anthracene	5.5
Chromium (III)	890		Benzo(a)pyrene	1.5
Chromium (VI)	6.1		Benzo(b)fluoranthene	11
Copper	7300		Benzo(ghi)perylene	71
Lead	310		Benzo(k)fluoranthene	15
Mercury, inorganic	240		Chrysene	13
Nickel	180		Dibenz(a,h)anthracene	1.3
Selenium	600		Fluoranthene	1500
Vanadium	1200		Fluorene	2800
Zinc	40000		Indeno(1,2,3,cd)pyrene	6.3
Cyanide (free)	800		Naphthalene	2.3
Phenol (total)	750		Phenanthrene	1300
Total TPH	500		Pyrene	3700
Asbestos	<0.001			

Material proposed to be used as part of the cover system may be site won or imported. Regardless of the source, material in the cover system must satisfy the import/re-use criteria presented in Table 6.1 and be free from any visual/olfactory evidence of contamination.

Materials used as fill within Hotspot Excavations

The results of chemical testing are to be compared with the site import/re-use criteria presented in Table 6.2. Due to the potential temporary risk to underlying aquifers from soils during piling the values used are the higher of:

- CLEA GACs applicable to a 1% SOM (most sensitive) POS residential land-use; and
- US₉₅ of the existing Made Ground in the rest of the site (i.e. excluding the hotspot)

This reflects a precautionary approach allowing a practical, sustainable remediation approach which serves to provide betterment of the site and reduce any potential risks from piling. Although the POS

scenario is not necessarily appropriate for the end use, the values reflect precautionary RTV concentrations for soils that are to be used as fill in the areas of hotspot removal.

The RTV concentrations for Lead, Benzo(a)pyrene, and Dibenz(a,h)anthracene have been derived from their respective US₉₅ values. The RTV for asbestos has also been revised from the original POS value. An asbestos concentration of <0.01% is proposed for materials used as fill within hotspot excavations.

If any of these thresholds are exceeded the material shall be considered to be unsuitable unless treatment, further testing and risk assessment shows it to be satisfactory.

Table 6.2: Materials used as fill within Hotspot Excavations

Chemical of Concern	Proposed RTV mg/kg		Chemical of Concern	Proposed RTV mg/kg
Arsenic	79		Acenaphthene	15000
Beryllium	92		Acenaphthylene	15000
Boron	21000		Anthracene	74000
Cadmium	120		Benz(a)anthracene	17
Chromium (III)	1500		Benzo(a)pyrene	4.8
Chromium (VI)	7.7		Benzo(b)fluoranthene	18
Copper	12000		Benzo(ghi)perylene	120
Lead	766		Benzo(k)fluoranthene	26
Mercury, inorganic	470		Chrysene	25
Nickel	290		Dibenz(a,h)anthracene	2.8
Selenium	1400		Fluoranthene	3100
Vanadium	2000		Fluorene	9900
Zinc	81000		Indeno(1,2,3,cd)pyrene	11
Cyanide (free)	1600		Naphthalene	190
Phenol (total)	760		Phenanthrene	3100
Asbestos	<0.01		Pyrene	7400
Total TPH	500			

Material proposed to be placed beneath the building footprint may be site won or imported. Regardless of the source, material placed beneath the building footprint must satisfy the import/re-use criteria presented in Table 6.2 and be free from any visual/olfactory evidence of contamination.

7. RE-USE OF SOILS ONSITE AND MATERIAL MANAGEMENT

Any material excavated on site will be classified as waste as soon as it is excavated, unless there is a clear plan in place for the re-use of soils at the site. One of the ways this can be achieved is set out in the Contaminated Land: Applications in Real Environments (CL:AIRE) document: The Definition of Waste: Development Industry Code of Practice (Version 2), dated March 2011. The handling, re-use or disposal of waste is regulated by the Environment Agency. The Agency will take into account the use of the CoP in deciding whether to regulate materials as waste.

If materials are dealt with in accordance with the CoP, the Environment Agency considers that those materials are unlikely to be waste at the point when they are to be used for the purpose of land development. This is because the materials were never discarded in the first place, or because they have been submitted to a recovery operation and have been completely recovered so that they have ceased to be waste.

The procedures to be followed for the production of the MMP will need to follow the protocols outlined for 'Route A' – Remediation Strategy (as outlined by CL:AIRE) for the re-use of materials on the site of origin (ref CL:AIRE Code of Practice, Appendix 1).

A Materials Management Plan (MMP) will be in place signed off by a Qualified Person. This MMP will need to assess:

- material suitability, including chemical and geotechnical suitability;
- certainty of use;
- quantity of use;
- on site material management processes;
- validation procedures; and
- a contingency plan if additional materials or out of specification materials are identified.

8. ADDITIONAL WORK

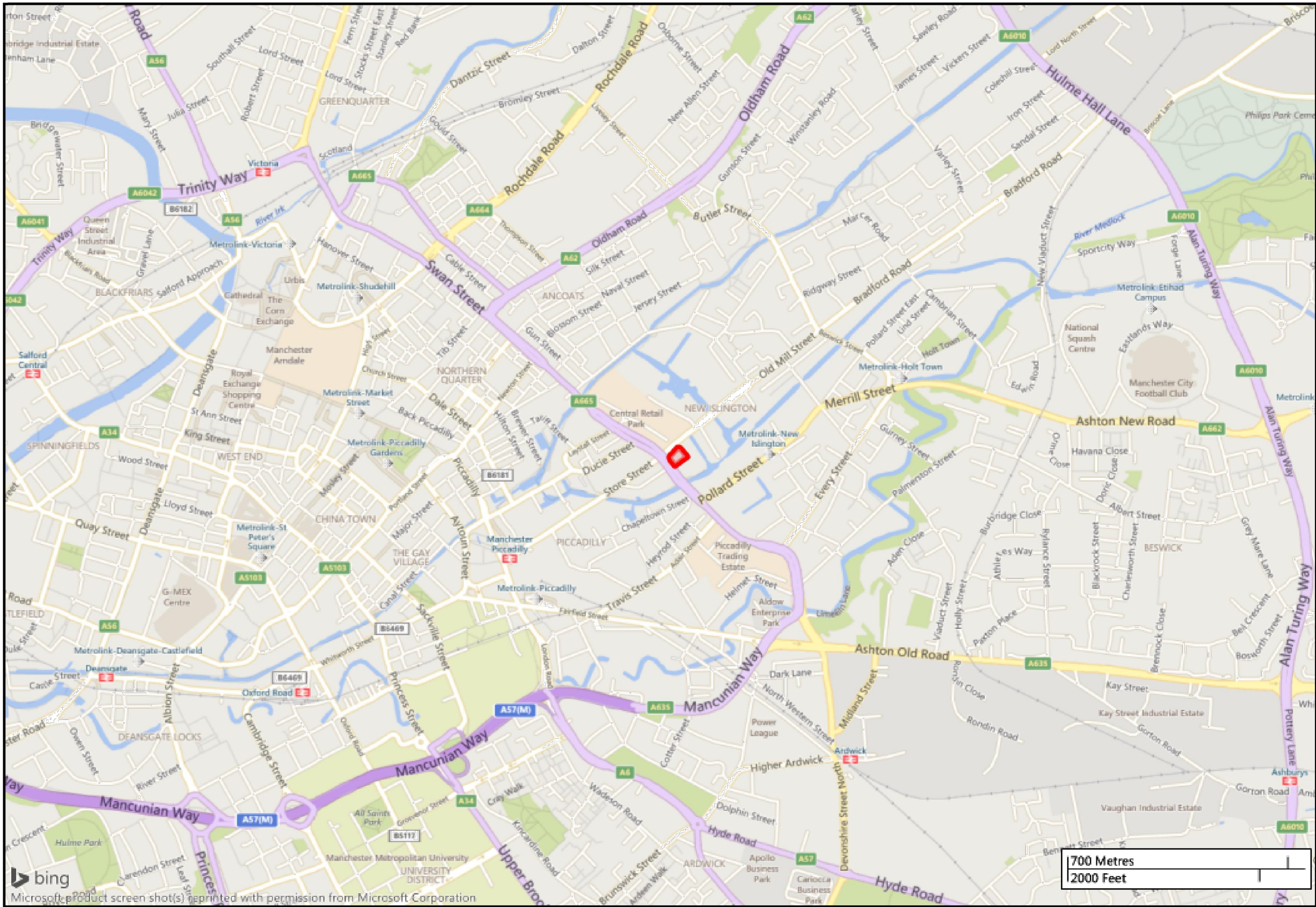
A Materials Management Plan (MMP) is also likely to be required for the site, dependent on the proposed total volume of material to be excavated at the site.

A verification report will be required once all aspects of the remediation have been completed.

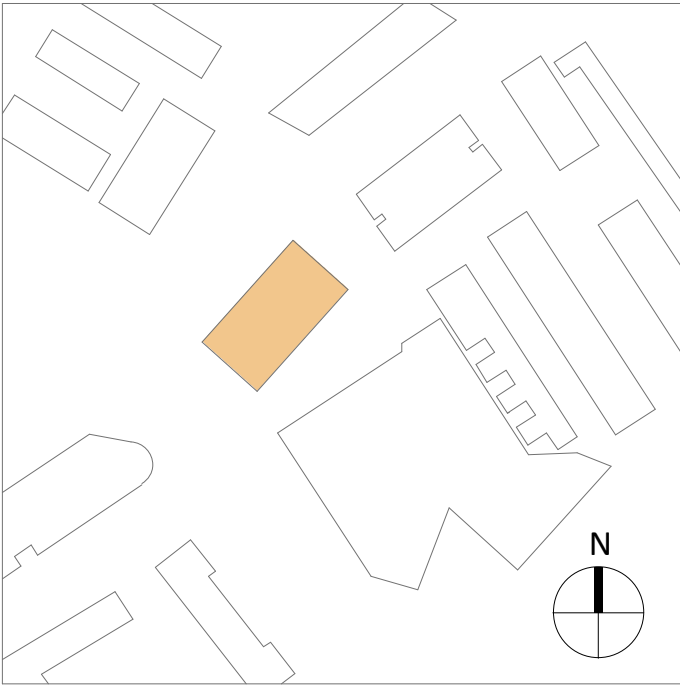
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Appendix A – Drawings



Rev	Date	Description	By	Ckd
Architect :				
  Hydrock Consultants Ltd 4 Lakeside Festival Park Stoke-on-Trent ST1 5RY T +44 (0)1782 261919 stoke@hydrock.com www.hydrock.com				
Client :				
MUSE DEVELOPMENTS				
Project Title:				
ISLINGTON WHARF PHASE 4				
Drawing Title:				
Site Location Plan				
Reference:				
IW4-HYD-XX-XX-DR-GE-0001				
Hydrock Job No:				
C-10042-C				
Drawn	Checked	Scale @ A3	Date	Issue Date
TW	DH	As Shown	05/10/18	08/10/18
Revision:			Status:	
P01			S2	



Flat Type Count and Unit Mix

Name	Count	Unit Mix
1B2P	33	31.1%
2B4P	73	68.9%

Grand total: 106

Total Car Park Spaces: 19 (4 accessible)

Total Cycle spaces: 106 (1:1 ratio)

Refuse Capacity: 12 x 240 L
22 x 1110 L

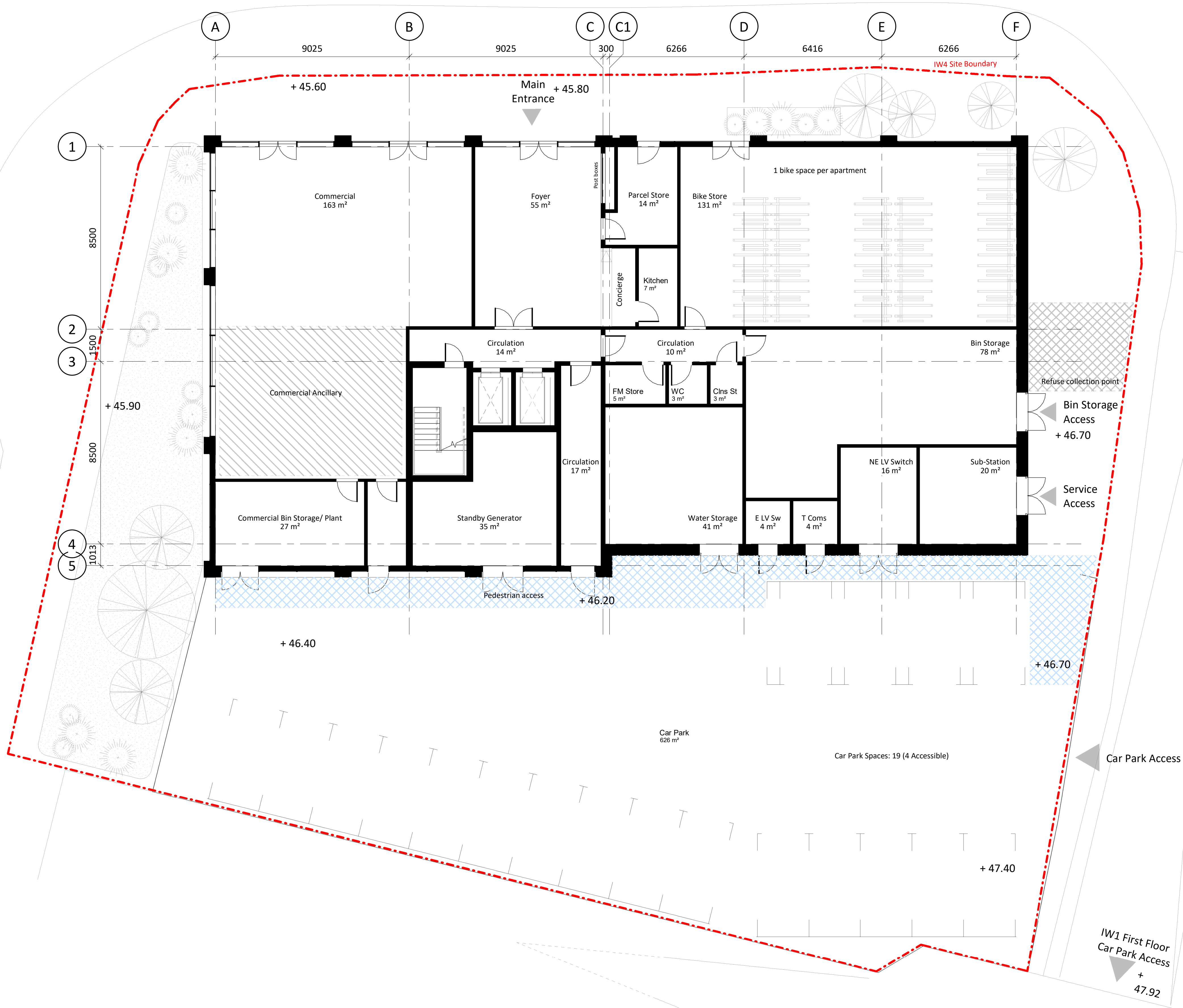
Note: refuse capacity calculated using the Manchester Residential Quality Guidance

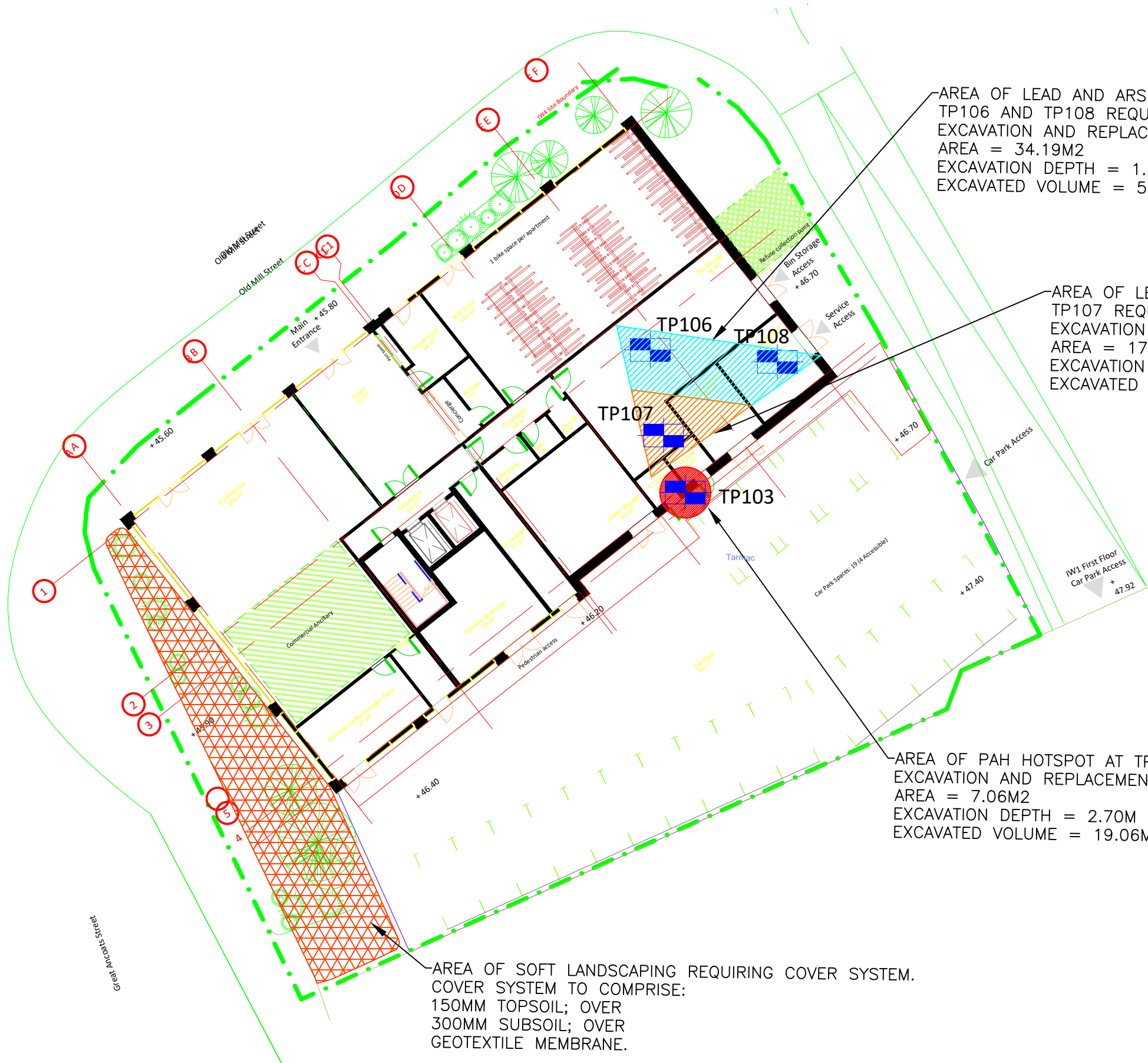
Revision	Date	Drawn by	Checked by
P03	04.02.20	AAI	MSmi
Partition shown between Lobby and Commercial area Concierge kitchen and WC added. Cleaners Store added External doors added to Generator and Commercial Bin Store			
Revision	Date	Drawn by	Checked by
P02	27.01.20	AAI	MSmi
Updated following Design Review			
Revision	Date	Drawn by	Checked by
P01	18.12.19	HBa	MSmi
First issue for comment			

Amendment
Purpose of issue
Issued for information
Project
Muse Development
Islington Wharf - Phase 4
Manchester
Drawing
Level 00 - GA Plan

Drawing No.	Originator	Zone	Level	Type	Role	Number
Project ID	-	RYD	-00-00-DR-	A	-3000	
Ryder Project No.	Scale at A1	Drawn By	Status	Revision		
2791-04	As	HBa	S2	P03		

indicated
info@ryderarchitecture.com
www.ryderarchitecture.com





KEY	NOTES 1. All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing. 2. This drawing is to be read in conjunction with all relevant Engineers' and Service Engineers' drawings and specifications. 3. This drawing has been based on the following drawings and information: xxxxxxx					Hydrock 4 Lakeside Festival Way Stoke-on-Trent ST1 5RY t: +44(0) 1782 261919 e: stoke@hydrock.com or visit www.hydrock.com CLIENT WATERSIDE PLACES	TITLE		REMEDIATION ZONATION PLAN - PROPOSED LAYOUT	
							HYDROCK PROJECT NO. C-10042		SCALE @ A3 NTS	
							PURPOSE OF ISSUE SUITABLE FOR INFORMATION		STATUS S2	
							DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER) 10042-HYD-XX-XX-DR-GE-0009		REVISION P1	
	P1 FIRST ISSUE JB20/10/20DH20/10/20DH20/10/20	PROJECT		ISLINGTON WHARF PHASE 4						
	REV. DRAWN BYDATECHECKED BYDATEAPPROVED BYDATE									

Appendix B – Form Templates

Islington Wharf Phase 4, Ancoats

Soil Documentation Form

Stockpile Identification Reference	
Material Type	
Source Site	
Consignment Note Reference Numbers	
Volume of Stockpile (or number of loads)	
Plots Material to be used in	
Stockpile Identification Reference	

Sketch Plan of Stockpile Location and Sample Points

Signed _____

Position _____

Date _____

Appendix C – Discovery Strategy

DISCOVERY STRATEGY FOR AREAS OF UNEXPECTED CONTAMINATION

General Unexpected Contamination

It is possible that contamination not identified by previous site investigations could be encountered during the redevelopment works.

If unexpected contamination is found the following procedures should be adhered to:

1. All site works at the position of the suspected contamination should stop.
2. Visual and olfactory observations of the condition of the ground and the extent of contamination should be made and notification shall be given to a suitably qualified person, who will inform the local authority not later than 24 hours after discovery. Should the contamination be likely to affect controlled waters the Environment Agency shall also be informed.
3. In the presence of a suitably qualified geo-environmental engineer, investigation works shall commence to recover samples for testing and, using visual and olfactory observations of the condition of the ground, delineate the area over which contaminated materials are present.
4. The affected material may be excavated and placed in a stockpile on a suitable impermeable surface. This should be suitably quarantined with no addition to, or removal of, the stockpile while chemical analysis is being undertaken. Alternatively, the material should remain in situ until laboratory test results have been obtained.
5. A photographic record should also be made of relevant observations.
6. The testing suite will be determined based on the basis of visual and olfactory observations.
7. Test results will be compared against current assessment criteria suitable for the future use of the area of the site affected.
8. If after testing the ground is found to be contaminated, the Local Authority shall be informed. After consultation with the local authority and, if necessary, the Environment Agency, materials should either be removed for disposal to a licensed waste management facility or remediated to agreed clean-up criteria.

Unexpected Tanks

It is possible (but unlikely) that underground tanks, which have not been identified by the investigations to date, may be present. The following procedures are to be adhered to if tanks are identified:

1. All site works at the position of the tanks should stop.
2. A description of the tank should be made including; condition and surround, along with visual and olfactory observations should any contents in the tank be apparent. A photographic record should also be made of relevant observations.
3. The tank's position and depth should be determined and marked on a plan of the site.
4. Notification shall be given to the local authority within 24 hours.
5. During the presence of a suitably qualified geo-environmental engineer, investigation works should be undertaken to obtain samples of any liquid or sludge contents and to establish dimensions of the tank.
6. Testing will be determined on the basis of visual and olfactory observations

7. Test results will be compared against current assessment criteria and proposals for disposal of any contents determined in agreement with the appropriate Regulatory Parties.
8. Emptying the tank and disposal of contents to a suitable licenced disposal facility.
9. Once the tank has been emptied in accordance with the above proposals, it is to be removed for disposal to a licensed waste management facility. Copies of the relevant waste consignment notes are to be retained.
10. Excavation and remediation of any contaminated soils in accordance with Section 6.1.
11. Samples of the base and sides of the resultant hole will be sampled as per the Engineer's instructions and an assessment as to whether this may have been a source for groundwater contamination made.

A report will be prepared and submitted to the regulatory authorities, including the local authority and the Environment Agency where groundwater may potentially have been impacted.

Appendix D - Planning Decision Notice

Important – Planning permission & notices of consent

Compliance with conditions

- Your planning approval or consent is attached. It will contain conditions that you must comply with.
- Please read the conditions and understand their requirements and restrictions, for example submission and approval of details or measures to protect trees.
- Some conditions will require action before you start development and it is imperative that you seek to have these discharged before any work commences.
- Whilst every effort has been made to group conditions logically, it is your responsibility to ensure that you are aware of the requirements and/or restrictions of all conditions.
- If you fail to comply with the conditions this may result in a breach of planning control and this may lead to enforcement action.
- Failure to comply with conditions may also result in the development not being lawful.
- It is in your interests to demonstrate that conditions have been complied with. Failure to do so may cause difficulties if the property is sold or transferred.
- A fee is payable for each request to discharge conditions.
- For advice on any of these matters, please contact Planning, Manchester City Council, PO Box 532, Town Hall, Manchester M60 2LA or email planning@manchester.gov.uk

Town & Country Planning Act 1990 (as amended)

Planning Permission

Applicant

Waterside Places Ltd
C/o Agent

Agent (if used)

Mr Jay Patel
Savills UK Ltd
12 Booth Street
Manchester
M2 4AW

Part 1 – Particulars of the application/development

Proposal: Erection of a Part 16/ Part 11 storey building to form 106 no. apartments (C3 Use Class) together with ground floor commercial uses (Use Class A1, A2 A3 and/or B1), with associated ancillary space, surface car parking, landscaping and associated works

Location: Land Bound By Old Mill Street & Great Ancoats Street, Manchester, M4 6EE

Date of application: 6 April 2020

Application number: 126669/FO/2020

Part 2 – Particulars of decision

Manchester City Council gives notice that the development referred to in Part 1 has been **Approved** in accordance with the application and plans submitted subject to the condition(s) listed below (if any).

Article 35 Declaration

Condition(s) attached to this decision

1) The development must be begun not later than the expiration of three years beginning with the date of this permission.

Reason - Required to be imposed pursuant to Section 91 of the Town and Country Planning Act 1990.

2) The development hereby approved shall be carried out in accordance with the following drawings and documents:

Drawings:

RYD 00 00 DR A 3000 REV P07 - LEVEL 00 - GA PLAN

RYD 00 01 DR A 3001 REV P07 - LEVEL 01 - GA PLAN

RYD 00 ZZ DR A 3002 REV P06 - LEVEL 02-06 GA PLANS

RYD 00 02 DR A 3007 REV P07 - LEVEL 07-08 GA PLANS

RYD 00 ZZ DR A 3009 REV P03 - LEVEL 09-10 GA PLANS

RYD 00 11 DR A 3011 REV P07 - LEVEL 11 GA PLAN
RYD 00 ZZ DR A 3012 REV P03 - LEVEL 12-15 GA PLAN
RYD 00 R16 DR A 3016 REV P02 - ROOF LEVEL GA PLAN
RYD 00 00 DR A 3500 REV P01 - SITE ACCESS
RYD 00 XX DR A 3600 REV P1 - STREET ELEVATIONS
RYD 00 XX DR A 3605 REV P05 - GA ELEVATIONS 01 OF 02
RYD 00 ZZ DR L 2101 REV P03 - LANDSCAPE MASTERPLAN
RYD 00 XX DR A 3900 REV P1 - BAY STUDY - REFERENCE SHEET
RYD 00 XX DR A 3901 REV P03 - BAY STUDY 01
RYD 00 XX DR A 3902 REV P2 - BAY STUDY 02
RYD 00 XX DR A 3904 REV P2 - BAY STUDY 04
RYD 00 00 DR A 3511 REV P01 - Refuse Collection Strategy
All received by the City Council as local planning authority on the 6th April 2020

RYD 00 XX DR A 3606 REV P06 - GA ELEVATIONS 02 OF 02
RYD 00 XX DR A 3800 REV P02 - GA SECTIONS
RYD 00 XX DR A 3903 REV P04 - BAY STUDY 03
All received by the City Council as local planning authority on the 26th June 2020

Documents:

Air Quality Assessment prepared by Hydrock ISW-HYD-XX-XX-Y-RP-2001-P02
Broadband Connectivity Assessment prepared by GTech
Crime Impact Statement prepared by GMP Design for Security 2018/0767/CIS/02
Version B
Energy Statement prepared by Hannan Associates 3676-HAN-ZZ-XX-RP-MEP-003
Issue 02
Environmental Standards Statement prepared by Hannan Associates 3676-HAN-ZZ-XX-RP-MEP-004 Issue 02
Planning and Consultation Statement prepared by Savills
Television and Radio Reception impact Assessment prepared by GTech
Noise Assessment prepared by AEC
Ecological Assessment version 3 prepared by TEP
Daylight and Sunlight report prepared by GIA Chartered Surveyors FIA No:0696
Flood Risk Assessment prepared by Hydrock ref: 10042-HYD-XX-XX-RP-FR-0001
Refuse Collection Strategy RYD 00 00 DR A 3511 Rev P01
Framework Travel Plan prepared by Hydrock ref 10042-HYD-XX-XX-RP-TP-6001-P04
All received by the City Council as local planning authority on the 6th April 2020

Ground Investigation Report prepared by Hydrock ref:10042-HYD-XX-XX-RP-GE-0002
received by the City Council as local planning authority on the 6th May 2020

Ground Condition Desk Study prepared by Hydrock ref IW4-YD-XX-XX-RP-GE-0001_Desk_Study received by the City Council as local planning authority on the 21st May 2020

Archaeological Desk Based Assessment prepared by University of Salford SA/2020/37
received by the City Council as local planning authority on the 8th June 2020

Design and Access Statement prepared by Ryder received by the City Council as local planning authority on the 26th June 2020

Reason - To ensure that the development is carried out in accordance with the approved plans. Pursuant to policies SP1 and DM1 of the Core Strategy.

3) No demolition works or vegetation clearance shall take place during the optimum period for bird nesting (March - August inclusive) unless nesting birds have been shown to be absent, or, a method statement for the demolition including for the protection of any nesting birds is agreed in writing by the City Council, Local Planning Authority. Any method statement shall then be implemented for the duration of the demolition works.

Reason - In order to protect wildlife from works that may impact on their habitats pursuant to policy EN15 of the Manchester Core Strategy (2012).

4) Notwithstanding the flood risk and drainage strategy prepared by Hydrock stamped as received by the City Council, as Local Planning Authority, on the 6th April 2020:

- (a) The installation of any drainage for the site shall not commence until a scheme for the drainage of surface water for the development has been submitted for approval in writing by the City Council as the Local Planning Authority. This shall include:
- Evidence that the drainage system has been designed (unless an area is designated to hold and/or convey water as part of the design) so that flooding does not occur during a 1 in 100 year rainfall event with allowance for climate change in any part of a building;
 - Assessment of overland flow routes for extreme events that is diverted away from buildings (including basements). Overland flow routes need to be designed to convey the flood water in a safe manner in the event of a blockage or exceedance of the proposed drainage system capacity including inlet structures. The flood water should be routed away from the buildings and towards the less vulnerable areas i.e. open spaces, car parks and roads. A layout with overland flow routes needs to be presented with appreciation of these overland flow routes with regards to the properties on site and adjacent properties off site.
 - Hydraulic calculations of the proposed drainage system for the entire network;
 - Construction details of flow control and SuDS elements

The development shall then be constructed in accordance with the approved details, within an agreed timescale.

Reason - To promote sustainable development, secure proper drainage and to manage the risk of flooding and pollution pursuant to policies SP1, EN14 and DM1 of the Manchester Core Strategy (2012)

5) a) Prior to the commencement of the development, details of a Local Benefit Proposal, in order to demonstrate commitment to recruit local labour for the duration of the construction of the development, shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved document shall be implemented as part of the construction of the development.

In this condition a Local Benefit Proposal means a document which includes:

- i) the measures proposed to recruit local people including apprenticeships
- ii) mechanisms for the implementation and delivery of the Local Benefit Proposal
- iii) measures to monitor and review the effectiveness of the Local Benefit Proposal in achieving the objective of recruiting and supporting local labour objectives

(b) Within one month prior to construction work being completed, a detailed report which takes into account the information and outcomes about local labour recruitment pursuant to items (i) and (ii) above shall be submitted for approval in writing by the City Council as Local Planning Authority.

Reason - The applicant has demonstrated a commitment to recruiting local labour pursuant to policies SP1, EC1 and DM1 of the Manchester Core Strategy (2012).

6) Prior to the commencement of the development, a detailed construction management plan outlining working practices during construction shall be submitted for approval in writing by the City Council, as local planning authority, which for the avoidance of doubt should include:

- Display of an emergency contact number;
- Details of Wheel Washing;
- Dust Management Plan;
- Compound locations where relevant;
- Location, removal and recycling of waste;
- Routing strategy, vehicular access point, vehicular activity associated with construction and swept path analysis; and,
- Parking of construction vehicles and staff.
- A highway dilapidation survey including photographs and commentary on the condition of carriageway/footways on construction vehicle routes surrounding the site.

The development shall be carried out in accordance with the approved construction management plan.

Reason - To safeguard the amenities of nearby residents and businesses, highway safety and air quality, pursuant to policies SP1, EN16, EN19 and DM1 of the Manchester Core Strategy (July 2012).

7) a) Before the development hereby approved commences, a report (the Preliminary Risk Assessment) to identify and evaluate all potential sources and impacts of any ground contamination, groundwater contamination and/or ground gas relevant to the site shall be submitted to and approved in writing by the City Council as local planning authority. The Preliminary Risk Assessment shall conform to City Council's current guidance document (Planning Guidance in Relation to Ground Contamination).

In the event of the Preliminary Risk Assessment identifying risks which in the written opinion of the Local Planning Authority require further investigation, the development shall not commence until a scheme for the investigation of the site and the identification of remediation measures (the Site Investigation Proposal) has been submitted to and approved in writing by the City Council as local planning authority.

The measures for investigating the site identified in the Site Investigation Proposal shall be carried out, before the development commences and a report prepared outlining what measures, if any, are required to remediate the land (the Site Investigation Report and/or Remediation Strategy) which shall be submitted to and approved in writing by the City Council as local planning authority.

b) When the development commences, the development shall be carried out in accordance with the previously agreed Remediation Strategy and a Completion/Verification Report shall be submitted to and approved in writing by the City Council as local planning authority.

In the event that ground contamination, groundwater contamination and/or ground gas, not previously identified, are found to be present on the site at any time before the development is occupied, then development shall cease and/or the development shall not be occupied until, a report outlining what measures, if any, are required to remediate the land (the Revised Remediation Strategy) is submitted to and approved in

writing by the City Council as local planning authority and the development shall be carried out in accordance with the Revised Remediation Strategy, which shall take precedence over any Remediation Strategy or earlier Revised Remediation Strategy.

Reason - To ensure that the presence of or the potential for any contaminated land and/or groundwater is detected and appropriate remedial action is taken in the interests of public safety, pursuant to policies DM1 and EN18 of the Core Strategy.

8) Prior to construction works progressing above ground level, samples and specifications of all material to be used on all external elevations of the development including details of the car park access gate and fence shall be submitted for approval in writing by the City Council, as Local Planning Authority. The specification shall include the agreement of a materials panel which shall include samples and specifications of all materials to be used on all external elevations of the development along with window reveals, soffits, jointing and fixing details, details of the drips to be used to prevent staining, ventilation/louvre details, air bricks and a strategy for quality control management.

The approved materials used shall then be implemented as part of the development.

Reason - To ensure that the appearance of the development is acceptable to the City Council as local planning authority in the interests of the visual amenity of the area within which the site is located, as specified in policies SP1 and DM1 of the Core Strategy.

9) The development hereby approved shall be carried out in accordance with the Environmental Standards Statement and Energy Statement prepared by Hannan Associates stamped as received by the City Council, as Local Planning Authority, on the 6th April 2020. For the avoidance of doubt the development shall achieve an overall a site wide reduction in CO2 over Part L (2010) of the Building Regulations of a minimum of 25%. A post construction review certificate/statement confirming this shall be submitted for approval, within a timescale that has been previously agreed in writing, to the City Council as Local Planning Authority.

Reason - In order to minimise the environmental impact of the development pursuant to policies SP1, T1-T3, EN4-EN7 and DM1 of the Core Strategy and the principles contained within The Guide to Development in Manchester SPD (2007) and the National Planning Policy Framework.

10) Prior to the first occupation of the development, details of the implementation, maintenance and management of the sustainable drainage scheme shall be submitted for approval in writing by the City Council, as Local Planning Authority. For the avoidance of doubt this shall include:

- Verification reporting providing photographic evidence of construction;
- As built construction drawings if different from design construction drawings;
- Management and maintenance plan for the lifetime of the development which shall include the arrangements adoption by any public body or statutory undertaker, or any other arrangements to secure the operation of the sustainable drainage scheme throughout its lifetime.
- Timescale for implementation of the scheme.

The implementation of the management and maintenance plan shall be implemented in accordance with the timescales agreed and retained for as long as the development remains in use.

Reason - To manage flooding and pollution and to ensure that a managing body is in place for the sustainable drainage system and there is funding and maintenance mechanism for the lifetime of the development pursuant to policies SP1, EN14 and DM1 of the Manchester Core Strategy (2012).

11) (a) Notwithstanding drawing RYD 00 ZZ DR L 2101 REV P03 - LANDSCAPE MASTERPLAN as received by the City Council, as Local Planning Authority, on the 6th April 2020, prior to the first occupation of the development, details of hard and soft landscaping treatments (including appropriate samples of materials and specification, size and the method of planting of the trees) shall be submitted to and approved in writing by the City Council as local planning authority.

(b) The approved scheme shall be implemented prior to the first occupation of the development. If within a period of 5 years from the date of the planting of any tree or shrub, that tree or shrub or any tree or shrub planted in replacement for it, is removed, uprooted or destroyed or dies, or becomes, in the opinion of the local planning authority, seriously damaged or defective, another tree or shrub of the same species and size as that originally planted shall be planted at the same place.

Reason - To ensure that a satisfactory landscaping scheme for the development is carried out that respects the character and visual amenities of the area, in accordance with policies SP1, EN9 and DM1 of the Core Strategy.

12) (a) Prior to the first occupation of the residential element of the development, details of any externally mounted ancillary plant, equipment and servicing shall be submitted for approval in writing by the City Council, as Local Planning Authority. For the avoidance of doubt, externally mounted plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5 db (L_{aeq}) below the typical background (L_{a90}) level at the nearest noise sensitive location.

(b) Prior to the first occupation of the residential element of the development, a verification report will be required to validate that the work undertaken conforms to the recommendations and requirements approved as part of part (a) of this planning condition. The verification report shall include post completion testing to confirm the noise criteria has been met. In instances of non-conformity, these shall be detailed along with mitigation measures required to ensure compliance with the noise criteria. Any mitigation measures shall be implemented in accordance with a timescale to be agreed with the City Council, as Local Planning Authority, and thereafter retained and maintained in situ.

Reason - To minimise the impact of plant on the occupants of the development pursuant to policies SP1 and DM1 of the Manchester Core Strategy (2012) and saved policy DC26 of the Unitary Development Plan for the City of Manchester (1995).

13) (a) Within three months of the commencement of development a scheme for acoustically insulating the proposed residential accommodation against noise from the local traffic network and surrounding commercial uses together with full details of the ventilation of residential accommodation shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved noise insulation and ventilation scheme shall be completed before the first occupation of the development.

Noise survey data must include measurements taken during a rush-hour period and night time to determine the appropriate sound insulation measures necessary.

(b) Prior to the first use of the residential element of the development, a verification report will be required to validate that the work undertaken conforms to the recommendations and requirements approved as part of part (a) of this planning condition. The verification report shall include post completion testing to confirm the noise criteria has been met. In instances of non-conformity, these shall be detailed along with mitigation measures required to ensure compliance with the noise criteria. Any mitigation measures shall be implemented in accordance with a timescale to be agreed with the City Council, as Local Planning Authority, and thereafter retained and maintained in situ.

Reason: To secure a reduction in noise from traffic or other sources and to ensure adequate ventilation of the apartments in order to protect future residents from noise disturbance and air pollution pursuant to policies SP1, EN16, H1 and DM1 of the Core Strategy (2007) and saved policy DC26 of the Unitary Development Plan for the City of Manchester (1995).

14) (a) Prior to the first use of the commercial unit as indicated on drawing RYD 00 00 DR A 3000 REV P07 as received by the City Council, as Local Planning Authority, on the 6th April 2020, a scheme of acoustic insulation shall be submitted for approval in writing by the City Council, as Local Planning Authority.

Where entertainment noise is proposed the Laeq shall be controlled to 10 dB below the La90 (without entertainment noise) in each octave band at the façade of the nearest noise sensitive location, and internal noise levels at structurally adjoined residential properties in the 63Hz and 125 Hz octave bands shall be controlled so as not to exceed (in habitable rooms) 47 and 41 dB, respectively.

The approved scheme shall then be implemented and retained and maintained for as long as the development remains in use.

(b) Prior to the first use of the commercial unit, a verification report will be required to validate that the work undertaken conforms to the recommendations and requirements approved as part of part (a) of this planning condition. The verification report shall include post completion testing to confirm the noise criteria has been met. In instances of non-conformity, these shall be detailed along with mitigation measures required to ensure compliance with the noise criteria. Any mitigation measures shall be implemented in accordance with a timescale to be agreed with the City Council, as Local Planning Authority, and thereafter retained and maintained in situ.

Reason - In order to limit the outbreak of noise from the commercial premises pursuant to policies SP1 and DM1 of the Core Strategy (2007) and saved policy DC26 of the Unitary Development Plan for the City of Manchester (1995).

15) The waste management arrangements for the residential element hereby approved shall be carried out in accordance with the waste management proforma and Design and Access Statement and drawing reference RYD 00 00 DR A 3511 REV P01 as received by the City Council, as Local Planning Authority, on the 6th April 2020.

The details shall be implemented prior to the first occupation of the residential element of the development and thereafter retained and maintained in situ.

Reason - To ensure adequate refuse arrangement are put in place for the residential element of the development pursuant to policies EN19 and DM1 of the Manchester Core Strategy.

16) Prior to the first use of the commercial unit as indicated on drawing RYD 00 00 DR A 3000 REV P07 as received by the City Council, as Local Planning Authority, on the 6th April 2020 a waste management strategy and location of waste storage for the commercial unit shall be submitted for approval in writing by the City Council, as Local Planning Authority.

The approved details shall be implemented prior to the first use of the development and thereafter retained and maintained in situ.

Reason - To ensure adequate refuse arrangement are put in place for the commercial element of the development pursuant to policies EN19 and DM1 of the Manchester Core Strategy.

17) Prior to the first use of the commercial unit, as indicated on drawing RYD 00 00 DR A 3000 REV P07 as received by the City Council, as Local Planning Authority, on the 6th April 2020, details of a scheme to extract fumes, vapours and odours from that commercial unit shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved scheme shall then be implemented prior to the first use of the commercial units and thereafter retained and maintained in situ.

Reason - To ensure appropriate fume extraction is provided for the commercial unit pursuant to policies SP1 and DM1 of the Manchester Core Strategy and saved policy DC10 of the Unitary Development Plan for the City of Manchester (1995).

18) Prior to the first use of the commercial unit, as indicated on drawing RYD 00 00 DR A 3000 REV P07 as received by the City Council, as Local Planning Authority, on the 6th April 2020 a schedule of opening hours shall be submitted for approval in writing by the City Council, as Local Planning Authority. The commercial unit shall then be operated in accordance with the agreed hours of opening.

Reason - In the interests of residential amenity pursuant to policy DM1 of the Core Strategy and saved Unitary Development Plan policy DC26.

19) Deliveries, servicing and collections including waste collections shall not take place outside the following hours for the commercial unit only:

- Monday to Saturday 07:30 to 20:00
- Sundays (and Bank Holidays): No deliveries/waste collections

Reason - In the interest of residential amenity pursuant to policies SP1 and DM1 of the Manchester Core Strategy (2012).

20) The commercial unit, as indicated on drawing RYD 00 00 DR A 3000 REV P07 as received by the City Council, as Local Planning Authority, on the 6th April 2020, shall be occupied as either an A1, A2, A3, or B1 use and for no other purpose in the Town and Country Planning (Use Classes) Order 1987 or in any provision equivalent to that Class in any statutory instrument revoking and re-enacting that Order with or without

modification. The first use of the commercial unit to be implemented shall thereafter be the permitted use of that unit.

Reason - For the avoidance of doubt and in order to secure a satisfactory form of development due to the particular circumstance of the application site, ensuring the vitality of the units and in the interest of residential amenity, pursuant policy DM1 of the Core Strategy for Manchester.

21) The development hereby approved shall include a building and site lighting scheme and a scheme for the illumination of external areas during the period between dusk and dawn. Full details of such a scheme shall be submitted for approval in writing by the City Council, as Local Planning Authority before the first occupation of the development hereby approved. The approved details shall be implemented in full prior to the first occupation of the development and shall remain in operation for so long as the development is occupied.

Reason - In the interests of amenity, crime reduction and the personal safety of those using the proposed development in order to comply with the requirements of policies SP1 and DM1 of the Core Strategy.

22) If any lighting at the development hereby approved, when illuminated, causes glare or light spillage which in the opinion of the Council as local planning authority causes detriment to adjoining and nearby residential properties, within 14 days of a written request, a scheme for the elimination of such glare or light spillage shall be submitted to the Council as local planning authority and once approved shall thereafter be retained in accordance with details which have received prior written approval of the City Council as Local Planning Authority.

Reason - In order to minimise the impact of the illumination of the lights on the occupiers of nearby residential accommodation, pursuant to policies SP1 and DM1 of the Core Strategy.

23) The development hereby approved shall be carried out in accordance with the Crime Impact Statement (version B) prepared by Design for Security at Greater Manchester Police stamped as received by the City Council, as Local Planning Authority, on the 6th April 2020. The development shall only be carried out in accordance with these approved details. The development hereby approved shall not be occupied or used until the Council as local planning authority has acknowledged in writing that it has received written confirmation of a Secured by Design accreditation.

Reason - To reduce the risk of crime pursuant to policies SP1 and DM1 of the Core Strategy and to reflect the guidance contained in the National Planning Policy Framework.

24) Prior to the first occupation of the residential element of the development, a travel plan shall be submitted for approval in writing by the City Council, as Local Planning Authority. In this condition a Travel Plan means a document which includes:

- i) the measures proposed to be taken to reduce dependency on the private car by those living at the development;
- ii) a commitment to surveying the travel patterns of residents/staff during the first three months of the first use of the building and thereafter from time to time
- iii) mechanisms for the implementation of the measures to reduce dependency on the private car
- iv) measures for the delivery of specified travel plan services

v) measures to monitor and review the effectiveness of the Travel Plan in achieving the objective of reducing dependency on the private car

Within six months of the first occupation of the residential element of development, a Travel Plan which takes into account the information about travel patterns gathered pursuant to item (ii) above shall be submitted for approval in writing by the City Council as Local Planning Authority. Any Travel Plan which has been approved by the City Council as Local Planning Authority shall be implemented in full at all times when the development hereby approved is in use.

Reason - To assist promoting the use of sustainable forms of travel for residents, pursuant to policies T1, T2 and DM1 of the Manchester Core Strategy (2012).

25) Prior to the first occupation of the development hereby approved the car parking layout as indicated on drawing RYD 00 ZZ DR L 2101 REV P03 as received by the City Council, as Local Planning Authority, on the 6th April 2020 shall be surfaced, demarcated and made available. The approved car parking layout shall be implemented and thereafter be retained and maintained. The requirement for further accessible car parking spaces to be provided on the site shall be monitored during the first three months of the first use of the building and thereafter from time to time and where further such spaces are identified as being required these shall be demarcated and provided.

Reason - To ensure sufficient car parking is available for the development and that there is adequate provision for disabled people resident at the development pursuant to policies SP1, T1, and DM1 of the Manchester Core Strategy (2012)

26) Prior to the first occupation of the development hereby approved, the cycle spaces shall be implemented and made available in accordance with the approved drawings and documents as received by the City Council, as Local Planning Authority, on the 6th April 2020.

Reason - To ensure there is sufficient cycles provision at the development and the residents in order to support modal shift measures pursuant to policies SP1, T1, T2 and DM1 of the Manchester Core Strategy (2012).

27) Prior to the first use of the development hereby approved, a scheme of highway works and details of footpaths reinstatements removal of redundant crossovers shall be submitted for approval in writing by the City Council, as Local Planning Authority.

The approved scheme shall be implemented and be in place within a timescale previously agreed in writing by the City Council as local planning authority.

Reason - To ensure safe access to the development site in the interest of pedestrian and highway safety pursuant to policies SP1, EN1 and DM1 of the Manchester Core Strategy (2012).

28) Notwithstanding the provisions of the Town and Country Planning (General Permitted Development) Order 2015 (or any order revoking and re-enacting that Order with or without modification) no part of the premises shall be used for any other purpose (including any other purpose in Class C3 of the Schedule to the Town and Country Planning (Use Classes) Order 1987 as amended by The Town and Country Planning (Use Classes) (Amendment) (England) Order 2010, or in any provision equivalent to that Class in any statutory instrument revoking and re-enacting that Order with or

without modification) other than the purpose(s) of C3(a). For the avoidance of doubt, this does not preclude two unrelated people sharing a property.

Reason - In the interests of residential amenity, to safeguard the character of the area and to maintain the sustainability of the local community through provision of accommodation that is suitable for people living as families pursuant to policies DM1 and H11 of the Core Strategy for Manchester and the guidance contained within the National Planning Policy Framework

29) Prior to the first occupation of the residential element of the development hereby approved, details of the number, siting and appearance bird and bat boxes at the development shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved details shall be implemented and be in place prior to the first occupation of the development hereby approved and shall thereafter be retained and maintained in situ.

Reason - In the interest of providing habitats for birds to improve the ecological value of the application site pursuant to policies SP1 and EN15 of the Manchester Core Strategy (2012).

30) Prior to the first occupation of the residential element of the development, details and specification of the fast charging electric car charging points within the approved car park shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved details shall then be implemented and be in place prior to the first occupation of the residential element of the development.

Reason - In the interest of air quality pursuant to policies SP1 and EN16 of the Manchester Core Strategy (2012).

31) Notwithstanding the General Permitted Development Order 2015 as amended by the Town and Country Planning (Permitted Development and Miscellaneous Amendments) (England) (Coronavirus) Regulations 2020 or any legislation amending or replacing the same, no further development in the form of upward extensions to the building shall be undertaken other than that expressly authorised by the granting of planning permission.

Reason - In the interests of protecting residential amenity and visual amenity of the area in which the development is located pursuant to policies DM1 and SP1 of the Manchester Core Strategy.

Informatives

Building Regulations 2010

This permission does not grant approval under Building Regulations.

Street Naming & Numbering Requirements

Manchester City Council is responsible for allocating street naming and numbering within Manchester for new developments or property conversions. Individuals or businesses are not permitted to allocate their own property numbers, building or street names.

If your development includes the creation of new dwellings (either new build or conversion of existing buildings), creation of new commercial properties or the subdivision of existing properties you must ensure that you request new or changes to

addresses through us so they can be officially allocated and registered in accordance with the Public Health Act 1925 Sections 17-19 & Greater Manchester Act 1981 Section 22.

Failure to do this may result in difficulties for the developer/occupier when requiring services such as connections to utilities, phone lines and postal services and may delay your development.

You can apply online at the following address:

http://www.manchester.gov.uk/info/100011/roads_parking_and_transport/1988/naming_and_numbering_of_houses_buildings_streets_and_roads/2

Mining Information

The proposed development lies within an area which could be subject to current coal mining or hazards resulting from past coal mining. Please read the Standing Advice from the Coal Authority in Appendix A.

Date: 5 August 2020

Signed: 

Julie Roscoe
Director of Planning, Building Control & Licensing

Manchester City Council, P O Box 532, Town Hall, Manchester M60 2LA

Notes

1. This permission refers only to that required under the Town and Country Planning Act 1990 does not include any consent or approval under any other enactment, byelaw, order or regulation.

2 If the applicant is aggrieved by the decision of the local planning authority to refuse permission or approval for the proposed development, or to grant permission or approval subject to conditions, they may appeal to the Secretary of State in accordance with Section 78(1) of the Town and Country Planning Act 1990 within six months of the date of the notice of the decision.

The Planning Inspectorate have introduced an online appeals service that can be used to make appeals online. This service is available through the gov.uk website – www.gov.uk/planning-inspectorate. The Inspectorate will publish details of your appeal on the internet. Alternatively If you are unable to access the online appeal form, please contact the Planning Inspectorate to obtain a paper copy of the appeal form on tel: 0303 444 5000.

The Secretary of State has power to allow a longer period for the giving of a notice of appeal but they will not normally be prepared to exercise this power unless there are special circumstances that excuse the delay in giving notice of appeal.

If you intend to submit an appeal that you would like examined by inquiry then you must notify the City Council (planning@manchester.gov.uk) and the Planning Inspectorate (inquiryappeals@planninginspectorate.gov.uk) at least 10 days before submitting the appeal. Further details are on GOV.UK.

3. The statutory requirements are those set out in Section 79(6) of the Town and Country Planning Act 1990, namely Sections 70(1) and 72(1) of the Act.

4. If either the local planning authority or the Secretary of State refuses permission to develop land or grants it subject to conditions, the owner may claim that they can neither put the land to a reasonably beneficial use in its existing state nor render the land capable of a reasonably beneficial use by the carrying out of any development which has been or would be permitted.

In these circumstances, the owner may serve a purchase notice on the Council in whose area the land is situated. This notice will require the Council to purchase his interest in the land in accordance with the provisions of Part VI of the Town and Country Planning Act 1990

5. In certain circumstances, a claim may be made against the local planning authority for compensation, where permission is refused or granted subject to conditions by the Secretary of State on appeal or on a reference of the application to them. The circumstances in which such compensation is payable are set out in Section 114 of the Town and Country Planning Act 1990.

Appendix A



The Coal
Authority

Any Planning Enquiries should be directed to:

Planning and Local Authority Liaison

Telephone: 01623 637 119

Email: planningconsultation@coal.gov.uk

Website: www.gov.uk/government/organisations/the-coal-authority

STANDING ADVICE - DEVELOPMENT LOW RISK AREA

The proposed development lies within a coal mining area which may contain unrecorded coal mining related hazards. If any coal mining feature is encountered during development, this should be reported immediately to the Coal Authority on 0345 762 6848.

Further information is also available on the Coal Authority website at:
www.gov.uk/government/organisations/the-coal-authority

This Standing Advice is valid from 1st January 2019 until 31st December 2020