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LAND OFF AMBROSE STREET, MANCHESTER

Asbestos Management Plan



Prepared for:

GK Construction & Project Management Ltd

Report Ref: BEK-24060-2

June 2024



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Project Quality Assurance Information Sheet

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Report Title	Asbestos Management Plan
Report Status	Final
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Date	June 2024
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PROJECT NO: 24060

REPORT REF: BEK-24060-2

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REVISION STATUS / HISTORY

Rev	Date	Issue / Comment	Prepared	Checked

GENERAL REPORT LIMITATIONS

BEK Enviro Limited (BEK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and BEK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by BEK for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

No part of this report may be copied or duplicated without the express permission of BEK and the party for whom it was prepared. Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

Unless explicitly agreed otherwise, in writing, this report has been prepared under BEK's limited standard Terms and Conditions as included within our proposal to the Client. The report needs to be considered in the light of the BEK proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

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1. GLOSSARY

1.1 Glossary of terms

1.1.1 The following are definitions of abbreviations and terms are used within this report:

PM - Project Manager

LARC - Licensed Asbestos Removal Contractor

AC - Asbestos/Analytical Consultant

PD - Principal Designer

ACM - Asbestos Containing Material

Competent Person - Someone with the requisite skill, qualification, experience and training to carry out a task

Qualified Person - A Qualified Person as defined by CL:AIRE

HSE - Health & Safety Executive

EA - Environment Agency

UKAS - United Kingdom Accreditation Service

PAS - Publicly Available Specification

CAR - Control of Asbestos Regulations 2012

CDM - The Construction (Design and Management) Regulations 2015

1.1.2 This document has been compiled to specify a strategy for the management and remediation of land / made ground / soil and other materials that are known to be affected by contamination from asbestos and asbestos-containing materials.

1.1.3 The strategy relates to specifically asbestos and should be used to support any other remediation strategies / statements / specifications that may have been compiled to cover more general requirements for the site as required by current planning legislation and processes.

2. INTRODUCTION

2.1 Appointment & Proposed Development

- 2.1.1 BEK Enviro (BEK) has been commissioned by GK Construction & Project Management Ltd to prepare an Asbestos Management Plan to describe how to safely manage (or work with) land / made ground / soil and other materials affected by asbestos or asbestos-containing materials at the proposed commercial development located off Ambrose Street, Manchester, M12 5DD (hereafter referred to as 'the site').
- 2.1.2 The Earthworks Contractor (yet to selected) will be on the site during the pre-construction remediation works. It should be noted that a Licensed Asbestos Removal Contractor (LARC) should be instructed by the Client if any licensable aspects of the remediation works come to light. It is important that all parties working at the site are made aware of the hazards/risks from asbestos prior to commencement of works.
- 2.1.3 Manchester City Council has granted Planning Permission (subject to conditions) for the *'Erection of five storey self-storage facility (Class B8) together with associated parking, circulation space and stores, landscaping, boundary treatment and roof mounted photovoltaic panels, following demolition of existing buildings'* at the site located off Ambrose Street, Manchester (Planning Application No: 13568/FO/2022).
- 2.1.4 The proposed development can be seen on Urban Green drawing No. UG_1754_LAN_GA_DRW_01 (Rev P04) entitled 'General Arrangement – Ambrose Street, Manchester', dated 17/10/22, an extract of which can be seen below and a copy of which is presented in Appendix A.

2.2 Involved Parties

Function	Company & Address	Main Contact
Client	GK CONSTRUCTION & PROJECT MANAGEMENT Suite 22 Railway House Railway Road Chorley PR6 0NW	Gareth Walsh 07885 508492
Geo-technical/Geo-environmental Consultancy	BEK ENVIRO No 2 Landwick Court Metcalf Drive Altham Business Park Lancashire BB5 5GY	Michael Buckley 01254 377622 07906 753583

Table 1: Summary of Involved Parties

2.3 Previous Reports

2.3.1 The proposed development plan is appended in Appendix A. Information within this document has been compiled from the sources listed below which should be read in conjunction with this report.

- Intelligent Environmental Services 'Asbestos Management Survey – Ambrose Street, West Gorton, Manchester, M12 5DD', Report Ref: A21097, dated March 2022.
- GeoAssist 'Phase 1 Desk Study and Preliminary Contaminated Land Risk Assessment – Storage World Ambrose Street, Manchester', Report Ref: 6101/VAJ V1.00 PCLRA, dated August 2022
- GeoAssist 'Preliminary Coal Mining Risk Assessment Report (Desk Study) – Storage World Ambrose Street, Manchester', Report Ref: 6101/VAJ CMRA V1.0, dated September 2022
- GeoAssist 'Geotechnical Ground Investigation – Storage World Ambrose Street, Manchester', Report Ref: 6101/VAJ-G, dated September 2022
- GeoAssist 'Geotechnical Ground Investigation – Concrete Floor Flab – Storage World Ambrose Street, Manchester', Report Ref: 6101/VAJ-G, dated January 2023
- GeoAssist 'Phase II Contaminated Land Risk Assessment – Storage World Ambrose Street, Manchester', Report Ref: 6101/VAJ-CLRA V1.00, dated January 2023
- GeoAssist 'Ground Gas Risk Assessment – Storage World Ambrose Street, Manchester', Report Ref: 6101/VAJ-GRA V1.00, dated January 2023
- BEK 'Supplementary Site Investigation Letter Report – Land off Ambrose Street, Manchester', Report Ref: BEK/24060/240606/GK, dated June 2024.
- BEK 'Remediation Method Statement – Land off Ambrose Street, Manchester', Report Ref: BEK-24040-1, dated June 2024.

2.3.2 The site has been subject to site investigation works by both BEK and GeoAssist (During January 2023 and May 2024 respectively), the details of which are summarised below.

Site Investigation Works - GeoAssist

- 2.3.3 The site investigation works undertaken by both BEK and GeoAssist were designed to provide indicative information for the ground conditions across the site with respect to the quantitative assessment of the potential risks associated with contamination.
- 2.3.4 Site investigation works undertaken by GeoAssist in January 2023 comprised the drilling of six exploratory holes to a maximum depth of 6.0 m, as well as the hand excavation of two trial holes to a maximum depth of 0.9 m. The exploratory locations can be seen on BEK Drawing No. 24060-1, dated 30/05/24, a copy of which is presented in Appendix A.
- 2.3.5 Made ground within the exploratory locations was encountered to depths between 0.4 m and 2.7 m and generally comprised an uppermost layer of hardstanding atop sandy gravel with brick fragments. Silty clay containing ash and cinders was encountered in BH2, BH3 and BH6.
- 2.3.6 Natural strata was encountered below made ground in all exploratory locations and generally comprised 'gravelly sandy silty clay with sand inclusions'. Bedrock was not encountered during site investigation works.
- 2.3.7 Groundwater was encountered at depths of 1.9 m and 1.0 m in BH1 and BH6 respectively during drilling operations. Groundwater levels during monitoring were recorded at depths of between 0.8 m and 1.9 m within the monitoring standpipes.
- 2.3.8 GeoAssist obtained a total of nine soil samples which were subjected to chemical testing for a wide range of contaminants of concern in accordance with the 'Phase 1 Desk Study and Preliminary Contaminated Land Risk Assessment'. The chemical test results were then compared against assessment criteria for a Commercial end use which showed no elevated contaminants of concern were present.
- 2.3.9 Notwithstanding the above, five of the nine soil samples tested returned a positive asbestos result, the details of which can be seen in the table below. No asbestos quantification testing was undertaken on the samples.

Location	Asbestos Containing Material Types Detected (ACM)	PLM Results
BH1 (0.3 m)	Hard/Cement Type Material	Chrysotile
BH2 (0.4 m)	Hard/Cement Type Material & Loose Fibrous Debris	Chrysotile
BH3 (0.5 m)	Loose Fibrous Debris	Chrysotile
BH5 (0.5 m)	Loose Fibres	Chrysotile
TP1 (0.3 m)	Hard/Cement Type Material	Chrysotile

Table 2: *Summary of Results for Positive Asbestos Samples from GeoAssist Site Investigation*

Site Investigation Works - BEK

- 2.3.10 As no asbestos quantification testing was undertaken by GeoAssist, BEK considered it necessary to undertake additional site investigation works to obtain samples of made ground for asbestos quantification testing. This allows for a thorough assessment of the potential risks associated with asbestos at the site and facilitates the preparation of an Asbestos Management Plan.
- 2.3.11 Site investigation works were undertaken by BEK in May 2024 with the aim of obtaining additional samples of made ground for asbestos quantification testing. The works comprised the drilling of 8 No. window sample boreholes to 1.0 m depth.
- 2.3.12 Made ground was encountered in all exploratory locations and generally comprised an uppermost layer of hardstanding or gravel atop gravelly sands and sandy clays containing varying proportions of brick, ash and clinker.
- 2.3.13 The exploratory locations can be seen on BEK Drawing No. 24060-1, dated 30/05/24, a copy of which is presented in Appendix A.
- 2.3.14 A total of eight samples were recovered and subjected to asbestos identification testing and after an initial test, no asbestos was detected within any of the samples. Notwithstanding, as asbestos was anticipated to be present within the samples, a retest of the samples was requested and found asbestos to be present within three of the eight samples.
- 2.3.15 Quantification was undertaken on the positive asbestos samples, with detailed quantification undertaken on those samples containing two or more types of ACMs. The results of the testing can be seen in the table below.

Location	Asbestos Type/Matrix Description	Quantification Result	
WS101 (0.3 m)	Amosite – Loose Fibres	<0.001 % w/w	
WS102 (0.4 m)	Amosite & Chrysotile – Loose Fibres	<0.001 % w/w	
WS103 (0.5 m)	Chrysotile – Loose Fibres	<0.001 % w/w	0.022% w/w Total
	Chrysotile – Woven	0.022 % w/w	

Table 2: Summary of Asbestos Quantification Testing in Positive Samples

- 2.3.16 The BEK Remediation Method Statement recommends that remedial works to mitigate the risks to end users associated with asbestos in the made ground include the excavation of existing material in landscaped areas to a depth of 300 mm bgl.

- 2.3.17 Reinstatement to achieve finished site levels will be required and will include the importation of clean validated top and sub soils, comprising a geotextile membrane/break layer, 150 mm of subsoil, overlain by minimum 150 mm of topsoil in these areas. It is understood that the remainder of the site not forming gardens/landscaping will be covered by hard standing, this along with the capping system would provide a break layer to source pathway receptor linkages.

2.4 Limitations

- 2.4.1 Information contained within third party information has been taken as a true and accurate representation of the existing site and ground conditions. BEK has not undertaken any works to check the validity of these data.
- 2.4.2 This document shall be read in full by all interested parties and it is recommended that a copy be kept on site.
- 2.4.3 This Asbestos Management Plan should be read in conjunction with the Remediation Method Statement and with reference to land / made ground / soil affected by asbestos containing materials. Other document and strategies may exist that will define how to deal with other aspects of ground contamination and should also be read in conjunction with this document.

3. GENERAL STRATEGY FOR COMPLIANCE WITH CAR 2012

3.1 Control of Asbestos Regulations 2012

3.1.1 This section of the document details the general requirements of this Asbestos Management Plan, following these requirements should ensure that compliance under The Control of Asbestos Regulation 2012 is achieved and that risks to human health are minimised. The generally accepted methods of controlling work with asbestos are to prevent exposure and prevent the spread of asbestos.

3.1.2 Before any work is undertaken where there is the potential for employees or local stakeholders to be exposed to asbestos it is important that all parties undertake a risk assessment. It is the responsibility of each employer to make their own assessments of the risks involved, however the information contained within this document is likely to support individual risk assessments.

3.1.3 This section of the document is structured to follow the numerical order of the Control of Asbestos Regulations 2012 where a regulation number is not included this is deliberate and is because that particular Regulation has no significant bearing on the management or remediation of land / made ground or soil affected by asbestos or asbestos-containing materials.

3.2 Interpretation (Regulation 2)

3.2.1 The main point of consideration under Regulation 2 is to determine whether or not the work proposed under the remediation strategy is licensable work or not, if the work is deemed licensable then the earthworks needs to be supervised by a LARC. In deciding whether work is licensable or not the CL:AIRE and Joint Industry Working Group (JIWG) CAR-SOIL guidance 2016 provides flowcharts (shown below) to determine if work is non-licensed (NLW), notifiable non licensed (NNLW) or licensed (LW). Please note that the Control Limit is 0.1 f cm^{-3} when measured over a four hour period and the sporadic and low intensity (or short term exposure limit) is a peak exposure that may occur of 0.6 f cm^{-3} when measured over a 10 minute period.

3.2.2 If the work is deemed licensable this will require a fourteen day statutory notification to the enforcing authority before any work is undertaken unless a waiver has been requested and granted.

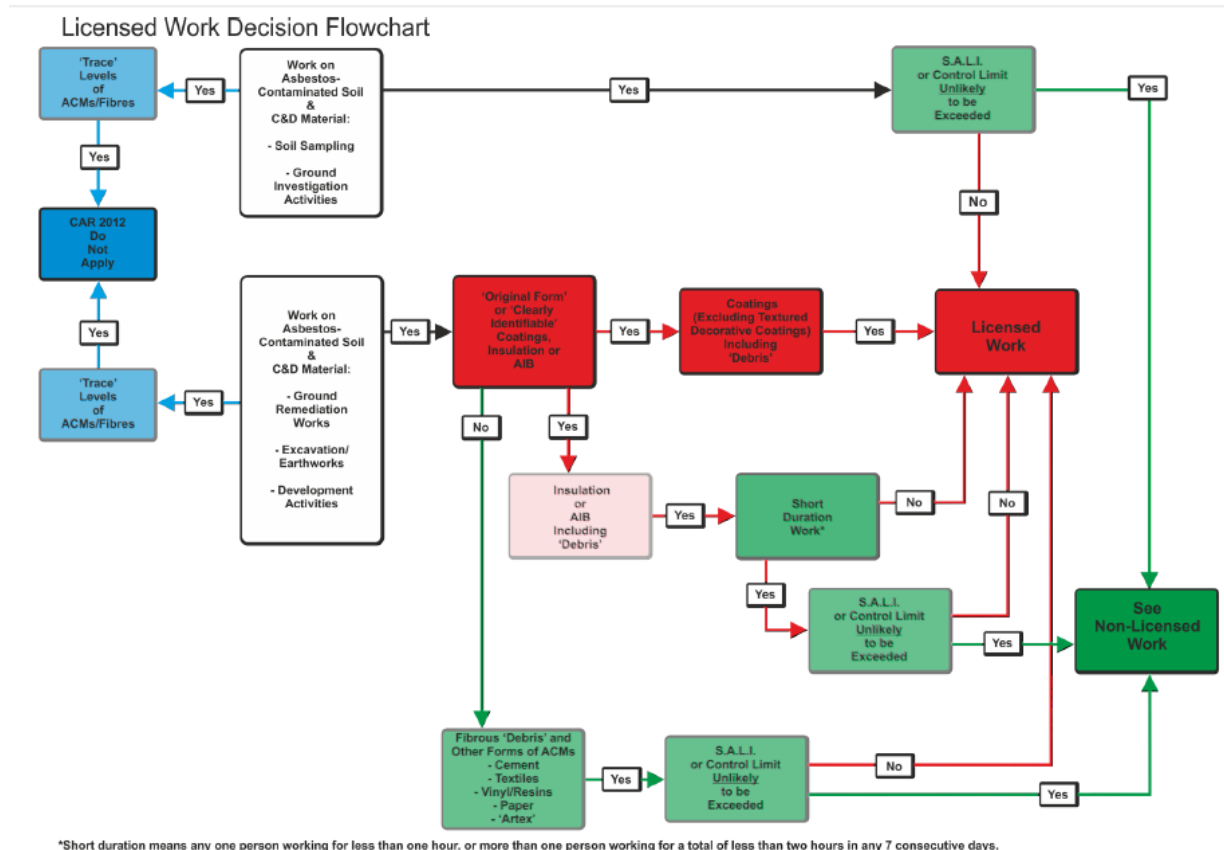


Figure 1: Licensed Work Decision Flow Chart

3.3 Application of These Regulations (Regulation 3)

3.3.1 The main point of consideration under Regulation 3 is to decide whether work that has been deemed not to be licensable is considered notifiable or not i.e. is the work non-licensed work (NLW) or notifiable non-licensed work (NNLW). If, after the work is deemed not to be licensable, the work is also deemed not to be notifiable then the following requirements do not apply to the work:

- Notify the work (Regulation 9)
- Demarcate a designated area (Regulation 18 (1) (a))
- Maintain Health records (Regulation 22)

3.3.2 In deciding whether work is notifiable or not in this situation it is useful to follow the decision process flow chart below, please note in the assessment under Regulation 3 remediation of soils will not be classed as maintenance work but as removal work.

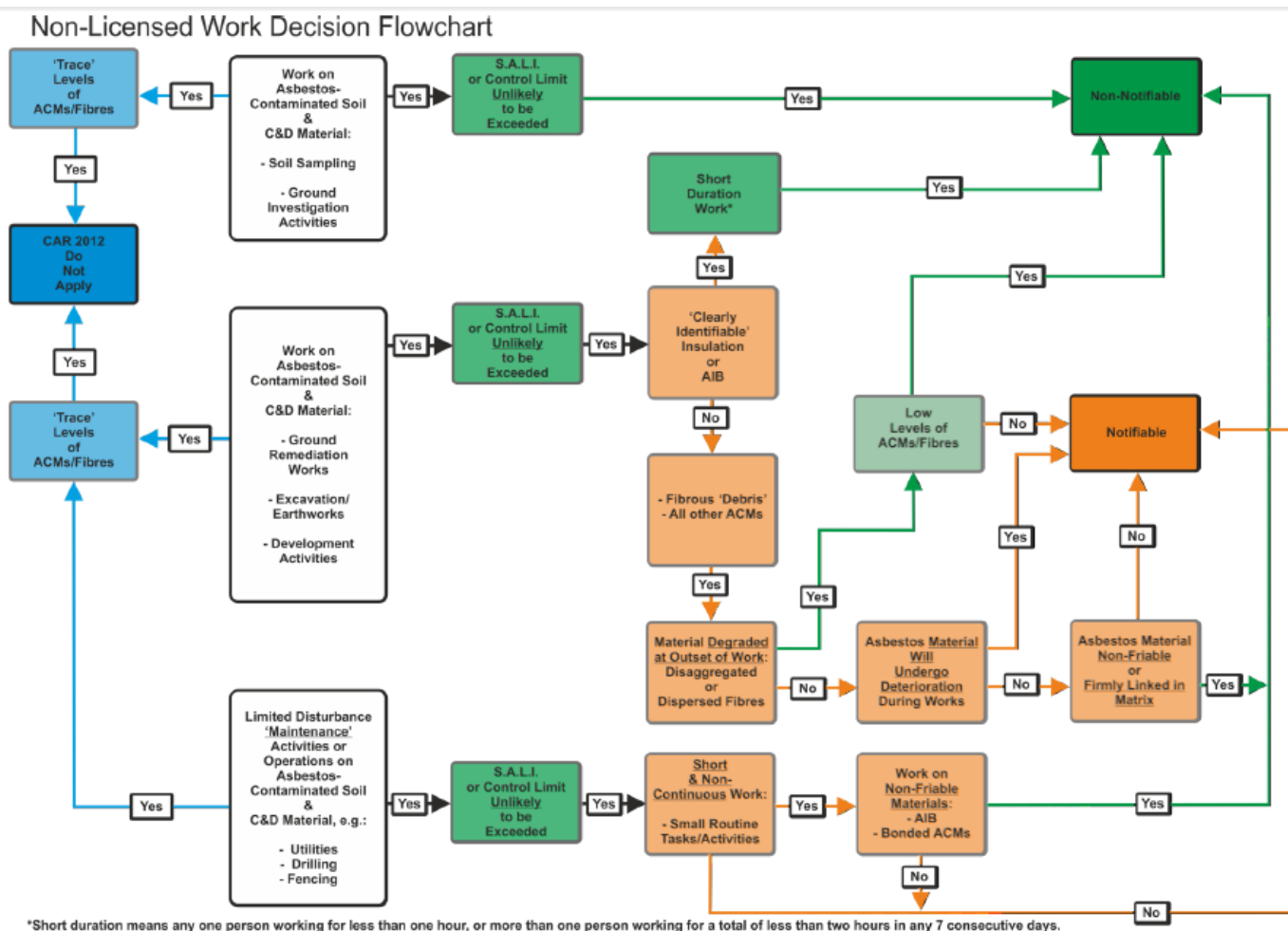


Figure 2: Non-Licensed Work Decision Flow Chart

3.4 Identification of the Presence of Asbestos (Regulation 5)

3.4.1 Regulation 5 requires any employer to identify the presence of asbestos, its type and condition before any work is undertaken. For the purposes of this strategy the summary of asbestos and asbestos-containing materials described in Section 1.3 has been referred to from the sources defined in Section 1.1.4. It is important to remember that the assessments made by employers should be revised should the situation on site change at all during the course of any remediation work.

3.5 Assessment of Work Which Exposes Employees to Asbestos (Regulation 6)

3.5.1 Regulation 6 requires a **suitable and sufficient** risk assessment of potential exposure to asbestos to be made by the employers of the people involved in undertaking the remediation work i.e. LARC / earthworks contractor / analyst. This risk assessment needs to be:

- Carried out in time to enable appropriate precautions to be taken before work begins
- Be specific to the task being undertaken
- Establish the extent of the potential risk and who could be affected
- Identify the steps taken to remove the risks or where this is not possible reduce to the lowest level reasonably practicable
- Record the findings of the assessment and communicate the findings to employees and anyone else who could be affected in an understandable way
- Reviewed regularly or when considered no longer valid i.e. if the scope of the work changes or the type of asbestos-containing material being worked with alters.

3.5.2 Employers must make sure that whoever carries out the risk assessment and provides advice on the prevention and control of exposure is competent to do so, a competent person would be considered as being a person who has the ability and skills described below:

- Have adequate knowledge, training and expertise in understanding the risks from asbestos and be able to make informed and appropriate decisions about the risks and precautions needed;
- Know how the work activity may disturb asbestos
- Be familiar with and understand the requirements of CAR 2012
- Have the ability and authority to collate all the necessary and relevant information
- Be able to assess other non-asbestos risks on site
- Be able to estimate the expected level of exposure to decide whether or not the control limit is likely to be exceeded.

3.5.3 To be considered suitable and sufficient the risk assessment needs to include:

- For non-licensable work, a statement of why the work meets the criteria for non-licensable rather than licensable work, and whether it is NNLW
- A description of the work being carried out and the expected scale and duration
- A description of the type(s) of asbestos and results of any survey or analysis or a statement that the assumption is that the asbestos is not chrysotile alone
- A description of the quantity, form, size, means of attachment (if any), extent and condition of the ACMs present

3.5.4 The details of the expected exposure should be recorded and include:

- Data on the concentrations of asbestos fibre likely to be present
- Whether the control limit is likely to be exceeded
- The number of people who could be affected
- The level of expected exposure so that suitable respiratory protective equipment (RPE) and personal protective equipment (PPE) can be selected
- Whether anyone other than the organisations own employees may be exposed

- Whether intermittent higher exposures may arise and their frequency and duration
- Any results from air monitoring available in similar circumstances

3.5.5 The steps taken to control exposure to the lowest level reasonably practicable should be recorded e.g.:

- The type of controlled wetting and method of application
- Using local exhaust ventilation (LEV)
- Wrap and cut techniques (for pipes lagged with asbestos materials that may be identified during future excavations)
- Shadow vacuuming

3.5.6 For licensable work with asbestos there are additional requirements on the risk assessment and these are:

- The reasons for the chosen work methods
- The method or arrangements required to ensure that the work area will be left clean for reoccupation

3.5.7 For the proposed project it will be important for representatives of the Principal Contractor to ensure that risk assessments completed by any contractors engaged are inclusive of the requirements of this section of the strategy and in doing this this will ensure compliance with Regulation 6 of CAR 2012.

3.6 Plans of Work (Regulation 7)

3.6.1 Regulation 7 requires that any employer engaged in the project must prepare a written plan of work (method statement) before works on asbestos is carried out and that a copy of this plan of work is kept at the site where the remediation is being undertaken. The employers must also ensure that the work is adequately supervised to ensure that the plan of work is being followed.

3.6.2 It is likely that the plan of work will contain elements of the risk assessments undertaken in accordance with Section 2.5 and again it is important that these plans are reviewed should they be considered no longer valid i.e. if the scope of the work changes or the type of asbestos-containing material being worked with alters. In addition and where necessary the plan of work should include a site layout drawing, a description of the location and nature of the asbestos present and which asbestos-containing materials will be affected by the work. It is also important that the contents of the plan of work are communicated to any employees undertaking the work.

3.6.3 The plan of work **must** contain the following information:

- The nature and probable duration of the work
- The number of people involved in the work
- The address and location where the work is to be carried out
- The methods to be used to prevent or reduce exposure to asbestos, e.g. prevention and control measures, arrangements for keeping premises and plant clean and arrangements for the handling and disposal of asbestos waste;
- The type of equipment, including PPE and RPE, used for:
- Protecting and decontaminating those carrying out the work;
- Protecting other people present at or near the worksite.

3.6.4 For the proposed project it will be important for representatives of the Principal Contractor to ensure that plans of work completed by any contractors engaged are inclusive of the requirements of this section of the strategy and in doing this this will ensure compliance with Regulation 7 of CAR 2012.

3.7 Notification of Work with Asbestos (Regulation 9)

3.7.1 Regulation 9 may require that the appropriate enforcing authority is notified before any work is undertaken on asbestos.

3.7.2 If the work is deemed licensable following the assessment under Regulation 2 the required notification period will be a statutory 14 days and this notification will be made by the licensed contractor using an on-line ASB5 form.

3.7.3 If the work is deemed not to be licensed under assessment following Regulation 2 but is deemed to be notifiable non-licensed work under assessment following Regulation 3 then the notification must be submitted by the contractor undertaking the work before the work starts (no timescale) and this notification should be submitted on line using form NNLW1.

3.7.4 Notification is not required for work that is deemed non-licensed work.

3.7.5 The work on the proposed project will be undertaken on a civil engineering / construction site and therefore the relevant enforcing authority will be the Health and Safety Executive (HSE).

3.8 Information, Instruction and Training (Regulation 10)

3.8.1 Regulation 10 requires that anybody who is liable to disturb asbestos in their work or those that supervise such employees receives the correct level of information instruction and training.

3.8.2 As a minimum anyone engaged in working on the site should receive an asbestos awareness course that should include:

- The properties of asbestos and its effects on health, including the increased risk of lung cancer for asbestos workers who smoke
- The types, uses and likely occurrence of asbestos and ACMs in buildings and plant and on the site being worked on.
- The general procedures to be followed to deal with an emergency, e.g. an uncontrolled release of asbestos dust into the workplace
- How to avoid the risks from asbestos

3.8.3 CAR-SOIL 2016, states that asbestos-contaminated sites may be complex in terms of the operations being carried out with various parties involved. Therefore, it is recognised that a LARC may not carry out all connected activities themselves, especially where specialist training skills or other licenses are required for the operation of heavy plant and / or equipment.

3.8.4 CAR-SOIL 2016, states with respect to the management of the remediation of land affected by asbestos contamination, competence may be measured by different means. Typically, this will be taken to mean having at least three years demonstrated practical experience in the specific relevant land remediation field.

3.8.5 Anyone engaged in non-licensed work or notifiable non-licensed work should undergo additional training and this training should be task specific and related to the project in hand. This training should be refreshed on an annual basis.

3.8.6 Licensed contractors engaged in licensed work activities should undergo additional training and this also should include the items detailed in paragraph 251 of CAR 2012. This training should be refreshed on an annual basis.

3.8.7 Information provided to the employees undertaking the work and should include the risk assessments and plans of work detailed in Sections 2.5 and 2.6 as well as the results of any air monitoring.

3.8.8 For the proposed project it will be important for representatives of the Principal Contractor to ensure that the training required by Regulation 10 is held by those individuals undertaking the work. Ensuring this will ensure compliance with Regulation 10 of CAR 2012.

3.9 Prevention or Reduction of Exposure to Asbestos (Regulation 11)

3.9.1 Regulation 11 requires that any exposure to asbestos is prevented so far as is reasonably practicable. For the proposed project work with asbestos will be required and therefore prevention is not possible, it is therefore the duty of any employers engaged in working with the asbestos to ensure that this exposure is as low as is reasonably practicable. Work with asbestos should only be carried out when it is unavoidable.

- 3.9.2 Where it is not reasonably practicable to prevent exposure to asbestos the levels of airborne asbestos fibres must be reduced to the lowest level reasonably practicable by means other than Respiratory Protective Equipment (RPE) in usual circumstance this will mean the use of other methods of control e.g. controlled wetting will be required. These control measures must be documented in the risk assessments or plans of work described in Section 2.5 and 2.6 above.
- 3.9.3 Any employers engaged in undertaking asbestos work should ensure that those people involved and who might be exposed to asbestos as low as is reasonably practicable.
- 3.9.4 Reduction of exposure to asbestos is likely to include the provision of personal protective equipment (PPE) and possibly respiratory protective equipment (RPE). In particular it is important that this RPE is matched to:
- The job
 - The environment
 - The anticipated maximum exposure
 - The wearer (taking into account facial hair and glasses)
 - Compatible with other PPE
- 3.9.5 It is important that RPE with tight fitting face-pieces i.e. disposable masks, half face ori-nasal respirators and full face respirators are initially provided with a face fit test by a competent organisation. The fit test should be repeated whenever changing to a different model of RPE or where the characteristics of the wearer significantly change e.g. significant weight gain or loss.
- 3.10 Use of Control Measures (Regulation 12)**
- 3.10.1 Regulation 12 requires that any equipment used as a form of control measure is effective and this should include regular checks which should be at least at the start of every shift. If a problem is identified with the control measure it is important that prompt action is taken to rectify the problem.
- 3.10.2 A record of inspections should be kept on site for inspection by the enforcing authorities.
- 3.10.3 Further information pertaining to each particular type of control measure is detailed within CAR 2012.
- 3.11 Arrangement to Deal with Accidents, Incidents and Emergencies (Regulation 15)**
- 3.11.1 Regulation 15 requires that any employer who is undertaking work with asbestos to prepare procedures on what to do if there is an accidental, unplanned or uncontrolled release of asbestos fibre.

3.11.2 In all cases where there has been an uncontrolled release of asbestos materials the employer should take steps to:

- Warn people who may be affected
- Exclude people from the area, who are not needed to deal with the release
- Identify the cause of the uncontrolled release
- Regain adequate control as soon as possible

3.11.3 In particular, employers must make sure that:

- Anyone in the work area affected who is not wearing PPE, including RPE, leaves that area immediately
- Arrangements are made to decontaminate anyone who is contaminated with dust and debris
- Any clothing or PPE is decontaminated or disposed of as contaminated waste;
- Measures are taken to contain and reduce fibre release.

3.12 Duty to Prevent the Spread of Asbestos (Regulation 16)

3.12.1 Regulation 16 requires that any employer who is undertaking work with asbestos to prevent or where this is not possible reduce to the lowest level reasonably practicable the spread of asbestos. This will involve using control measure and safe systems of work that facilitate this.

3.12.2 Preventing spread usually includes the construction of an asbestos enclosure however in projects that involve the movement and excavation of large volumes of earth and land using heavy plant and equipment the use of an enclosure is likely not to be reasonably practicable, for this reason it is imperative that suitable control measures as required by Regulation 13 (see section 2.10) and validation of the control measures being used by utilising an appropriate reassurance and personal air monitoring strategy are included in the working method.

3.12.3 Even though an enclosure is not being used to prevent the spread of asbestos it is important that boundaries of any work areas are clearly defined using physical obstructions such as ropes, barriers or fencing. It is also important that these work areas are suitably signed.

3.12.4 In order to further prevent the spread of asbestos it is essential that suitable primary and full decontamination procedures are used as applicable in order to avoid further spread and that hygiene facilities are used correctly where appropriate.

3.12.5 In particular for licensable work in open air where it is not practicable to enclose the work area the risk assessment should establish what will be required to ensure that, as far as is reasonably practicable the spread of asbestos is prevented and the work area cleaned and in addition air monitoring will be required to ensure that asbestos fibres are not being spread from the work area.

3.13 Cleanliness of Premises and Plant (Regulation 17)

3.13.1 Regulation 17 requires that any employer who is undertaking work with asbestos ensures that any asbestos dust or debris is regularly cleaned up. In particular procedures will need to be set up to clean:

- Work areas including transit and waste routes
- Plant and equipment
- Hygiene facilities

3.13.2 A site validation procedure will be required particularly for licensable work with asbestos this will need to be proposed and agreed with the regulator and will make reference to the Remediation Method Statement provided by others (if applicable). It is likely that this validation procedure will require inspections by geotechnical consultants, accredited asbestos consultants and will also involve some form of sampling. It is important that the Remediation Method Statement are read in conjunction with this report.

3.14 Prevention or Reduction of Exposure to Asbestos (Regulation 18)

3.14.1 Regulation 18 requires that any employer who is undertaking work with asbestos-containing materials are separated and clearly and restricted to only those people required to work in the area. Food and drink must not be consumed in areas where asbestos work is being undertaken.

3.14.2 All areas where asbestos work is being undertaken should be segregated and demarcated as asbestos areas except from those areas where the work is completely defined under Regulation 3 (2) as being non-licensed work.

3.14.3 For the planned project it is unlikely that asbestos enclosures will be used, however suitable provisions must be made for putting physical barriers in place to prevent people from inadvertently entering and asbestos area.

3.14.4 Any area where an employee may be exposed to level of asbestos in the air that would exceed the control limit or the sporadic and low intensity limit must also be as a Respirator Zone and these zones must be marked with suitable warning notices and appropriate PPE and RPE worn.

3.14.5 All licensable work with asbestos should be carried out in an area designated as a respirator zone and an asbestos area.

3.14.6 Where it is not necessary to segregate an asbestos area or to designate a respirator zone (because the control limit will not be exceeded, or is not liable to be exceeded), RPE will still be required unless it is not reasonably practicable.

3.15 Washing and Changing Facilities (Regulation 23)

3.15.1 Regulation 23 requires that adequate washing, changing and storage facilities are provided for employees who are undertaking work with asbestos.

3.15.2 Suitable facilities should be provided including:

- Toilet facilities
- Facilities for washing and changing for non-licensable work
- Full hygiene facilities for licensable work
- An area to eat and drink (for licensable work these should be located as close as is reasonably practicable to the hygiene facilities).
- Hygiene facilities must meet the requirement of Paragraph 523 of CAR 2012.

4. SPECIFIC RISK ASSESSMENT & STRATEGY FOR ASBESTOS MANAGEMENT

4.0.1 This section of the document outlines the specific requirements for the management and remediation of asbestos at the site.

4.1 Control of Asbestos Regulations 2012

4.1.1 All employees who will be working on the site should have received suitable training. It is recommended that the training delivered is as detailed below:

- Principal Contractor and Site Managers – Asbestos awareness with additional module to cover personal decontamination procedures and the ACM's present on site and proposed work methodology
- Earthworks contractor – Asbestos awareness training
- Licensed contractor – Training for licensed work with asbestos, ensure refreshed within the past year

4.2 Plan of Work

4.2.1 Any organisation involved in excavating, moving or removal of material that is affected by asbestos contamination should prepare a plan of work and a risk assessment in accordance with Regulations 7 and 6 of CAR 2012 respectively.

4.3 Site Specific Risk Assessment

4.3.1 Five of the samples tested by GeoAssist and three of the samples tested by BEK as part of site investigation works proved positive for the presence of asbestos.

4.3.2 To further assess potential risks associated with asbestos, BEK instructed the laboratory to carry out asbestos quantification testing on the three samples which proved positive with respect to the presence of asbestos. No quantification testing was undertaken by GeoAssist.

4.3.3 The location of the positive asbestos samples, the type of asbestos contained within each positive sample, the quantification result, and the work category (see below) for each sample is provided within the table below:

Consultancy	Location	Asbestos Type/Matrix Description	Quantification Result	Work Category
GeoAssist	BH1 (0.3 m)	Chrysotile – Hard/Cement Type Material	Not Quantified	Cannot be determined
GeoAssist	BH2 (0.4 m)	Chrysotile – Hard/Cement Type Material & Loose Fibrous Debris	Not Quantified	Cannot be determined
GeoAssist	BH3 (0.5 m)	Chrysotile – Loose Fibrous Debris	Not Quantified	Cannot be determined
GeoAssist	BH5 (0.5 m)	Chrysotile – Loose Fibres	Not Quantified	Cannot be determined
GeoAssist	TP1 (0.3 m)	Chrysotile – Hard/Cement Type Material	Not Quantified	Cannot be determined
BEK	WS101 (0.3 m)	Amosite – Loose Fibres	<0.001 % w/w	CAR Regulations do not apply
BEK	WS102 (0.4 m)	Amosite & Chrysotile – Loose Fibres	<0.001 % w/w	CAR Regulations do not apply
BEK	WS103 (0.5 m)	Chrysotile – Loose Fibres	<0.001 % w/w	CAR Regulations do not apply
		Chrysotile - Woven	0.022 % w/w	Non-licensed Work

Table 3: Summary of Asbestos Quantification Testing in Positive Samples

4.3.4 Based on all data relating to the presence of asbestos in soils, BEK considers that asbestos is absent across much of the site. However, very low to low levels of chrysotile and amosite (loose fibres & woven chrysotile) have been noted to be sporadically present within the made ground.

4.3.5 In addition, site investigation by GeoAssist encountered chrysotile hard/cement type material and chrysotile loose fibres/fibrous debris in three each. BEK cannot rule out that asbestos is not present in further isolated areas of the site.

Assignment of Work Category

4.3.6 Specific precautions will be required to protect the end user from the asbestos contaminated made ground at the site. These precautions are outlined within the BEK Remediation Method Statement prepared for the site which should be read in conjunction with this report.

- 4.3.7 In order to assign the appropriate work category to any future groundworks with the asbestos containing soils at the site, BEK has input site specific information for each positive soil sample into the 'Joint Industry and Working Group' (JIWG) risk scoring algorithm for work categories. Where parameters were unknown, the most conservative data was input into the algorithm.
- 4.3.8 It should be noted that determined work categories depend on the extent of the degradation of the material of ACMs at the outset of the work (i.e intact, weathered or degraded). The absence of visual evidence of asbestos containing materials during the BEK site investigation would suggest that the woven chrysotile is unlikely to be degraded, although there is no information regarding the visual condition of asbestos encountered by GeoAssist.
- 4.3.9 Based on the testing carried out, CAR Regulations do not apply to three of the four quantified positive asbestos samples (WS101 0.3 m, WS102 0.4 m & WS103 0.5 m). This is because CAR regulations do not apply to asbestos concentrations of <0.001%.
- 4.3.10 The work category for works undertaken within the remainder of the site can be regarded as non-notifiable non-licensed.
- 4.3.11 As quantification testing was not undertaken by GeoAssist on the positive asbestos samples, worse case scenario conditions were input into the JIWG risk scoring algorithm which showed that even if concentrations of the ACM types encountered were large (>0.1 % wt/wt) and the ACMs were degraded (significant deterioration), works within the vicinity of the samples taken would still be regarded as non-notifiable non-licensed under the conditions detailed below.
- 4.3.12 The determination of work category depends on the intensity of work to be carried out on the asbestos containing soils/materials and the level of deterioration which is anticipated. Low intensity works where no or minimal deterioration is expected often have a different work category to high intensity work where significant deterioration is expected. The CAR-SOIL Control of Asbestos Regulations 2012 indicates that a common sense approach to decide whether work can be low intensity work should be taken. For example, this type of work could include mechanical excavation of soils, but would almost certainly not include mechanical crushing and/or screening of C&D materials.
- 4.3.13 It will be the responsibility of the earthworks contractor to produce working method statements which ensure works are of low intensity (with minimal deterioration expected) when dealing with asbestos containing soils. For the purpose of this assessment it has been assumed that the mechanical removal of the asbestos containing soils will result in no or minimal deterioration of the asbestos containing material. However, if the groundworks are likely to result in significant deterioration of asbestos containing soils and this management plan should be subject to review.

- 4.3.14 Additionally, if evidence of asbestos containing materials not anticipated to be present at the site (based on sampling to date) is encountered, it will be prudent to re-review this AMP to ensure that UK guidance and legislation is adhered to throughout the duration of the works.

Summary

- 4.3.15 Based on the testing carried out asbestos is absent across much of the site. However, very low to low levels of chrysotile and amosite (loose fibres & woven chrysotile) have been noted to be sporadically present within the made ground.
- 4.3.16 In addition, site investigation by GeoAssist encountered chrysotile hard/cement type material and chrysotile loose fibres/fibrous debris in three each. BEK cannot rule out that asbestos is not present in further isolated areas of the site.
- 4.3.17 Based on the currently available information BEK cannot rule out the further presence of low concentrations of loose chrysotile/amosite asbestos fibres and/or the presence of isolated areas of hard/asbestos cement type materials at the site. Based on site investigation data and the assessment herein, BEK recommends works with all site soils should as a minimum be regarded as non-notifiable non-licensed.

4.4 Recommendations

- 4.4.1 Taking the above into consideration, BEK recommends the following works are carried out:
- Based on the testing carried out, CAR Regulations do not apply to three of the four quantified positive asbestos samples (WS101 0.3 m, WS102 0.4 m & WS103 0.5 m).
 - The work category for all remaining areas for which asbestos concentrations were >0.001% or not quantified should be regarded as non-notifiable non-licensed. EN149 type FFP3 disposable masks, dust suppression measures and basic decontamination facilities should be provided by the contractor for non-licensed work activities at the site.
 - Should there be a requirement (not anticipated) to carry out high intensity works (where significant deterioration is expected) in any possible future area regarded as non-licensed, then the contractor will need to stop works immediately, inform BEK and this management plan should be subject to review.
 - We would recommend that the contractor produces working method statements which ensure works are of low intensity (with minimal deterioration expected) where these are intended to be carried out.

- During the movement of / or work with any material affected by asbestos or the excavation of any area where asbestos is expected it will be important in order to prevent exposure to (and the spread of) asbestos that the material is kept adequately wet using a suitable dust suppression system. It is important to note the term adequately wet and ensure that dampening down the work area does not result in the soils and other material becoming an unmanageable slurry.
- Consideration may also need to be given to general arrangements for the management of the site such as management of stockpiles, segregation areas, road wetting and road cleaning as appropriate.
- Groundworkers should remain vigilant to the presence of asbestos. If evidence of (suspected) asbestos containing materials is encountered during the earthworks, works should cease and specialist advice should be sought. If significant quantities of asbestos-containing materials are identified during works it may be prudent to ensure that these are covered over using polythene in order to prevent the spread of asbestos, this will be of particular importance if material is to be left at the end of a working shift on dry days.
- All employees who will be working on the site should have received suitable training which as a minimum should include asbestos awareness training.
- Any organisation involved in excavating, moving or removal of material that is affected by asbestos contamination should prepare a plan of work and a risk assessment in accordance with Regulations 7 and 6 of CAR 2012 respectively.
- It may also be necessary to utilise a “watching brief” during future excavation works in areas where asbestos-containing materials are suspected. This will be with the view to identify any potential asbestos-containing materials.
- All remediation works should be carried out in accordance with the BEK Remediation Method Statement
- If evidence of asbestos containing materials not anticipated to be present at the site (based on sampling to date) is encountered, it will be prudent to re-review this AMP to ensure that UK guidance and legislation is adhered to throughout the duration of the works.

5. GENERAL STRATEGY RELATING TO DEFINITION OF WASTE/RE-USE OF MATERIALS

5.1 Material Re-use

5.1.1 It is the desire of all stakeholders to re-use some of the excavated and stockpiled material on site. In considering whether this is possible or not the client has instructed a Remediation Method Statement to be written to cover contaminants other than asbestos. The strategy for re-use and potential disposal of material as waste including the specific requirements for asbestos will be developed by a multidisciplinary team consisting of representatives from the Principal Contractor, the Geo-environmental Consultancy and Asbestos Consultancy.

5.1.2 The proposed reuse of materials may follow the guidance detailed in:

- The Hazardous Waste Regulations 2005
- Guidance on the classification and assessment of waste (1 st Edition 2015), Technical guidance WM3
- CL:AIRE, The Definition of Waste: Development Industry Code of Practice

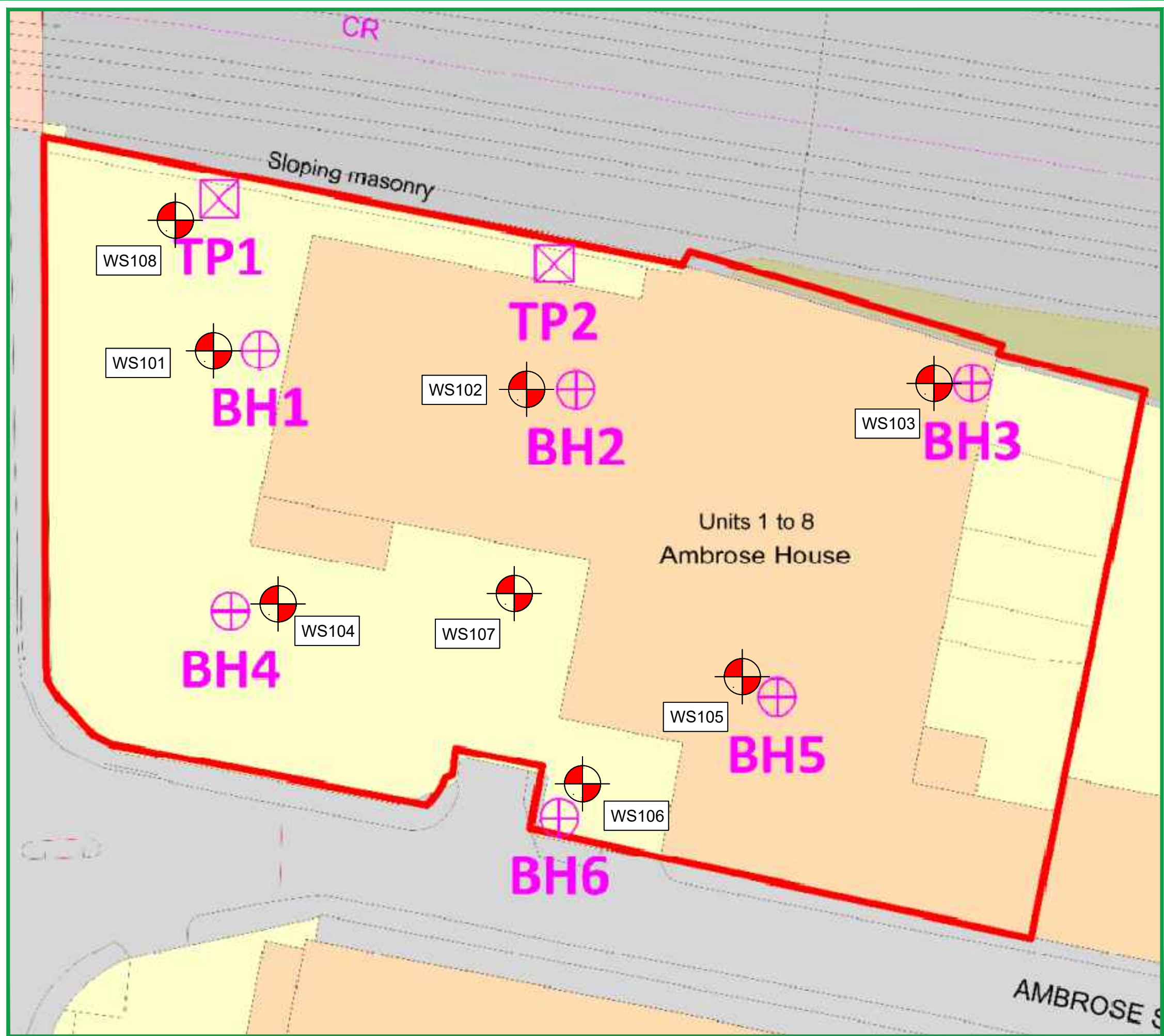
5.1.3 Depending on the sites involved and the nature of the projects other options may be more appropriate than using this Code of Practice in excavating and reusing those materials, for example:

- Waste Exemptions
- Standard Rules Environmental
- Bespoke Environmental Permit
- WRAP Aggregates Quality Protocol

5.1.4 Any material intended not to be re-used on site will be assessed using multiple lines of evidence and removed from site appropriately.

APPENDIX A

Drawings



LEGEND

-  GEOASSIST WINDOW SAMPLE BOREHOLE (JANUARY 2023)
-  GEOASSIST TRIAL PIT (JANUARY 2023)
-  BEK WINDOW SAMPLE BOREHOLE (MAY 2024)

REV	DESCRIPTION	DATE	BY



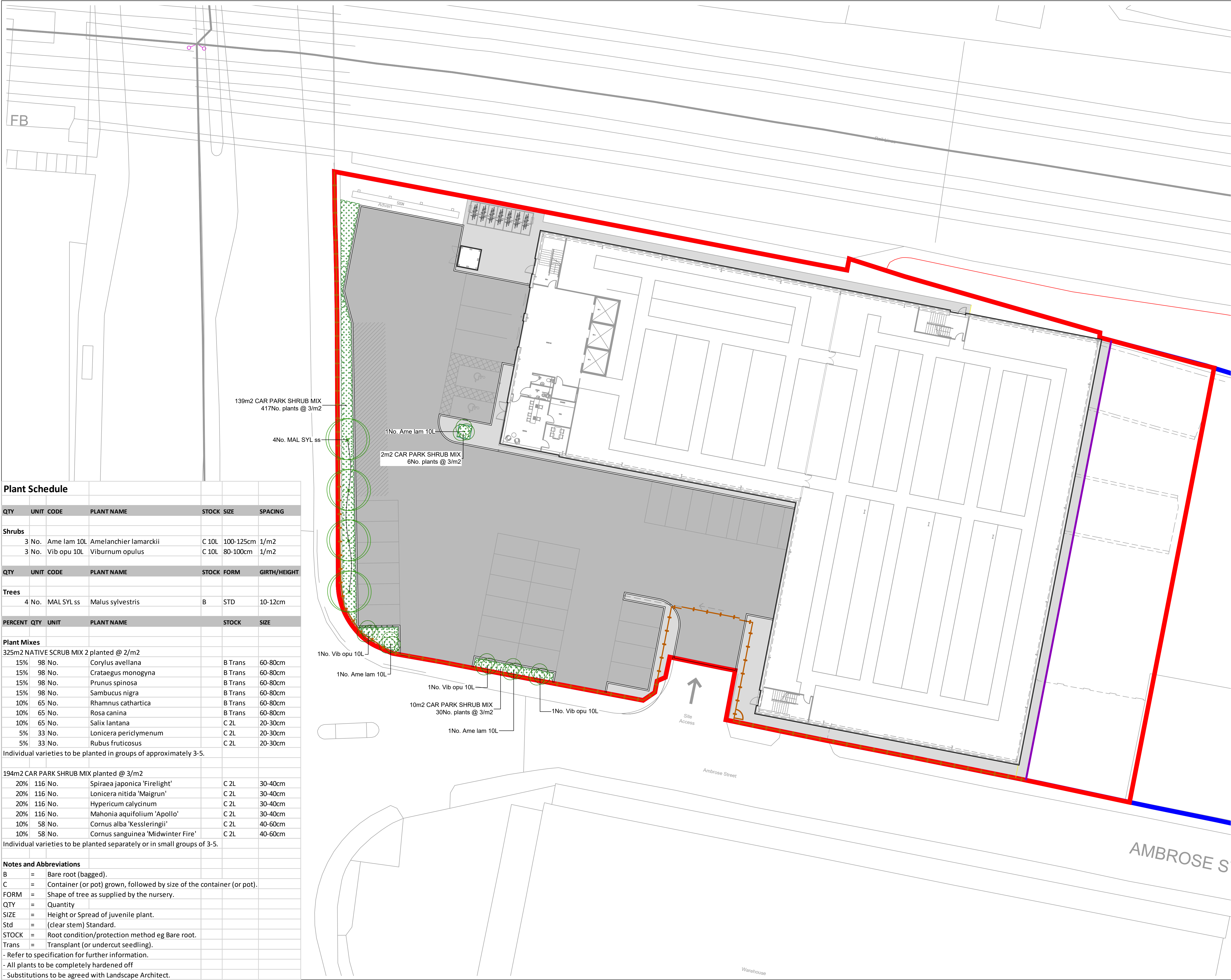
GEO-ENVIRONMENTAL CONSULTING
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Tel: 01254 377622 Mob: 07906753583
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Web: www.bekenviro.co.uk

CLIENT.
GK CONSTRUCTION & PROJECT MANAGEMENT

JOB TITLE.
AMBROSE STREET, MANCHESTER

DRAWING TITLE.
SITE INVESTIGATION PLAN

SCALE © A3. NTS	DRAWN BY. D.E.	APPROVED BY. M.B.	DATE. 30/05/24
DRAWING No. 24060-1	REV. -		



Plant Schedule						
QTY	UNIT	CODE	PLANT NAME	STOCK	SIZE	SPACING
Shrubs						
3 No.	Ame lam	10L	Amelanchier lamarckii	C 10L	100-125cm	1/m2
3 No.	Vib opu	10L	Viburnum opulus	C 10L	80-100cm	1/m2
QTY	UNIT	CODE	PLANT NAME	STOCK	FORM	GIRTH/HEIGHT
Trees						
4 No.	MAL SYL	ss	Malus sylvestris	B	STD	10-12cm
PERCENT	QTY	UNIT	PLANT NAME	STOCK	SIZE	
Plant Mixes						
325m2 NATIVE SCRUB MIX 2 planted @ 2/m2						
15%	98 No.		Corylus avellana	B Trans	60-80cm	
15%	98 No.		Crataegus monogyna	B Trans	60-80cm	
15%	98 No.		Prunus spinosa	B Trans	60-80cm	
15%	98 No.		Sambucus nigra	B Trans	60-80cm	
10%	65 No.		Rhamnus cathartica	B Trans	60-80cm	
10%	65 No.		Rosa canina	B Trans	60-80cm	
10%	65 No.		Salix lantana	C 2L	20-30cm	
5%	33 No.		Lonicera periclymenum	C 2L	20-30cm	
5%	33 No.		Rubus fruticosus	C 2L	20-30cm	
Individual varieties to be planted in groups of approximately 3-5.						
194m2 CAR PARK SHRUB MIX planted @ 3/m2						
20%	116 No.		Spiraea japonica 'Firelight'	C 2L	30-40cm	
20%	116 No.		Lonicera nitida 'Maigrun'	C 2L	30-40cm	
20%	116 No.		Hypericum calycinum	C 2L	30-40cm	
20%	116 No.		Mahonia aquifolium 'Apollo'	C 2L	30-40cm	
10%	58 No.		Cornus alba 'Kesslingii'	C 2L	40-60cm	
10%	58 No.		Cornus sanguinea 'Midwinter Fire'	C 2L	40-60cm	
Individual varieties to be planted separately or in small groups of 3-5.						
Notes and Abbreviations						
B	=	Bare root (bagged).				
C	=	Container (or pot) grown, followed by size of the container (or pot).				
FORM	=	Shape of tree as supplied by the nursery.				
QTY	=	Quantity				
SIZE	=	Height or Spread of juvenile plant.				
Std	=	(clear stem) Standard.				
STOCK	=	Root condition/protection method eg Bare root.				
Trans	=	Transplant (or undercut seedling).				
- Refer to specification for further information.						
- All plants to be completely hardened off						
- Substitutions to be agreed with Landscape Architect.						

Do not scale this drawing (printed or electronic version).

Contractors must check all dimensions from site

This drawing is copyright and is for use on this site only. This drawing should be read in conjunction with all relevant consultants drawings and specialist subcontractors / supply chain drawings and specifications.

All works to be carried out in accordance with the latest British Standards / Codes of Practice unless specifically directed otherwise in the specification.

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Graphical representations of equipment on this drawing have been co-ordinated, but are approximations only. Please refer to the specifications and / or details for actual sizes and / or specific contractor construction information.

Notes:-

KEY

Hard Works

Vehicular Asphalt Surface

Black colour.

Pedestrian Asphalt Surface

Black colour.

Black Paladin Fence

With matching gates.

Retaining Wall

Detail to engineer's specification

Raised 500mm high Planter Edging

Steel planter, Logic STAPEL

Size- 500mm high, 1500mm x 1500mm, Supplied by Logic

Street Furniture or equal approved.

Soft Works

Proposed Trees

Proposed specimen shrub

C 10L specimen shrub.

Proposed Low Level Shrub Mix Planting

P04	30/06/23	AMENDED ISSUE	SH	SA
P03	13/01/23	AMENDED ISSUE	TH	SA
P02	31/10/22	AMENDED ISSUE	TH	SA
P01	18/10/22	FIRST ISSUE	TH	SA
REV.	DATE	DESCRIPTION	DRAWN	CHK'D

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Client: STORAGE WORLD

Project: AMBROSE STREET, MANCHESTER

Title: General Arrangement

Issue: PLANNING

Drawn: TH	Checked: SA	Approved: ME
Project: UG1754	Scale @ A1: 1:200	Date: 17/10/22
Dwg No: UG_1754_LAN_GA_DRW_01	Revision: P04	