C1876/EAJ/DPS/bz/20260031_V01

05th March 2026

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Dear Jessica,

LAND AT BARNHILL STREET/RABY STREET, MOSS SIDE REMEDIATION STRATEGY LETTER

1. BACKGROUND

SGI Consulting Engineers Ltd (trading as SGI) have been instructed by Caddick Construction Ltd/Mosscare St Vincent's Housing Group Ltd to develop a remediation and enabling works strategy at a parcel of land located off Barnhill Street, Moss Side, Manchester (M14 4SS); herein referred to as the site.

The site comprises a generally rectangular parcel of open land with grassed open space in the north and scrubland in the south and southwest.

This report has been prepared to address Planning Conditions pertaining to a planning application for the site off Barnhill Street (143777/FO/2025). It is intended for submission to the regulatory bodies to outline the necessary remediation and enabling works required to render the site suitable for the future development.

The development of the risk management strategy for the subject sites includes the following tasks:

- Identification of the relevant pollutant linkages;
- Review of site characteristics;
- Development of remedial objectives;
- Selection of appropriate remedial technology; and
- Development of remedial strategy.

1.1. PREVIOUS REPORTS

SGI have been provided with the following geoenvironmental investigations and assessments that have previously been carried out at the site:

- **Phase I Geoenvironmental Site Assessment** (Ref: 18-145-R1-3) dated July 2025. The report was prepared by E3P on behalf of Caddick Construction Ltd.

- **Phase II Geoenvironmental Site Assessment** (Ref: C1582/EAJ/DPS/jt/20240177_V01) dated August 2025. The report was prepared by Shepherd Gilmour Consulting Engineers on behalf of Caddick Construction Ltd / Mossacre St Vincent's Housing Group Ltd

ace consultancy engineering business environment member

To inform the assessment of the potential risk to contaminated land within the context of the proposed residential development and to inform the preparation of the remediation strategy, the pertinent points from the above geo-environmental investigation reports are summarised within Section 1.3 overleaf.

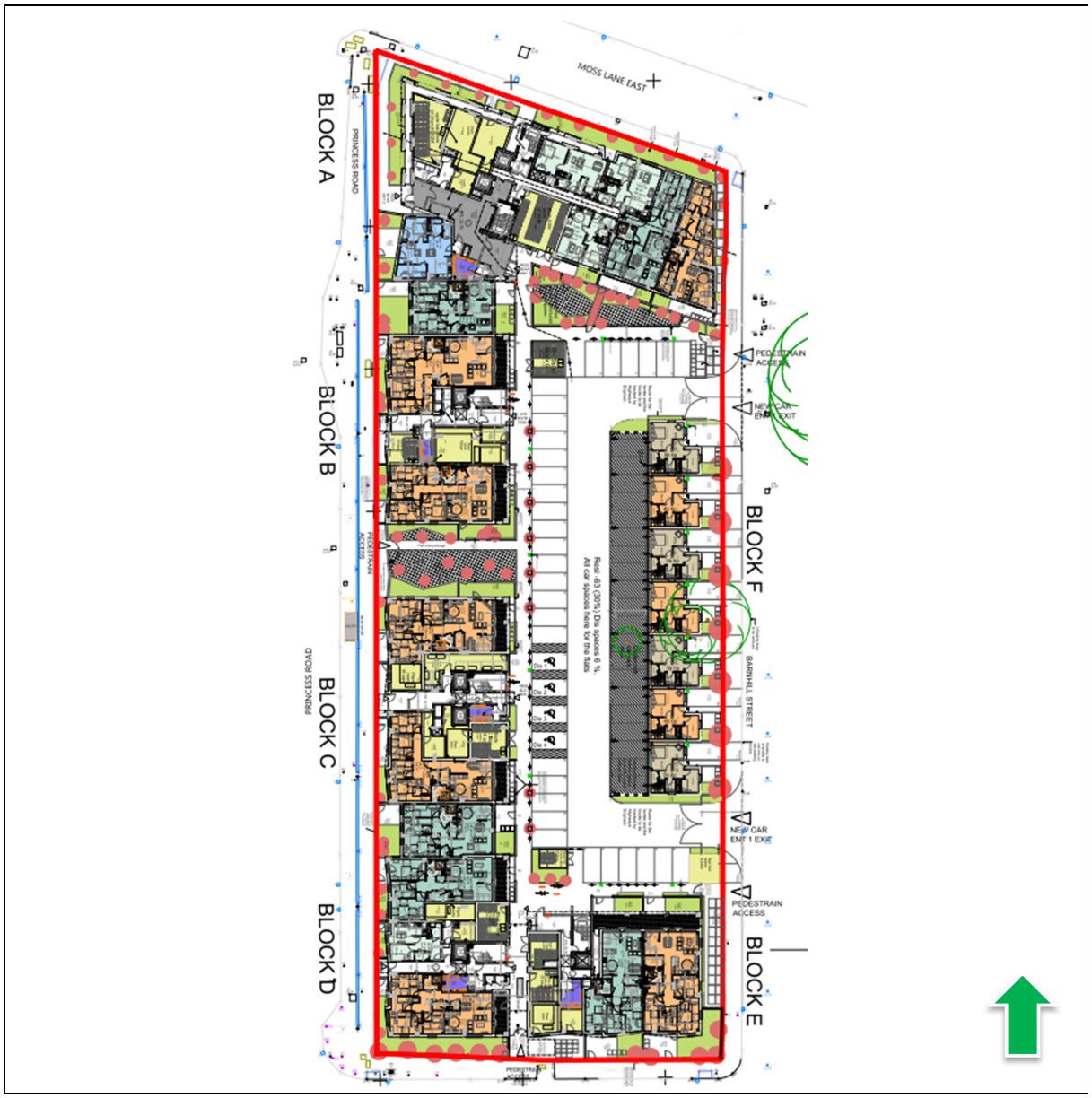
For the avoidance of any doubt, the reports should be read both as a precursor to and in conjunction with this document.

1.2. PROPOSED DEVELOPMENT

The proposed development will comprise a residential development of around 212 units comprising a mixture of 1,2, 3 and 4 bed flats between 3 to 10 storey high, and 7 town houses.

Proposed Development Plan is presented in Figure 1 below.

FIGURE 1 PROPOSED DEVELOPMENT LAYOUT



1.3. SITE SUMMARY

TABLE 1.1 SITE SUMMARY

Site History	Historical mapping from circa 1840 shows the site to comprise residential units in the south with the remaining site marked as open land. By 1891 residential housing is marked across the central section of the site. A picture theatre is also present in the east, north of the residential properties. The structures remain marked on mapping from until 1985-1990, and aerial images from 2000 show the picture theatre and majority of residential houses in the north and west to have been demolished, some residential units remain in the south that are later demolished by 2015. Imagery from 2022 show the site to be overgrown with self-seeded vegetation and semi mature – matures trees, as well as an advertisement billboard present in the northwest of the site.
Ground Conditions	**Made Ground:** Made Ground deposits were encountered within all exploratory hole locations from ground level to a maximum proven depth of 2.20m bgl (WS104). A layer of reworked Topsoil was identified across the majority of the site to depths of 0.10 – 0.40 m bgl, described as brown slightly gravelly fine to medium sand with occasional rootlets and gravels of fine to coarse angular to subrounded of brick, mudstone, sandstone, glass and rare metal. Beneath the reworked Topsoil, and from ground level in locations where reworked Topsoil wasn't identified, Made Ground comprised reddish, dark brown and grey multicoloured sandy gravel with frequent cobbles with occasionally high ash content. The gravel comprised fine to coarse angular to subrounded of brick, glass, concrete, sandstone, mudstone, slate rare metal, timber, clinker and plastic, with cobbles of angular of brick and concrete Frequent relict brick and concrete foundations and masonry were encountered in the Made Ground at depths generally between 0.50 – 1.50 m bgl. A layer of concrete hard standing was identified from ground level – 0.10 m bgl in RB101 and in RB106 between 1.90 – 2.10 m bgl. Bitumen bonded cobble setts were also encountered between 0.30 – 0.40 m bgl in TP101.
	Drift Natural superficial deposits were encountered beneath the Made Ground to a maximum proven depth of 8.80 m bgl (RB105 and RB106). The material was described as a firm to stiff greyish brown slightly sandy slightly gravelly CLAY with gravel of fine to coarse angular to rounded sandstone, mudstone and rare coal. Granular soils were occasionally encountered beneath the Made Ground in the centre-west and southwest of the site as follows: Greyish brown and a reddish-brown SAND and GRAVEL were encountered beneath the CLAY (7.50 – 8.80 m bgl) in RB101, RB104, RB105 and RB106, with gravel of fine to coarse angular to rounded of sandstone, mudstone and coal (likely to be completely weathered sandstone).

	Solid Geology Weathered red SANDSTONE was confirmed in the rotary boreholes from rockhead (top) depths of between 7.80 – 8.80 m bgl, becoming shallower towards the northeast. The SANDSTONE was found to be poorly cemented and interbedded with sand and gravel bands, resulting in poor core recovery during drilling. Where intact, the SANDSTONE was generally inferred to be weak/moderately weak to c. 20 m bgl, becoming medium strong (less weathered with improved recovery) beyond.
	Groundwater Three water strikes were recorded between 2.00-4.20 m bgl (approx. 30.69-28.38 m AOD) during the intrusive investigation. Depth to water across the six monitoring visits ranged between 3.14-3.89 m bgl (approx. 29.50-28.75 m AOD) in WS101 and 4.18-6.00 m bgl (approx. 28.46-26.64 m AOD) in RB101.
Human Health Risk Assessment	A single exceedance of the Tier 2 screening values for lead was identified within the Made Ground at WS105 (0.60 m bgl). Exceedances of non-volatile Benzo(a)Pyrene, Benzo(b)Fluoranthene and Dibenzo(a,h)Anthracene have been found in the Made Ground across the site. Assessment of the PAH ratios indicate that the PAHs are likely derived from combustion of grass/wood/coal and carbonisation (burning) in an urban background. The risk to end users is expected to be minimised where hardstanding is present within the proposed development as this will prevent exposure to impacted soils on site. A suitable clean cover system will be required in proposed private gardens as well as landscaping and communal garden areas to mitigate the risk of direct exposure to impacted soils.
Controlled Waters Risk Assessment	The underlying principal bedrock aquifer is considered the primary receptor. An isolated DWS exceedance of Chromium III has been found in one leachate sample (WS102), however, the Chromium III concentration within the corresponding soil sample was not found to be significantly elevated. Furthermore, no exceedances of Chromium III were identified in the groundwater sample analysed, indicating downward and/or lateral migration is not occurring. The presence of predominantly cohesive (low permeability) superficial deposits beneath the Made Ground and overlying the bedrock aquifer would likely inhibit downward migration. The risk to the aquifer is therefore considered very low. In respect of surface water receptors, Metals and PAHs have been found in exceedances of EQS values; however, the culverted Corn Brook is located >50 m from the site and likely to be lined, therefore the sensitivity is reduced. Ground conditions are also likely to comprise predominantly low permeability cohesive deposits that will impede lateral migration. The risk to surface water receptors is therefore considered very low.
Ground Gas	Characteristic Situation 1 (CS1) is appropriate for the site and specialist gas protection measures are not necessary.

2. REMEDIATION AND SITE-ENABLING WORKS

SGI has outlined specific remediation and enabling works points that will be required. These detailed works will be required to be independently validated, and it is considered when completed that the site will be considered suitable for redevelopment.

RE-1 – PREPARATION OF COVER SYSTEM

Where the soft-standing cover systems are required, it will be the contractor's responsibility to prepare the area to facilitate the placement of the clean cover system during the development phase of the works.

The preparation of the areas requiring clean cover is critical in ensuring delivery of the site in a manner that will ensure no risk to the proposed end users.

The Landscaping Plan for the site is attached within Appendix I, and confirms the areas which require a suitably designed cover system.

Where Made Ground is deemed unsuitable for retention in a garden, the area will be subject to a reduced-level dig to remove unsuitable material to a level that would allow the placement of the cover system or verified natural stratum (whichever is the shallower).

Excavated soil will be stockpiled pending the results of the appropriate validation testing (to be completed in accordance with this specification) prior to reuse in an area of no sensitivity or, where necessary, this material will be removed from the site following UK waste management legislation.

The placement of certified subsoil and topsoil will be completed as part of the developer works/build-phase mitigation plan.

All gardens and areas of POS where a cover system is required will be subject to plot-specific independent validation by E3P.

RE-2 – PROVISION OF TOPSOIL

No material that would be deemed suitable for use as topsoil is present on-site, and as such, there will be a requirement to import suitable material for use within the proposed development.

Imported topsoil will require regulation under an MMP, and tested in accordance with sampling frequencies outlined within Table 5.1.

The garden and landscaped areas will require depth validation to satisfy the requirement of the Council of Mortgage Lenders in order to demonstrate that the appropriate thickness has been provided as a growing medium.

Imported topsoil stockpiles should be placed in areas that will ensure no ‘cross contamination’ from materials with significant anthropogenic influence on-site.

RE-3 – PROVISION OF SUBSOIL

The shallow natural superficial deposits (predominantly cohesive soils) are deemed suitable for use within the clean cover system to areas of soft landscaping. It is therefore deemed viable to reuse materials that are cut as part of the wider earthworks or through a soil inversion (regulated by an MMP) to generate the required volumes of material.

Materials generated from the 'site strip' operation can be subdivided into topsoil and sub-soil, with sand and clay loam soils within the lower 50% of the site strip likely to be classified as a sub-soil material. These soils can be sustainably segregated, tested, and stockpiled for re-use as sub-soil.

The garden and landscaped areas will require depth validation to satisfy the requirement of the Council Of Mortgage Lenders (CML) in order to demonstrate that the appropriate thickness has been provided as a growing medium.

Sub-soil stockpiles should be placed in areas that will ensure no 'cross contamination' from materials with significant anthropogenic influence on-site.

RE-4 – WASTE SOIL SURPLUS

In the event that a surplus of excavation material is present on site, this, in most cases, will be deemed to be a waste in accordance with the Waste Framework Directive (Article 3(1) Waste Framework Directive 2008/98/EE). The waste producer – but ultimately, the landowner – is responsible for the compliant disposal of such materials.

A formal waste classification assessment must be undertaken, irrespective of any future options or considerations for those materials that will removed from the site. Waste classification should only be made following the Environment Agency Technical Guidance WM3 – guidance on the classification and assessment of waste.

To remove the surplus material from the site it will either need to be sent to a disposal site (landfill), to a permitted treatment facility or, dependent on the waste classification assessment, it may be suitable for use on a permitted land improvement or restoration operation.

Subject to suitability, these soils can be transferred to the receiving site, subject to an approved permit or materials management plan following guidance in the CI:AIRE Definition Of Waste: Code Of Practice.

RE-5 – INDEPENDENT VALIDATION AND SITE SUPERVISION

It will be necessary to undertake a watching brief to instigate the remediation and enabling works across the site with advice from a suitably qualified and independent specialist who is familiar with this letter report.

The specialist is required to attend the site on a part-time basis in order to record ground conditions and to monitor progress and quality of works completed by the contractor.

Frequencies of site attendance may need to change depending on specific operations that are being completed.

RE6 – REMEDIATION VERIFICATION REPORT

Complete remedial validation is to be reported in line with regulatory guidance. This will include a detailed risk assessment. The report will be submitted to the local authority for approval following completion.

The verification report will conclude the site remediation and enabling works, with the build phase validation to be produced separately.

3. VALIDATION SAMPLING PROTOCOL

In accordance with the current requirements of the regulatory authorities, validation samples will be collected from all materials that are to be subject to movement under the protocols outlined within this remediation and enabling works strategy, or for materials to be imported onto the site to facilitate the proposed residential development.

Soil samples destined for chemical analysis will be collected at regular intervals in appropriate sampling containers. All samples will subsequently be stored in cooled boxes prior to submission to a UKAS/MCERTS accredited laboratory.

All samples will be collected using appropriate personal protective equipment (PPE) and sampling equipment, which will be cleaned at each sampling location.

A detailed copy of SGI Ltd sampling methodology, QA procedures and laboratory chain of custody forms will be documented within the site records and presented with the final validation report for the site.

Where the material is found to contain concentrations of potential contaminants at levels in excess of the site-specific screening criteria (as detailed within the enclosed appendices), SGI will undertake further assessment and recommendations on the appropriate use for the material in question, which may involve the disposal of such materials off-site to a suitable waste management facility.

The sampling frequency for materials to be managed under the remediation strategy is presented in Table 3.1.

TABLE 3.1 SPECIFICATION OF CHEMICAL VALIDATION LABORATORY ANALYSIS

MATERIAL USE	TESTING FREQUENCY	SUITE OF ANALYSIS
Site-Generated		
Site Generated 6F2	1 Sample per 1000 m3	A/B/C/D
Site Won MADE GROUND General Backfill	1 Sample per 250 m3 where visual and/or olfactory impact is identified	E
Site Won MADE GROUND General Backfill	1 Sample per 1000 m3	A/B/C/D
Site Won MADE GROUND General Backfill	1 Sample per 2000 m3	F
Site Won Natural Backfill	1 Sample per 2000 m3	A/B/C/D
Site Generate Subsoil (150 mm Landscaped Cover)	1 Sample per 250 m^3	A/B/C/D
Hotspot Validation Samples	1 Sample per 10 m of linear excavation to base and sidewall	A
Imported		
Imported Crush – 6F5	1 Sample per 1000 m3	A/B/C/D
Subsoil Greenfield Source (150 mm Landscaped Cover)	1 Sample per 200 m3 (minimum of 3 per source)	A/B/C/D
Subsoil Brownfield Source (150 mm Landscaped Cover)	1 Sample per 150 m3 (minimum of 3 per source)	A/B/C/D
Topsoil Greenfield Source (150 mm Landscaped Cover)	1 Sample per 200 m3 (minimum of 3 per source)	A/B/C/D
Topsoil Brownfield Source (150 mm Landscaped Cover)	1 Sample per 150 m3 (minimum of 3 per source)	A/B/C/D
General Engineering Fill (Class 1 and 2)	1 Sample per 1000 m3	A/B/C/D

Notes
Suites of Analysis:

A. Speciated PAH.
B. Speciated TPH (C5-C35).
C. Asbestos (ID).
D. CLEA Inorganic Heavy Metals.
E. On-Site Screening for VOC Using Calibrated PID.
F. Leachate Analysis of Inorganic Heavy Metals, TPH, Sulphate and PAH.

All analysis prescribed above to be completed by UKAS-accredited laboratory.

3.1. REMEDIATION CONTRACTORS, SITE MANAGEMENT AND RESPONSIBILITY

The appointed remediation contractor will take full and overarching responsibility for all methods of work required to complete the site remediation and enabling operations to ensure the delivery of the site and the completion of the objectives in a safe, legislatively compliant manner that ensures no pollution to the subject site or the wider environs.

For individual remediation operations as set out within this performance specification, the contractor will provide site-specific methods of work for individual operations pertaining to the removal and treatment of contaminated liquids and soils. For each and every operation as set out herein, the contractor will provide a written methodology of works to be supplied to the supervising geo-environmental engineer prior to the instigation of operations on-site.

The site manager will be responsible for documentation of each day's activities with a full recorded schedule of works completed and corresponding site-specific method statements that have been utilised to ensure the completion of the task to the required standard.

4. CONTINGENCY PLAN

4.1. PREVIOUSLY UNDENTIFIED CONTAMINANTS

Should significantly impacted material be encountered during the development, then it will be excavated and stockpiled on an impermeable material and sampled and tested for an appropriate range of determinants.

Once the laboratory analysis of the material is available, an assessment will be undertaken to determine whether it can be retained on-site as part of the material management plan or whether it should be disposed of off-site.

Depending on the nature of any such impact, it may be necessary to undertake validation testing of the excavation faces in order to demonstrate that no such materials are left in situ.

5. SECOND PHASE MITIGATION AND MANAGEMENT – BUILD PHASE

This document details the construction works that are required to ensure full compliance with the remediation Strategy, Regulatory Authorities, Building Control & Warranty Providers.

The following should be implemented during the build phase of the development:

- Laboratory testing of both imported topsoil and subsoil deposits;
- Placement and validation of subsoil (clean material) in a 150 mm layer within any landscaped areas, and a 450 mm layer within any gardens where Made Ground deposits are present on site;
- Placement and chemical validation of at least 150 mm imported topsoil within any landscaped areas and gardens where Made Ground deposits are present on site.

The validation protocols are presented within the SGI Remediation and Enabling Works Strategy and are presented below.

5.1. PLACEMENT OF COVER SYSTEM

With respect to human health of the future site users, it includes the provision of a chemically suitable clean material to be installed in any garden and landscaped areas where Made Ground deposits are present on site; the construction of the clean cover/placement of clean material shall consist of:

Garden:
- Geotextile Membrane;
- 450 mm Subsoil; and,
- 150 mm Topsoil.

Landscaped:
- Geotextile Membrane;
- 150 mm Subsoil; and,
- 150 mm Topsoil.

In accordance with the current requirements of the regulatory authorities, validation samples will be collected from all materials that are to be imported or re-used on-site to confirm that the proposed development will pose no unacceptable risk to human health or the wider environ.

Subsoil and topsoil shall be free of any deleterious materials, such as building materials, timber, plastics etc and conform to the requirements of BS 3882:2007.

Testing requirements for topsoil and subsoil are presented in Table 3.1.

PROCEDURE FOR PLACEMENT OF CHEMICALLY SUITABLE COVER SYSTEM

Made Ground soils are to be stripped from beneath proposed areas of gardens to a minimum of 600 m bgl and 300 mm bgl in areas of landscaping.

Garden areas need to be backfilled with 450 mm of chemically validated subsoil, with 150 mm of chemically validated topsoil overlaying this. Landscaped areas need to be backfilled with 150 mm chemically validated subsoil, with 150 mm topsoil overlaying this.

These soils are both to be placed on a geotextile membrane to act as a separation layer to prevent soil mixing.

Topsoil is required to be confirmed as chemically suitable prior to placement. Where subsoil is not placed during Remediation & Enabling works, an independent party will be required to return to site and undertake independent validation of the correct placement of subsoil.

The placement of clean material will be undertaken during the build phase works of the project.

The placement of subsoil and corresponding validation will be documented within the Landscaping Validation Letters (to be issued on completion of the contractor's works).

If natural drift deposits are encountered within the 600 mm and 300 mm strip, then excavations can cease here.

SGI will collect photographic evidence of the placement of 150 mm of certified topsoil and 150 mm / 450 mm of subsoil on completion of construction works. This element will also be checked by the Building Control Officer as part of the site completion.

The cover system validation procedure is detailed in Table 5.1.

TABLE 5.1 COVER SYSTEM VALIDATION PROCEDURE

PROCEDURE	METHOD
Chemical Validation	Imported subsoils and topsoil will need to be chemically analysed to confirm suitability for use with the proposed cover system prior to installation and completion of the cover systems. SGI will issue an email to the appropriate party with an assessment of the chemical suitability of both subsoil and topsoil. If acceptable, the materials can be installed to the required depth, at which time the landscaping areas will be deemed complete following a validation procedure by a suitability-qualified engineer.
Trial Holes	Trial holes are deemed necessary for all gardens and landscaping areas, given that the cover systems will need to be placed on every garden and each landscaping area during the build phase.
Validation	Photographic evidence will be taken by SGI of the topsoil placement, demonstrating the depth of topsoil and practical completion of works are required for each and every garden and landscaping area. For areas where subsoil depths require validation by a third party during the build phase, photographs will be taken and collated by SGI.
Validation Certificate	Once the photographs of the placement of topsoil (over the clean material) have been provided, SGI will issue a validation certificate to demonstrate that the required subsoil and topsoil have been placed in the required areas, along with the chemical analysis.
Completion Report	Upon completion of all gardens and landscaping areas within the development, a Completion Report will be issued providing confirmation that all remediation requirements have been achieved.

Plate 1 provides an example of validation photographs that will be required for each area of landscaping.

PLATE I EXAMPLE COVER SYSTEM VALIDATION

Plot No: 4 (Car Park Landscaping)		
Depth of Strata (m bgl)	0.00-0.30	Validated TOPSOIL

Depth of Cover System Materials



Depth of Cover System Materials



Depth of Cover System at Ground Level and in Relation to Unit / Structure



I trust this information is satisfactory to your requirements, and should I be able to be of any further assistance, please do not hesitate to contact me.

Yours sincerely,

SGI Consulting Engineers Ltd

[redacted]


Damien Schofield
Structural Director

Enclosed;

- Appendix I – Drawings
  - Proposed Development Layout
  - Proposed Landscaping Plan
- Appendix II – Remediation / Validation Criteria

APPENDIX I
DRAWINGS

GROUND FLOOR PLAN



1:200 scale

Note.
Please note any 2bed 3 (61sqm) person shown with a double bed in the 2nd bedroom, is still clasified as only a 61sq 2b3p flat to suit NSS.

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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street Moss Side

Description
Proposed Ground Floor Plan

Status	Drawn By
Stage 3 - Planning	PJS/JT/SR

Job Number	Scale	Date
1215-MCAU	1.200@A1	JAN 25

Drawing Number	Revision
03-00	P24

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Hoppers

MOSS LANE EAST

BLOCK A

BLOCK B

BLOCK C

BLOCK D

BLOCK E

BLOCK F

PRINCESS ROAD

BARNHILL STREET

RABY STREET

Trees throughout the site help increase Moss Side's tree canopy coverage.

Maintenance access only. Gate to have access fob control. Gates to be locked down at all times.

Line of trees to maintain habitat connectivity with nearby existing trees and street planting.

Strip of planting between the building and main roads o protect the building, redirect the flow of air pollution and reduce urban heat island effect.

Light canopied fastigiate trees to reduce potential shading,

Defensible buffer planting, prickly shrubs to be 1m high.

Defensible planting under bedroom windows.

Temporary location for bin day collection.

Wildlife corner with wildflower turf and habitat boxes.

Gate to have access control for the gate access to be locked down if and when required.

Pedestrian access

Vehicular access

Drop kerbs added to accommodate vehicular access to site

Gate to have access fob control. The gates will be locked down.

Drop kerbs added to accommodate new driveway access

Permeable block paved driveways

Low wall with railings

Low railing and hedge

Gate to have access fob control. The gates will be locked down.

Vehicular access

Direct access to sub-station off the road

Gate to have access control for the gate access to be locked down if and when required.

Pedestrian access

Temporary location for bin day collection.

Gate to have access control for the gate access to be locked down if and when required.

Temporary location for bin day collection.

Pedestrian access

Seating.

Informal natural play elements on permeable rubber crumb surfacing.

Wildlife-beneficial ornamental planting and trees to screen private amenity spaces behind.

Community Pocket Park

Proposed Rain Garden to mitigate flooding and mimic natural drainage patterns and low level planting to maintain clear sightlines.

Bin Store

Green roof

Permeable block paved parking bays

Cycle stands

Trees in hard landscape to soften the built form.

Block paved parking bays

Bollards

EV charging

Bollards

Cycle stands

Cycle Store

Green roof

Permeable block paved parking bays

Substation

Cycle stands

Undercroft car park with first floor amenity space above.

Ginnel

Sedum Roof

Small fruiting trees to create attractive streetscene and boost biodiversity by providing food sources for pollinators.

Sedum Roof

Bird boxes to be fixed on the wall

Native bulb planting

Gate to have access control for the gate access to be locked down if and when required.

Proposed Rain Garden to mitigate flooding and mimic natural drainage patterns.

2m high boundary.

Boundaries to streets to be 1500mm high. Railings to match balconies above.

Entrance

Seating.

Community Pocket Park

Cycle stands

Bin Store

Bollards

Ginnel

Substation

Cycle Store

Undercroft car park with first floor amenity space above.

Green roof

Permeable block paved parking bays

Permeable block paved driveways

Low wall with railings

Low railing and hedge

Gate to have access fob control. The gates will be locked down.

Vehicular access

Direct access to sub-station off the road

Gate to have access control for the gate access to be locked down if and when required.

Pedestrian access

Temporary location for bin day collection.

Gate to have access control for the gate access to be locked down if and when required.

Temporary location for bin day collection.

Pedestrian access

Rev.C Sedum roof added and extra defensible planting EP17.07.25
Rev.B Changes in line with final arch comments NN 11.07.25
Rev.A Changes in line with comments NN 10.07.25

SOFT LANDSCAPE

Existing Trees and Vegetation to be Removed
All trees and hedges to be removed outside of bird nesting season. Please refer to Arboricultural Impact Assessment by Urban Green for further information.

Public Realm Trees
Trees to comprise medium sized fastigiate species planted as 20-25cm girth Semi-Matures, 450-550cm height with 2m clear stem.

Trees in Hard Landscape
Trees to comprise medium sized species planted as 20-25cm girth Semi-Matures, 450-550cm height with 2m clear stem. Planted in an urban tree pit with a permeable hard surface.

Small Fruiting Blossom Trees
Trees to comprise small-growing species planted as 14-16cm girth Extra Heavy Standards, 350-400cm height with 2m clear stem.

Ornamental Hedge
Proposed evergreen hedge to be planted along the private amenity space boundaries as 5L pots at 3 per lin.m.

Proposed Ornamental Planting
Shrubs and herbaceous plants to be planted as 3-5L pots at 3-5 per sq.m to soften the built form and provide seasonal interest.

Proposed Rain Gardens
Proposed rain gardens as part of the Drainage Strategy by SGI. Herbaceous plants to be planted as 1L pots at 5-7 per sq.m.

Proposed Wildflower Turf
Areas within communal amenity spaces to be laid as Wildflower turf.

Proposed Bulb Planting
Areas within communal amenity spaces to be planted with native bulbs. To include natural single species swathes of Daffodils and Crocus to provide an early food source for wildlife and for visual amenity.

Proposed Grass
Areas within communal amenity spaces to be laid as Species Rich Lawn turf.

Amenity lawn
Areas within private gardens to be laid as turf.

Green Roof/ Sedum Roof
Proposed green roof to cycle stores and bin stores and a sedum roof to sections of the apartment roof as indicated. Buildup and drainage for these roofs subject to engineers design.

SURFACE TREATMENTS

Linear Paving Units
Grey textured linear paving units for the pedestrian areas.

Paving Units
Buff-coloured textured paving units for private patio areas.

Block Paving
Parking bays to be surfaced in block paving.

Block Paving
Parking bays to be surfaced in permeable block paving. Please refer to Drainage Strategy by SGI.

Vehicular tarmac
Road within the courtyard to be surfaced in tarmac.

Play Surfacing
Areas within the walled garden to be surfaced in rubber crumb play surfacing.

Deterrent paving
Areas at the back of the colonnades to be surfaced in deterrent paving inline with secure by design.

BOUNDARY TREATMENTS

1000mm high boundary
Boundary to townhouses. 400mm high wall with 600mm high railings, or 1000mm high railings. To be vertical bar railings, brick to match building.

1100mm high boundary
To internal boundaries. Either 1100mm high wall or railings. To be vertical bar railings, brick to match building.

1500mm high boundary
To street boundaries. 900mm high wall with 600mm high railings, or 1500mm high railings. Vertical bar railings to match balconies above, brick to match building.

2000mm high boundary
To entrances into the site courtyard. 900mm high wall with 1100mm high railings, or 2000mm high railings. Vertical bar railings to match balconies above, brick to match building.

Bollards
Proposed powder-coated steel bollards.

FEATURES/ FURNITURE

Picnic Table with Benches
Table and seats within Community Pocket Park to be surface fixed. To be metal with MOSO Bamboo X-treme slats with flame spread index Class A following ASTM E84.

Bench
Benches within Community Pocket Park to be surface fixed or integrated into planter. To be metal with MOSO Bamboo X-treme slats with flame spread index Class A following ASTM E84.

Informal Natural Play Elements
Community Pocket Park to have informal play elements like stepping logs or stones. To be supplied by Playdale or similar approved, subject to detailed design.

Habitat Features
Wildlife corners within Community Pocket Park to have habitat features. For example insect and solitary bee houses or log piles.

Bird Box
Bird boxes to be fixed to building wall, specification and positions to be advised by the ecologist.

Indicative Location for Light Bollards
Please refer to the Lighting Strategy done by others. Final locations tbc.

Indicative Location for Lightposts
Please refer to the Lighting Strategy done by others. Final locations tbc.

Cycle Stands
Proposed short stay cycle parking.

N

0 10 20

SCALE - METRES - 1:200

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Client
MSV

Project
Moss Side, Manchester

Description
Landscape Masterplan - Ground Floor

Status
Planning

Scale	Drawn		
1:200@A1	NN/EP		
Job number	Drawing number	Date	Revision
5242	04	July 25	C

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All levels and dimensions to be checked on site by contractor prior to commencement; Any variations to be reported to the client. This drawing is to be read in conjunction with all others relating to the project and all information derived accordingly; any anomolies to be reported to the client. Do not scale from this drawing. Use figured dimensions only. Work shown on this drawings to be carried out in accordance with current British Standards and Codes of Practice.

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APPENDIX II
REMEDIATION / VALIDATION CRITERIA

Summary of Inorganic and Hydrocarbon Toxicity Assessment for Residential with Plant Uptake and Public Open Space (POS)

DETERMINANT	UNIT	PRIVATE GARDEN *WITHIN* 600mm COVER	PUBLIC OPEN SPACE (RESI) *WITHIN* 300mm COVER	PL
Arsenic	mg/kg	37	79(	1
Cadmium	mg/kg	11	120	1
Chromium (VI)	mg/kg	6	7.7	1
Lead	mg/kg	200	630	1
Elemental Mercury	mg/kg	1.2	16	4
Nickel	mg/kg	130	230	1
Selenium	mg/kg	250	1100	1
Copper	mg/kg	2400	12,000	1
Zinc	mg/kg	3700	81,000	1
Cyanide – Total	mg/kg	791	440	1
Phenols – Toal	mg/kg	120	440	1
Asbestos	mg/kg	N/A	NFD	3
Naphthalene	mg/kg	2.3	1200	4
Acenaphthylene	mg/kg	170	15,000	2
Acenaphthene	mg/kg	210	15,000	1
Fluorene	mg/kg	170	9900	1
Phenanthrene	mg/kg	95	3100	2
Anthracene	mg/kg	2400	74,000	2
Fluoranthene	mg/kg	280	3100)	2
Pyrene	mg/kg	620	7400	2
Benzo(a) Anthracene	mg/kg	7.2	29	2
Chrysene	mg/kg	15	57	2
Benzo(b) Fluoranthene	mg/kg	2.6	7.1	2
Benzo(k) Fluoranthene	mg/kg	77	190	2
Benzo(a) Pyrene	mg/kg	2.2	5.7	2
Indeno (123-cd) Pyrene	mg/kg	27	82	2
Dibenzo (a,h) Anthracene	mg/kg	0.24	0.57	2
Benzo(ghi) Perylene	mg/kg	320	640	2
TPH C5-C6 (aliphatic)*	mg/kg	42	570000	4
TPH C6-C8 (aliphatic)*	mg/kg	100	600000	4

DETERMINANT	UNIT	PRIVATE GARDEN *WITHIN* 600mm COVER	PUBLIC OPEN SPACE (RESI) *WITHIN* 300mm COVER	PL
TPH C8-C10 (aliphatic)*	mg/kg	27	13000	4
TPH C10-C12 (aromatic)*	mg/kg	130	5000	4
TPH C12-C6(aromatic)*	mg/kg	1100	5100	4
TPH C16-21 (aromatic)*	mg/kg	260	3800	1
TPH C21-35 (aromatic)*	mg/kg	1900	3800	1
TPH C5-C6 (aliphatic)	mg/kg	42	570000	4
TPH C6-C8 (aliphatic)	mg/kg	100	600000	4
TPH C8-C10 (aliphatic)	mg/kg	27	13000	4
TPH C10-C12 (aliphatic)	mg/kg	130	13000	4
TPH C12-C16 (aliphatic)	mg/kg	1100	13000	4
TPH C16-C35 (aliphatic)	mg/kg	65000	250000	1
TPH C5-C7 (aromatic)	mg/kg	70	56000	4
TPH C7-C8 (aromatic)	mg/kg	130	56000	4
TPH C8-C10 (aromatic)	mg/kg	34	5000	4
TPH C10-C12 (aromatic)	mg/kg	74	5000	4
TPH C12-C16 (aromatic)	mg/kg	140	5100	4
TPH C16-C21 (aromatic)	mg/kg	260	3800	1
TPH C21-C35 (aromatic)	mg/kg	1100	3800	1

Notes
PL1 = soil ingestion, PL2 = dermal contact and ingestion, PL3 = dust inhalation; PL4 = Vapour/Gas inhalation
Abbreviations: GAC = general assessment criteria, N = number of samples, MC = maximum concentration; Loc of Ex = location of exceedance; PL = Contaminant pathway of that contaminant.
*The Tier 2 GAC for the hydrocarbon fraction is derived from the CIEH assessment for petroleum hydrocarbons Criteria Working Group (CWG) for both aliphatic and aromatic compounds. SGI has utilised the Tier 2 values for aliphatic compounds for the volatile and semi volatile fractions (C5-C12) and the Tier 2 values for aromatic compound for the non-volatile fractions (C12-C35). The comparison of a total (aliphatic/aromatic) compounds to an individual fraction is considered to be a conservative approach and satisfactory for the protection of human health.