



Practical, sustainable solutions to complex environmental problems

**Stage 3, Tier 2 Verification Report
(Pre-Construction Enabling Works)**

at

**Victoria Riverside
Land South of Dantzic Street
Strangeways
Manchester
M4 4EJ**

(ref. TJ3752AR1v1.0)

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LIST OF COMMON ABBREVIATIONS

ACM	Asbestos Containing Material	PAH	Polyaromatic Hydrocarbon(s)
Al	Aluminium	PCB	Polychlorinated Biphenyl(s)
AONB	Area of Outstanding Natural Beauty	PCoC	Potential Contaminants of Concern
AoPC	Area(s) of Potential Concern	PE	Polyethylene
AST	Above Ground Storage Tank	PFS	Petrol Filling Station
BaA	Benzo(a)anthracene	PID	Photo Ionisation Detector
BaP	Benzo(a)pyrene	POS	Parks and Open Spaces
BbF	Benzo(b)fluoranthene	PPE	Personal Protective Equipment
BGS	British Geological Survey	PRA	Preliminary Risk Assessment
BH	Borehole	PVC	Polyvinyl Chloride
BTEX	Benzene, Toluene, Ethylbenzene & Xylene	RBMP	River Basin Management Plan
CAT	Cable Avoidance Tool	RMS	Risk Management Strategy
CD&E	Construction, Demolition & Excavation	RWFD	Revised Waste Framework Directive
Chy	Chrysene	RWL	Resting Water Level
CLEA	Contaminated Lane Exposure Assessment	S	South
CSM	Conceptual Site Model	S4UL	Suitable 4 Use Levels
CWG	California Working Group	SAC	Special Area of Conservation
C4SL	Category 4 Screening Levels	SGV	Soil Guideline Value
DEFRA	Dept. for Environment, Food & Rural Affairs	SNRHW	Stable Non-Reactive Hazardous Waste
DahA	Dibenzo(ah)anthracene	SPA	Special Protection Area
DQRA	Detailed Quantitative Risk Assessment	SPL	Significant Pollutant Linkage
E	East	SPR	Source-Pathway-Receptor
EA	Environment Agency	SPZ	Source Protection Zone
EU	European Union (Council/Commission etc.)	SSAC	Site Specific Assessment Criteria
FRA	Flood Risk Assessment	SSSI	Site of Special Scientific Interest
GAC	Generic Assessment Criteria	SVOC	Semi Volatile Organic Compound(s)
GQA	General Quality Assessment	TGEN	Terragen Environmental Consultants Limited
GQRA	Generic Quantitative Risk Assessment	TOC	Total Organic Carbon
Ha	Hectare(s)	TP	Trial Pit
IcdP	Indeno(123-cd)pyrene	TPH	Total Petroleum Hydrocarbon(s)
LLTC	Low Level of Toxicological Concern	UCL ₉₅	95% Upper Confidence Limit
LNR	Local Nature Reserve	UK	United Kingdom
LoW	List of Wastes	UKAS	UK Accreditation Service
m	Metre(s)	UKEA	UK Environment Agencies
mAOD	Metres Above Ordnance Datum	UN	United Nations
mbgl	Metres Below Ground Level	USEPA	United States Environmental Protection Agency
MTBE	Methyl Tert-Butyl Ether	UST	Underground Storage Tank
MCERTS	EA Monitoring Certification Scheme	VOC	Volatile Organic Compound(s)
N	North	W	West
NGR	National Grid Reference	WAC	Waste Assessment Criteria
NNR	National Nature Reserve	WFD	Water Framework Directive
NP	National Park	WS	Window Sampler
NVZ	Nitrate Vulnerable Zone		



1.0 INTRODUCTION AND FRAMEWORK

TGEN was commissioned by Henry Construction Projects Limited (HCPL), the client, via a written instruction to proceed to compile a Verification Report for the Pre-Construction Enabling Works phase of the development to address land contamination conditions attached to the planning permission granted for the proposed development at the site.

Site Address	Victoria Riverside, Land South of Dantzic Street, Strangeways, Manchester M4 4EJ.
NGR	384540E 399370N.
Site Location and Current Use	The previously vacant site covers an area of circa 0.97ha and is bounded by Dantzic Street, Gould Street, a railway viaduct, and a warehouse unit. It is bisected by Bromley Street (closed road) which lies in a NW to SE orientation. The site comprises hardstanding and is secured by a hoarding after all previous buildings and uses were cleared. The topography of the site is relatively flat at an elevation of circa +35mAOD with a fall in levels from E to W across the site of circa 3m. The surrounding area is dominated by the railway bridge and arches which are occupied by car garages and microbreweries. A traveller's site is on the opposite side of Dantzic Street. A site location/layout plan is presented in Figure 1.
Proposed Development	The site is part of the 'Northern Gateway Strategic Regeneration Framework' area. The proposal comprises three residential tower buildings of 37, 18 and 26-storeys above two, six-storey podiums on Dantzic Street to create six hundred and thirty-four homes including apartments (611), townhouses (13) and 10 maisonettes, which will comprise one-bedroom (35%), two-bedroom (55%) and three-bedroom (10%) properties. Tower A, at 37-storeys, is at the junction of Gould Street and Dantzic Street followed by Tower B at 18-storeys and Tower C at 26-storeys. A lower-level block, 6-storey block on Dantzic Street and Bromley Street would include townhouses, maisonettes and commercial uses creating front doors onto the street. Shared indoor and outdoor amenity spaces would be created on two podiums with private and semi-private amenity space and balconies. Podium A is to the S of Bromley Street adjacent to Tower A. Podium B is located to the E of Bromley Street between towers B and C. A public square would be created at the junction of Dantzic Street and Gould Street. Public realm improvements would also be undertaken along Dantzic Street with new paving, street trees and planting. Bromley Street would be a pedestrian priority street with public realm and landscaping. The facades of the building comprise a mixture of projecting and Juliet balconies and balconies to the podium areas. The main vehicular entrance would be via Dantzic Street which leads to a 43-space car park under Podium B (including 4 bays for disabled people). The 8 townhouses on Bromley Street would have dedicated parking space in the building. Pedestrian entrances for Towers A and C would be from Gould Street and Dantzic Street. Tower B entrance would be S of Bromley Street. There would be 634 cycle spaces (100% provision) with tower A having 293 spaces, tower B 134 and tower C 214. There would also be an additional 20 spaces within Podium A. Proposed development plan(s) are presented in Figure 2.
Framework	The Land Contamination: Risk Management Guidance (EA, May 2020) outlines how to assess if there is unacceptable risk and to decide which options are the most suitable to manage the risk through the implementation of remediation (if necessary). The guidance is based upon The Model Procedures for the Management of Land Contamination, CLR 11 (EA, 2004), which were developed to provide a technical framework for applying a risk management process when dealing with land potentially affected by contamination. The scope, framework and purpose remain the same, although CLR11 has now been withdrawn. The process involves identifying, making decisions on, and taking appropriate action to deal with, land contamination in a way that is consistent with government policies and legislation within the UK. Environmental assessors use a SPR conceptual site model when determining the risk posed by a potentially contaminated site. For potential risk to arise each stage of the SPR linkage must be present, plausible, and significant. Our approach follows the framework provided in the new guidance, the stages, and tiers of which can be briefly summarised as follows: 📌 Stage 1 Risk Assessment (RA) - Tier 1: Preliminary Risk Assessment (PRA). - Tier 2: Site Investigation and Generic Quantitative Risk Assessment (GQRA). - Tier 3: Detailed Quantitative Risk Assessment (DQRA). 📌 Stage 2 Options Appraisal (OA) - Decide if sufficient up to date information is available. - Tier 1: Identify feasible remediation options. - Tier 2: Detailed evaluation of options. - Tier 3: Selection of final remediation option. 📌 Stage 3 Remediation Strategy (RS) - Tier 1: Develop a Remediation Strategy. - Tier 2: Remediation and Verification. - Tier 3: Long term monitoring and maintenance (if required).



2.0 PREVIOUS INVESTIGATIONS

Previous Investigations	The site has been subject of several previous investigations: • Preliminary Risk Assessment (PRA) report (ref. LKC 19 1267- 01 dated September 2019) prepared by LK Consult (LKC). • Stage 1 Site Investigation Factual Report (ref. LKC 19 1267 dated September 2019) prepared by LKC. • Final Phase 2 Geo-Environmental Investigation, Risk Assessment and Remediation Strategy (ref. LKC 19 1267 dated November 2019) prepared by LKC.
Stage 1, Tier 1 PRA	The findings of the PRA can be briefly summarised as follows: • Historical mapping has shown that Industrial buildings, residential properties, and roads were present from prior to 1891. The majority of site was replaced by a Rubber Works shown on mapping from 1922, subsequently annotated as a ‘Works’ from 1980 mapping and no longer present from 2003 mapping. • The anticipated geological sequence comprised made ground across the site, underlain by Boulder Clay/Till across S half of the site (Secondary Undifferentiated Aquifer) with underlying bedrock of the Chester Formation Sandstone (Principal Aquifer). • There was no recorded mining, although the site was within an area where ‘Probable Shallow Coal Mine Working’ was considered with two mine entries onsite. • The River Irk is located circa 15m to the SW. • The nearest recorded pollution incident was circa 10m to the NW rated Category 3 (Minor Incident). • There are no surface water abstractions within 1000m, and the nearest groundwater abstraction is circa 510m to the NW and the site is not within an EA designated SPZ for potable supply. • The PRA identified seven potential pollutant linkages (PL): ○ PL1 Direct contact (human health): Low Risk (ACMs, Heavy Metals, hydrocarbons, Organic/Inorganic Contaminants); Low Risk (Mineral Oils, PCBs). ○ PL2 Inhalation of Vapours: Low Risk (volatile contaminants). ○ PL3 Gas: Low Risk (hazardous and ground gas). ○ PL4 Controlled waters: Low Risk (mobile contaminants). ○ PL5 Sulphate Attack: Low Risk (sulphate). ○ PL6 Water Pipelines: Low Risk (organic contaminants). ○ PL7 Phytotoxic: Low Risk (metals). The PRA concluded that a site investigation was required to further assess the pollutant linkages.
Stage 1, Tier 2 Site Investigation and GQRA	In September 2019, a site investigation was undertaken by LKC, which comprised the following: • Six window sample boreholes (ref. WS101 to WS106), seven rotary boreholes (ref. BH1 to BH7), twelve trial pits (ref. TP1 to TP12), two slot trenches (ref. ST1 and ST7), seven slot trenches (ref. ST8 to ST14) and two soak away tests were undertaken in TP9 and TP10. • Monitoring wells were installed in all window sampling and rotary boreholes • Eight soil samples were tested for metals, speciated PAHs, pH, sulphate, asbestos, and SOM, seven soil samples were tested for metals, speciated PAHs, cyanide, pH, sulphate, asbestos, phenol, TPHCWG, BTEX, MTBE and SOM, five soil samples were tested in accordance with WAC and two samples were submitted for the BRE SD1 Short Suite. • One visit to monitor groundwater levels within the boreholes. The revised CSM assigned the following risks to the pollutant linkages: • A low risk was assigned to risks to site users associated with ACM as no ACMs were identified onsite or within the soils. No further work was recommended. • A moderate risk was assigned to risk to site users associated with elevated levels of lead, PAHs, and hydrocarbons, which were identified in the made ground. It was noted that the made ground was to be removed during the proposed site level changes. The report recommended remediation would be required should made ground remain in place in areas of proposed landscaping. • A moderate risk was assigned to volatile contaminants posing a risk to site users via inhalation of vapours. Elevated naphthalene (hazard Quotient >1). It was noted that the made ground was to be removed during proposed site level changes. The report recommended a fully tanked and well-ventilated underground car park complying with BS8485. • A moderate/low risk was assigned to ground gas risks to buildings and site users. It was noted that the made ground was to be removed during proposed site level changes. The report recommended a fully tanked and well-ventilated underground car park complying with BS8485. • Elevated sulphate within the made ground was assigned a moderate/low risk. The report noted that made ground is likely to be removed during proposed site level changes. The report recommended sulphate resistant concrete required (DS-3 AC-2s) where made ground remains in place and in contact with proposed buildings.



Stage 3, Remediation Strategy	The LKC report concluded that remedial measures were required (i) pre-construction (i.e., during earthworks) and (ii) during/post construction, including the following, which are presented below:			
	Phase	PL	Remediation Requirements	Validation Requirements
	Pre-Construction	All	<u>Earthworks Inspections / Unexpected Contamination</u> The relevant contractors should be briefed that during development works at the site should any unusual ground conditions and / or visual or olfactory evidence of contamination (including asbestos containing material) be encountered at the site, LKC and the Local Authority should be informed, and further assessment of the material may be required. Should asbestos be identified during groundworks, precautions should be taken to ensure the safety of the construction workers and nearby land users. It would be advisable to introduce an asbestos management strategy in line with CIRIA C73359.	Log of work undertaken including photographs. Details of any sampling undertaken and validation of any potential additional remedial work.
	Build Phase Construction	1, 2, 3 & 7	It is understood that the site levels are to be reduced to approximately 3-3.5mbgl, with an average of ~3m will be removed across the site from current levels (exact levels to be confirmed at this stage). Remediation associated with PL1, 2, 3 & 7 should comprise removal of all made ground and raise levels (as required) with suitably chemically validated material. Should made ground remain in place, then risk assessment should be updated, and remediation measures revised – a capping layer may be required.	Consignment notes confirming the removal of made ground. Photographic evidence of natural strata. Chemical validation of imported soils:
		2 & 3	In addition to the above, it is understood that the development is to include an underground car park across the footprint of the building(s). This should comprise as a minimum a suitable waterproofing and ventilation commensurate with Building Regulations and in line with BS848560.	Supply and review of foundation designs. Photographic evidence of foundations.
		5	<u>Sulphate Resistant Concrete</u> Sulphate Resistant Concrete in line with DS-3 AC-2s recommended where infrastructure may come into contact with made ground. Sulphate resistant concrete not required in natural strata. This should be confirmed with the structural engineer.	N/A
		6	<u>Potable Water Pipes</u> It is recommended that a Water Pipeline Assessment is undertaken once the location and depth of potable water pipes are known.	Delivery Notes of Pipe Material. Photographs of the Installed Pipe.



3.0 PLANNING STATUS

Planning Status	The Site Investigation Report (Phase 1) and Site Investigation Report (Phase 2), prepared by LKC were submitted to the local authority to support the planning application. Planning permission (ref. 126944/FO/2020 dated UL dated 15/01/2021) was granted by Manchester City Council (the local authority) for the erection of a residential-led mixed use development comprising 3 no. towers (37, 26 and 18 storeys) and podium levels (6 storey) to form 634 residential apartments and townhouse accommodation (Use Class C3) together with commercial accommodation (1222 sqm) (Use Classes A1,A2,A3,A4,A5,B1, D1 and D2)); with associated residential amenity areas, refuse storage, plant (including substation), car parking, cycle storage, landscaping and new public realm including the re-instatement of Bromley Street and other associated works. A copy of the planning permission is presented in Appendix A, which is subject to conditions, one of which (split) relates to the investigation, assessment and management of potential land contamination and can be summarised as follows: Condition 9) a) Notwithstanding the Site Investigation Report (Phase 1) prepared by LK Consulting, Site Investigation Report (Phase 2) stamped as received by the City Council, as Local Planning Authority, on the 19 May 2020, a phase of the development shall not commence until the following information for that phase has been submitted for approval in writing by the City Council, as Local Planning Authority, to identify and evaluate all potential sources and impacts of any ground contamination, groundwater contamination and/or ground gas relevant to the site - o Details of the initial gas monitoring investigation including a copy of any report used and also details of atmospheric pressure during monitoring to ensure assessment included periods of low and falling atmospheric pressure. - o If any of the current boundary land is to remain or reused, or areas of soft landscaping are not being removed as part of the surface dig then an updated risk assessment and potentially remediation report will be required to confirm the details of any necessary remediation in these areas. - o A water supplier risk assessment to confirm the type of water supply pipe to be installed. Condition 9) b) When the phase 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.
Stage 3, Remediation Strategy Update	Further to the planning permission granted by the local authority for the development at the site, LKC gathered additional information relating to gas monitoring, boundary conditions and water supply pipes, which was presented in an updated remediation strategy report, a copy of which is presented in Appendix B: Remediation Strategy (ref. LKC 21 1194 dated April 2021) prepared by LKC. We assume that The Remediation Strategy report has been submitted to the local authority in respect of the matters reserved by Condition 9) a). The Remediation Strategy noted the requirements for Site Completion Reports: Pre-construction Phase Completion Report: Site level reduction details, offsite disposal information, findings of the watching brief, validation testing of site won materials for re-used, including any site generated subsoil to be used in soft landscaping. Build-phase Construction Completion Report: Gas membrane validation, validation testing of any imported topsoil, completion of UU potable water supply document and/or discussion with United Utilities (UU).



4.0 REMIT

Remit	The client fulfilled the pre-construction phase of the development (i.e., the enabling works). This has included the removal of concrete obstructions and a reduced level excavation across the site to construct a temporary construction platform at an elevation of circa +29 to +30mAOD. A copy of the pile mat level survey is presented in Figure 3. TGEN was commissioned to present the relevant validation records gathered by the client during the enabling works and prepare the Stage 3, Tier 2 Verification Report (Pre-Construction Phase Completion Report). The build-phase validation records and associated completion report will be fulfilled by others.
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5.0 PRE-CONSTRUCTION PHASE VALIDATION RECORDS

5.1 Site Personnel

RAMS and Toolbox Talk Records	The client compiled a Risk Assessment Method Statement (RAMS 02-Rev1 dated 14/04/2021) for the enabling works and the installation of a working platform, a copy of which is presented in Appendix C. The RAMS included measures to mitigate risks associated with: ✎ Excavation of made ground and disposal from site using preferred contractor. ✎ Site foreman to monitor ground conditions for the presence of hazardous material or for the presence of any suitable site won materials to be used later for backfilling. ✎ Excavating around obstructions (Pile caps, pad foundations and existing piles) recording positions and removal using pneumatic breakers and concrete pulveriser. ✎ Removal of any hazardous materials as per the local authority conditions. ✎ Installation of working platform to as per design and levels provided. The RAMS was communicated to the site personnel during a pre-start site briefing, a signed copy of the attendance record is presented in Appendix D. The client also compiled a series of toolbox talks on a variety of topics, including needles, excavations and personal hygiene, copies of which are presented in Appendix E. As noted in the Phase 2 report A low risk was assigned to risks to site users associated with ACM as no ACMs were identified onsite or within the soils. Whilst no further work was recommended, the Remediation Strategy recommended that should asbestos be identified during groundworks, precautions should be taken to ensure the safety of the construction workers and nearby land users. It would be advisable to introduce an asbestos management strategy in line with CIRIA C73359. As such, a toolbox talk specifically about risks associated with ACM was presented by the client, a copy of which is presented in Appendix F. Furthermore, the site was supervised by a project manager with asbestos awareness training, a copy of the competency certificate is presented in Appendix G.
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5.2 Watching Brief

Watching Brief	During the development, the client maintained a watching brief, a photographic record of which is presented in Appendix H, a selection of which are presented in the table below.	
April 2021		Excavations for the crane base.
May 2021		General view across the site.
June 2021		General view across the site.
July 2021		General view across the site.



5.3 Validation Testing Records

Waste Disposal Assessment	The Stage 1, Tier 2 site investigation report prepared by LKC included a waste disposal assessment using HazWaste Online™ (HWOL). LKC used worst case metal species based on hazard statements/ molecular weight, site history, ground conditions and likely species present in soils were used (e.g., metal oxides relating to an ash-based source). The near surface soil (made ground) at three locations was classified as hazardous waste, being described as soil and stones containing dangerous substances (LoW Code 17 05 03*): ST8 @ 0.1-1.1mbgl: Visual Description: Dark brown gravelly SAND with frequent whole brick and fragments, occasional timber, metal, pottery, and rare masonry. Sand is fine to coarse. Gravel is fine to coarse, subangular. Elevated TPH (2470mg/kg or 0.247% - moisture corrected) with a BaP marker of 5.5%. Deemed hazardous by HP7:Carcinogenic and HP11 Mutagenic. The laboratory described the chromatogram signature as being consistent with PAH as opposed to fuel. ST9 @ 0.4-1.0mbgl: Visual Description: Black sandy gravelly silty CLAY with frequent brick fragments, plastic, metal, plant matter and timber. Moderate sulphide (H2S) odour Elevated TPH (1330mg/kg or 0.133% - moisture corrected) with a BaP marker of 0.06%. Deemed hazardous by HP7:Carcinogenic and HP11 Mutagenic. The laboratory described the chromatogram signature as being consistent with PAH/Heavy Oil. ST13 @ 0.45-1.5mbgl: Visual Description: Black silty gravelly SAND with frequent brick, concrete, occasional plastic, glass, timber, and metal. Sand is fine to coarse. Gravel is fine to coarse, subangular. Moderate sulphide (H2S) odour. Elevated TPH (2580mg/kg or 0.258% - moisture corrected) with a BaP marker of 0.07%. Deemed hazardous by HP7:Carcinogenic and HP11 Mutagenic. The laboratory described the chromatogram signature as being consistent with Diesel/Lube Oil/PAH. We note that there was no visual/olfactory evidence of fuels or hydrocarbon contamination noted at any location, which is partially corroborated by the chromatogram/fuel type assessment, which indicated the signatures being consistent with PAH and heavy oil. In addition, at each location, tarmac was noted in the made ground in the upper layers of the profile. We also note that the made ground at TP10 @ 0.1-1.1mbgl was classified as potentially hazardous (HP8 Corrosive) due to a strongly alkaline soil reaction (pH Value) at the hazardous threshold of 11.5. However, the LKC description of the made ground at this location was <i>"brown clayey gravelly SAND with frequent brick (whole and fragments), occasional pottery, concrete and rare metal. Sand is fine to coarse. Gravel is fine to coarse, subangular"</i>. As such, the presence of alkaline construction materials (e.g., brick and concrete) in the sample and the absence of corrosive materials such as plaster board, would indicate that the elevated pH is due to concrete and brick in the sample rather than potentially corrosive materials. Therefore, materials from these three locations were segregated and removed as soil and stones containing dangerous substances (LoW Code 17 05 03*).
Additional Delineation Sampling and Testing	In advance of the reduced level excavation commencing Socotec Materials Testing (Socotec) attended the site to collect samples from six (6) locations in the vicinity of ST8, ST9 and ST13 to determine whether the hydrocarbon contamination was more extensive, or as anticipated based on the site investigation report was localised. A sample location plan is presented in Figure 4. The samples were tested for a wide range of potential contaminants (heavy metals, TPH, PAH etc.) and WAC. A copy of the laboratory test report is presented in Appendix I. In general, the samples returned low concentrations of potential contaminants. The only exceptions were Sample 5 and Sample 6, which returned slightly elevated concentrations of TPH (1120mg/kg and 1030mg/kg). However, with moisture contents of 11.8% (Sample 5) and 11.6% (Sample 6), the moisture corrected concentrations were both <1000mg/kg and would therefore not be deemed hazardous. As such, the soil represented by the six (6) samples recovered by Socotec during the delineation sampling exercise would be soil and stones not containing dangerous substances (LoW Code 17 05 04). This would indicate that the contamination identified at ST8, ST9 and ST13 was localised.



5.4 Duty of Care Records – Waste Disposal

Waste Carriers	During the project waste materials generated at the site were removed by the following carriers: - Chartrange Enviro Limited (WCL: CBDU177542 dated 11/02/2020 to 08/05/2023). - McDonnell Haulage Limited (WCL: CBDU46027 dated 02/10/2018 to 01/11/2021). W. Leeson & Son (WCL: CBDU100836 dated 23/05/2019 to 10/06/2022). All three carriers are upper tier waste carriers with the certificate of registration being in date for the period of waste disposal (i.e., April to July 2020) from the site. Copies of the Waste Carrier Licences are presented in Appendix J.						
Receiving Facilities	During the project, waste materials generated at the site were disposed to the following sites/facilities: <table border="1"> <tr> <td data-bbox="357 573 715 636">Soil and Stones (17 05 04) and Concrete (17 01 01)</td><td data-bbox="715 573 1489 636">Aggregate & Soil Recycling Facility at Salford, Manchester operated by Chartrange (Quarry Products) Limited (Permit No. EPR/EB3903LV).</td></tr> <tr> <td data-bbox="357 636 715 698">Mixed Waste (17 09 04) and End of Life Tyres (16 01 03)</td><td data-bbox="715 636 1489 698">A11 Waste Transfer Station at Moss Lane, Manchester operated by William Leeson (Permit No. EAWML 50114).</td></tr> <tr> <td data-bbox="357 698 715 797">Soil and Stones Containing Dangerous Substances (17 05 03*)</td><td data-bbox="715 698 1489 797">Hazardous Waste Soil Treatment Facility at Maw Green Landfill Site operated by 3C Waste Limited (Permit No. EPR/BS7722ID).</td></tr> </table> Copies of the permits for the receiving facilities are presented in Appendix K.	Soil and Stones (17 05 04) and Concrete (17 01 01)	Aggregate & Soil Recycling Facility at Salford, Manchester operated by Chartrange (Quarry Products) Limited (Permit No. EPR/EB3903LV).	Mixed Waste (17 09 04) and End of Life Tyres (16 01 03)	A11 Waste Transfer Station at Moss Lane, Manchester operated by William Leeson (Permit No. EAWML 50114).	Soil and Stones Containing Dangerous Substances (17 05 03*)	Hazardous Waste Soil Treatment Facility at Maw Green Landfill Site operated by 3C Waste Limited (Permit No. EPR/BS7722ID).
Soil and Stones (17 05 04) and Concrete (17 01 01)	Aggregate & Soil Recycling Facility at Salford, Manchester operated by Chartrange (Quarry Products) Limited (Permit No. EPR/EB3903LV).						
Mixed Waste (17 09 04) and End of Life Tyres (16 01 03)	A11 Waste Transfer Station at Moss Lane, Manchester operated by William Leeson (Permit No. EAWML 50114).						
Soil and Stones Containing Dangerous Substances (17 05 03*)	Hazardous Waste Soil Treatment Facility at Maw Green Landfill Site operated by 3C Waste Limited (Permit No. EPR/BS7722ID).						
Disposal Records	Between 20/04/2021 and 23/07/2021, one thousand, four hundred and fifty-one (1451) lorry loads, circa 11500m³ of waste materials were removed from the site, which included: - Eleven (11) loads of mixed construction and demolition waste (LoW Code 17 09 04) disposed offsite to the transfer station at Moss Lane. Copies of the waste transfer notes (WTN) are presented in Appendix L. - Two (2) loads of end-of-life tyres (LoW Code 16 01 03) disposed offsite to the transfer station at Moss Lane. Copies of the WTN are presented in Appendix M. - One thousand, two hundred and sixty (1260) loads of soil and stones not containing dangerous substances (LoW Code 17 05 04) disposed offsite to the Chartrange recycling facility in Salford. A selection of WTN is presented in Appendix N. - Three (3) loads of soil and stones containing dangerous substances (LoW Code 17 05 03*) disposed offsite to the soil treatment facility at Maw Green Landfill. A photographic record and copies of the consignment notes are presented in Appendix O. - One hundred and seventy-five (175) loads of hardcore (LoW Code 17 01 01) disposed offsite to the Chartrange recycling facility in Salford. A selection of WTN is presented in Appendix P.						

5.5 Duty of Care Records – Imported Materials

Disposal Records	During June and July 2021, three hundred and seventy-four (374) lorry loads, circa 2900m³ of aggregates were imported to the site to construct the temporary piling platform. This has included: - Two hundred and forty-four (244) loads of unbound, recycled aggregate (Type 6F2) from Chartrange (Quarry Products) Limited. A copy of the performance certificate is presented in Appendix Q. - One hundred and twenty-eight (128) loads of unbound, recycled aggregate (Type 6F2) from Pearl Environmental Limited. A copy of the performance certificate is presented in Appendix R. - Two (2) loads of MOT Type 1 subbase material from Dow Low Quarry. A copy of the performance certificate is presented in Appendix S. A selection of delivery notes is presented in Appendix T.
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5.6 Developer Declaration

Declaration	During the groundwork phase of the development a discovery strategy was implemented by the developer. As described above, a watching brief was maintained by the project manager during the works for evidence (e.g., visual, or olfactory evidence) of unexpected or otherwise exceptional contamination or ground conditions (e.g., obstructions or unexpected structures). No evidence of unexpected contamination (i.e., outside the scope of the remediation strategy) or any unexpected structures or other obstructions was identified during the works. A signed declaration by the developer is presented in Appendix U.
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6.0 REGULATORY APPROVAL

Regulatory Approval	In accordance with the requirements of the planning permission, the validation records presented in Section 5.0 should be submitted to the local authority regarding the matters reserved by Condition 9) b) (Pre-Construction Phase Verification Report) of the planning permission. Further validation records relating to the Build Phase Construction (e.g., water supply pipes, waterproofing/membranes, imported topsoil etc.) should be provided by the parties involved in those subsequent elements of the development.
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7.0 LIMITATIONS AND USE OF THIS REPORT

IMPORTANT: This section should be read before reliance is placed on any of the opinions, advice, recommendations or conclusions set out in this report.

- a) This report has been prepared for the purpose of providing advice to the client pursuant to its appointment of TGEN to act as a consultant.
- b) Save for the client no duty is undertaken or warranty or representation made to any party in respect of the opinions, advice, recommendations or conclusions herein set out.
- c) All work carried out in preparing this report has used, and is based upon, our professional knowledge and understanding of the current relevant English and European Community standards, approved codes of practice, technology and legislation.
- d) Changes in the above may cause the opinion, advice, recommendations or conclusions set out in this report to become inappropriate or incorrect. However, in giving its opinions, advice, recommendations and conclusions, TGEN has considered pending changes to environmental legislation and regulations of which it is currently aware. Following delivery of this report, we will have no obligation to advise the client of any such changes, or of their repercussions.
- e) TGEN acknowledges that it is being retained, in part, because of its knowledge and experience with respect to environmental matters. TGEN will consider and analyse all information provided to it in the context of our knowledge and experience and all other relevant information known to us. To the extent that the information provided to us is not inconsistent or incompatible therewith, TGEN shall be entitled to rely upon and assume, without independent verification, the accuracy and completeness of such information.
- f) The content of this report represents the professional opinion of experienced environmental consultants. TGEN does not provide specialist legal advice and the advice of lawyers may be required.
- g) In the summary and recommendations sections of this report, TGEN has set out our key findings and provided a summary and overview of our advice, opinions and recommendations. However, other parts of this report will often indicate the limitations of the information obtained by TGEN and therefore any advice, opinions or recommendations set out in the executive summary, summary and recommendations sections ought not to be relied upon unless they are considered in the context of the whole report.
- h) The assessments made in this report are based on the ground conditions as revealed by walkover survey and/or intrusive investigations, together with the results of any field or laboratory testing or chemical analysis undertaken and other relevant data which may have been obtained including previous site investigations. In any event, ground contamination often exists as small discrete areas of contamination (hot spots) and there can be no certainty that any or all such areas have been located and/or sampled.
- i) There may be special conditions appertaining to the site which have not been taken into account in the report. The assessment may be subject to amendment in light of additional information becoming available.
- j) Where any data supplied by the client or from other sources, including that from previous site investigations, have been used it has been assumed that the information is correct. No responsibility can be accepted by TGEN for inaccuracies within the data supplied by other parties.
- k) Whilst the report may express an opinion on possible ground conditions between or beyond trial pit or borehole locations, or on the possible presence of features based on either visual, verbal or published evidence this is for guidance only and no liability can be accepted for the accuracy thereof.
- l) Comments on groundwater conditions are based on observations made at the time of the investigation unless otherwise stated. Groundwater conditions may vary due to seasonal or other effects.
- m) This report is prepared and written in the context of the agreed scope of work and should not be used in a different context. Furthermore, new information, improved practices and changes in legislation may necessitate a reinterpretation of the report in whole or part after its original submission.
- n) The copyright in the written materials shall remain the property of the TGEN but with a royalty-free perpetual licence to the client deemed to be granted on payment in full to TGEN by the client of the outstanding amounts.
- o) These terms apply in addition to the TGEN standard terms of engagement (or in addition to another written contract which may be in place instead thereof) unless specifically agreed in writing (In the event of a conflict between these terms and the said standard terms of engagement the said standard terms of engagement shall prevail). In the absence of such a written contract the standard terms of engagement will apply.
- p) TGEN maintains adequate insurance cover for public liability and professional indemnity. However, we are unable to accept liability for asbestos related matters. Our work must not be taken as sufficient to identify the presence or absence of asbestos in or on the ground. In placing a contract with us the client accepts the restriction on asbestos. If we find or strongly suspect asbestos is or may be present in or on the ground, we will inform the client and advise specialist investigation. The client agrees that they shall not bring any claim personally against any director / employee or consultant to us in respect of loss or damage suffered by the client arising out of this contract.