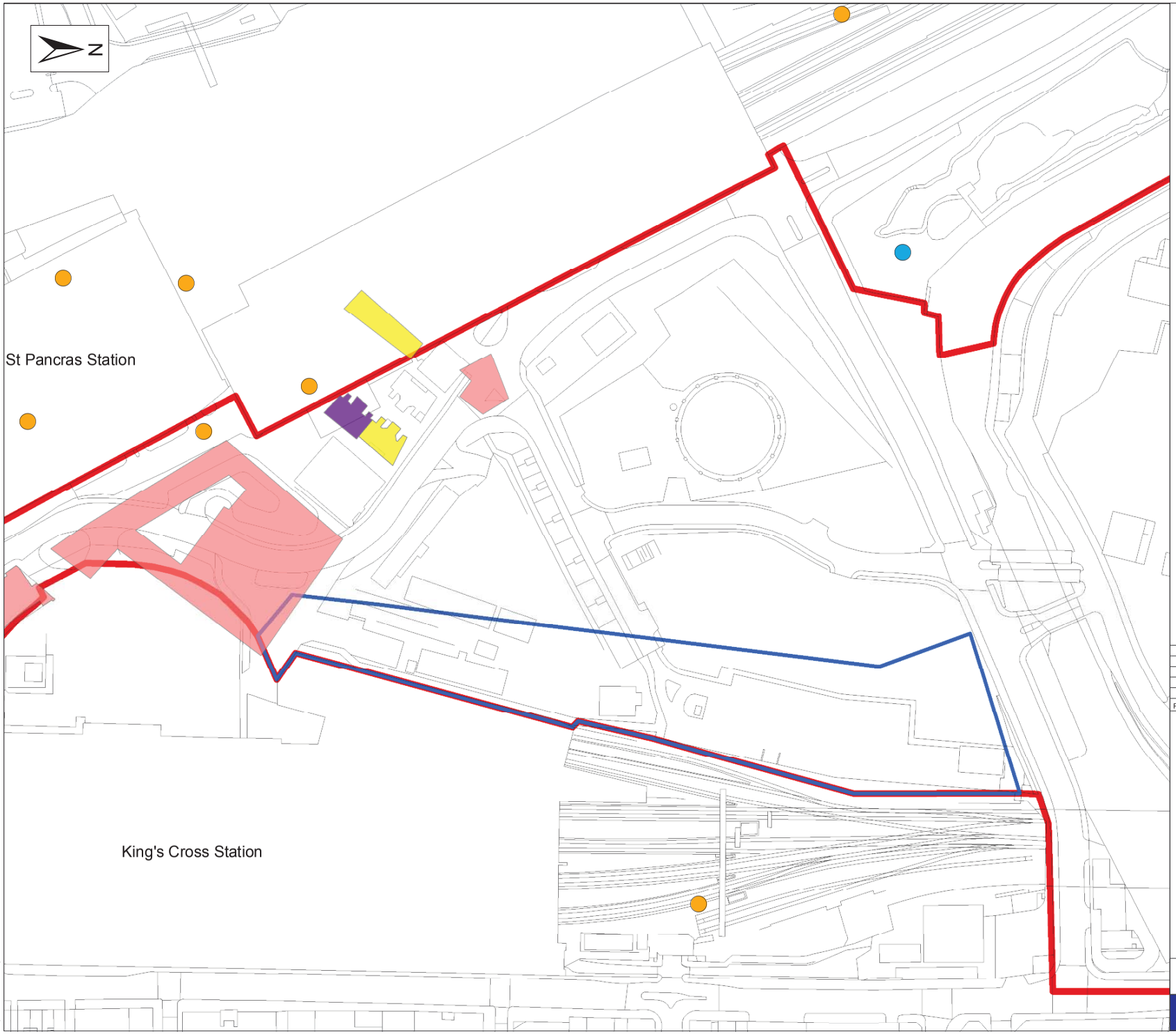

Legend

- Kings Cross Central Site Boundary
- UXO Area 4

Notes

- Bomb strikes recorded between 7th October 1940 - 28th July 1941
- Night Bomb strikes recorded up to 7th October 1940

War Damage Locations

- Blast Damage, Minor in Nature
- Seriously Damaged, But Repairable at Cost
- Damage Beyond Repair

NOTE: Bomb strike, war damage & historical locations are approximate.

Rev:	Date:	Amendment:	Name:	Checked:

Data Source: RPS 2007

Status: FINAL

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Client: Argent

Project: Kings Cross Central

Title: Summary of UXO and Explosives Risk UXO Area 4

Scale: A3 @ 1:1,500

0 0.025 0.05 km

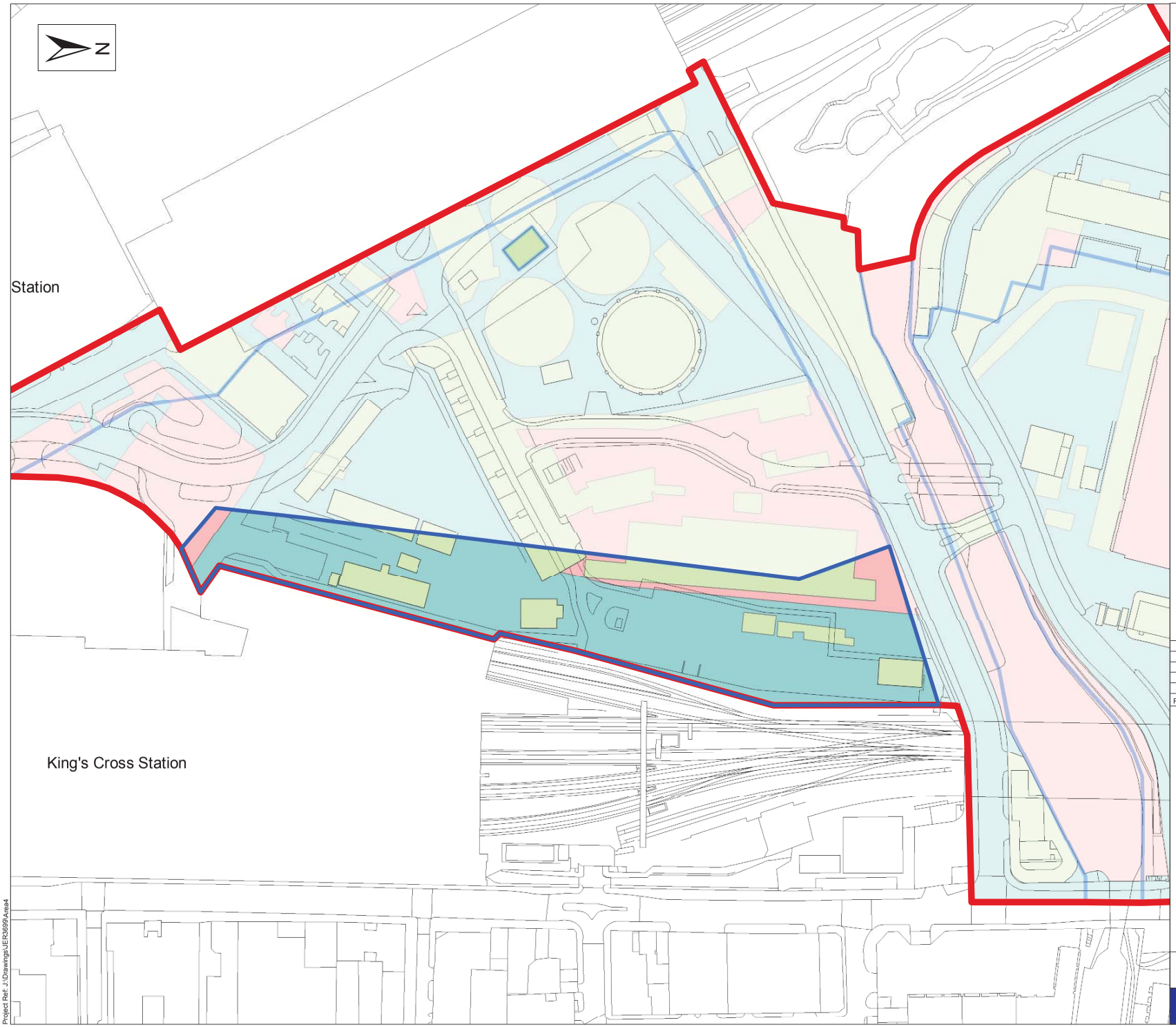
N

Date: 12/06/2007 Datum: OSGB36 Projection: BNG

Drawn: SRM Checked: VP Job Ref: JER3699

Drawing No: **JER3699-04-003** Revision: -

Project Ref: J:\Drawings\JER3699\Area4



Legend

- Kings Cross Central Site Boundary
- UXO Area Boundary

Unexploded Ordnance Risk

- Low Risk
- Low / Moderate Risk
- Moderate Risk

Rev:	Date:	Amendment:	Name:	Checked:

Data Source: RPS 2007

Status: FINAL

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Client: Argent

Project: Kings Cross Central

Title: Unexploded Ordnance Risk Map
UXO Area 4

Scale: A3 @ 1:1,500

0 0.025 0.05km

N

Date: 12/06/2007 Datum: OSGB36 Projection: BNG

Drawn: SRM Checked: VP Job Ref: JER3699

Drawing No: **JER3699-04-004** Revision: -

Project Ref: J:\Drawings\JER3699\Area4

Appendix D

Hazard Screening Assessment

D1 Hazard Screening Assessment

D1.1 Introduction

To simplify the assessment of risks, UK statutory guidance allows the use of authoritative and scientifically based guideline values for the initial hazard screening assessment, provided that such guideline values are available and are appropriate to the site circumstances of the pollutant linkages in question. The hazard screening assessment is used to identify contaminants of concern that may pose a risk of harm to human health, or a risk of significant pollution of groundwater at the Site.

D1.2 Soil Quality

D1.2.1.1 Soil Hazard Screening Guideline Values

Generic assessment criteria (GAC) and soil guideline values (SGV) have been used as initial screening criteria to assess whether further action may be necessary to mitigate an identified pollutant linkage based on the results of the investigation of the potential sources and plausible pollutant linkages identified by the conceptual model. Where all reported sample concentrations are below the screening values and the Site complies with the assumptions behind the assessment criteria, then it can be regarded as suitable for use without remediation. If the results exceed the screening assessment criteria then either further detailed assessment is provided or recommendations for mitigation such as risk management procedures and remediation have been provided.

GAC and SGV values have been calculated using the Contaminated Land Exposure Assessment (CLEA) model software (v.106) issued by the EA. The model estimates human exposure to soil contaminants for those potentially living, working and/or playing on contaminated sites over long time periods (chronic exposure). The CLEA model does not include short-term (acute) risks to humans or risks from groundwater to humans.

The proposed end-use of the Site is a commercial (office) building, with some retail space on the ground floor level. The building will extend over both currently undeveloped areas and the AR(N) , AR(S) and SSY. On this basis the appropriate assessment criteria will be for a commercial end-use scenario. The commercial end-use GACs and SGVs have been compared with the soil results from the various phases of ground investigation and used as the screening assessment criteria, although because all of the building has a basement structure and there are no external landscaped areas, these GACs and SGVs are conservative (since they include allowance for dermal contact, soil ingestion and dust ingestion/inhalation pathways which will not be present). Where contaminant behaviour is dependent on the Soil Organic Matter content (SOM%), a SOM content of 1% has been assumed for the on-site soils.

A full list of all GAC used to assess the data from the Site is presented in Table D1.

Soil Guideline Values (SGV), with accompanying toxicological and physical/chemical data, have been published by the Environment Agency for eleven chemicals. Soil Guideline Values are only published by the Environment Agency for a SOM of 6%. It is therefore up to individual practitioners to calculate GAC for SOM contents other than 6%. For the eleven contaminants for which SGVs exist, Arup has calculated GACs at 1% and 2.5% SOM using the physical/chemical and health criteria values published by the Environment Agency. The source data for these GACs is located on the Environment Agency website[4] and is also included in Version 1.06 of the CLEA software and has not been reproduced in this Appendix as no amendments have been made to the data by Arup.

Generic Assessment Criteria (GAC) have also been calculated by Arup using the physical/chemical and health criteria values published by LQM/CIEH in the document "The LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment (2nd Edition)". Arup has critically reviewed the data within this document and generated GACs using CLEA v1.06 for the contaminants within it. The Arup GACs differ to those generated by LQM for some contaminants, as a result of different input parameters being used which Arup felt were more appropriate. A summary of the reasons for any differences between the two sets of GACs is provided in Table D1.

For lead, the Environment Agency has withdrawn the TOX reports and previous model for assessing exposure to this contaminant. Arup has used the CLEA software to generate a GAC for lead based on the current CLEA approach (not the previous blood lead approach), using as the health criteria value the provisional tolerable weekly intake which was set by JECFA and was used to set the current UK Drinking Water Standard for lead. Further details on the derivation of the Arup GACs are not included in this Appendix, but can be provided on request.

For inorganic cyanide, a chronic exposure GAC has been derived by Arup using the CLEA v1.06 software and toxicological information published by the Environment Agency for this contaminant. Physical/chemical information for inorganic cyanide has been collated by Arup for the purposes of deriving a GAC and is not included in this Appendix, but can be provided on request.

For Volatile and Semi-Volatile Organic Compounds (VOC and SVOC), GAC have been derived using data from the 2009 CL:AIRE publication "The EIC/AGS /CL:AIRE Soil Generic Assessment Criteria for Human Health Risk Assessment". This document comprises industry-agreed contaminant specific parameter values for input to the CLEA model for 35 commonly encountered contaminants. Those GACs based on data from the EIC/AGS/CL:AIRE publication are identified in Table D1.

[4] http://www.environment-agency.gov.uk/research/planning/64002.aspx

Table D1: GAC Justification

Determinand	EnvironScreening Criterion mg/kg	Arup Screening criterion- GAC 1% organics, commercial	Justification
INORGANICS			
Aluminium	387574		No published GAC available
Antimony	7546	7442	Calculated by Arup using CLEA v1.06 and HCVs by EIC/AGS/CL:AIRE, but different solubility (Arup used solubility at 10C, EIC at 25C)
Arsenic	635	640	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Barium	22076	22200	Calculated by Arup using CLEA v1.06 using HCVs from EIC/AGS/CL:AIRE, but different solubility (Arup used solubility at 10C, EIC at 25C)
Beryllium	417	420	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Boron	192495	192000	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Copper	71742	71700	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Cadmium	230	230	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Chromium III	30356	30400	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Chromium VI	35	35	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Lead (former SGV)	750	7300	Arup GAC calculated using CLEA v1.06 - see separate report
Mercury, elemental	4	4	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Mercury, inorganic	3641	3600	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Mercury, methyl	66	73	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Molybdenum	17673	17000	EIC/AGS/CL:AIRE GAC
Nickel	1788	1800	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Selenium	13023	13000	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Vanadium	3164	3160	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Zinc	665453	662000	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Cyanide	14049	16200	Calculated using CLEA v1.06 - see CLEA output
ASSOCIATED COMPOUNDS			
Benzene (Aromatic C5-6)	16	28	Calculated using CLEA v1.06 for SOM 1% using values in Science Report SC050021 / benzene SGV
Toluene (Aromatic C6-8)	8350	870	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Ethylbenzene	5080	518	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Xylene, o	4670	480	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Xylene, m		625	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Xylene, p		575	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
1,2,3-Trimethylbenzene	65		No published GAC available
1,2,4-Trimethylbenzene	23	26	EIC/AGS/CL:AIRE GAC
1,3,5-Trimethylbenzene	13		No published GAC available
Methyl tert-butyl ether (MTBE)	4017	7900	EIC/AGS/CL:AIRE GAC
TPH Aliphatic EC5-EC6	3680	3380	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
TPH Aliphatic >EC6-EC8	1570	8250	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC. Saturation limit is 144mg/kg
TPH Aliphatic >EC8-EC10	792	2130	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC. Saturation limit is 78mg/kg
TPH Aliphatic >EC10-EC12	477	10300	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC. Saturation limit is 48mg/kg
TPH Aliphatic >EC12-EC16	237	60800	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC. Saturation limit is 24mg/kg
TPH Aliphatic >EC16-EC35	6500	673000	Calculated by Arup using CLEA v1.06. All inputs as LQM/CIEH GAC apart from sub-surface to indoor air CF of 1 used (LQM used 10). Saturation limit is 8.5mg/kg
TPH Aliphatic >EC35-EC44	6500	673000	Calculated by Arup using CLEA v1.06. All inputs as LQM/CIEH GAC apart from sub-surface to indoor air CF of 1 used (LQM used 10). Saturation limit is 8.5mg/kg
TPH Aromatic >EC8-EC10	6100	3670	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC. Saturation limit is 613mg/kg
TPH Aromatic >EC10-EC12	3620	16900	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC. Saturation limit is 364mg/kg
TPH Aromatic >EC12-EC16	1680	36200	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC. Saturation limit is 164mg/kg
TPH Aromatic >EC16-EC21	6500	26700	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
TPH Aromatic >EC21-EC35	6500	28400	Calculated by Arup using CLEA v1.06. All inputs as LQM/CIEH GAC apart from sub-surface to indoor air CF of 1 used (LQM used 10)
TPH Aromatic >EC35-EC44	6500	28400	Calculated by Arup using CLEA v1.06. All inputs as LQM/CIEH GAC apart from sub-surface to indoor air CF of 1 used (LQM used 10)
TPH Ali&Aro >EC44-EC70	6500	28400	Calculated by Arup using CLEA v1.06. All inputs as LQM/CIEH GAC apart from sub-surface to indoor air CF of 1 used (LQM used 10)
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)			
Acenaphthene	567	84900	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC. Saturation limit is 57mg/kg
Acenaphthylene	855	84300	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC. Saturation limit is 86mg/kg
Anthracene	522478	525000	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Benz(a)anthracene	16	90	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Benzo(a)pyrene	13	14	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Benzo(b)fluoranthene	17	100	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Benzo(k)fluoranthene	19	141	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Benzo(ghi)perylene	19	654	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Chrysene	13	137	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Dibenzo(ah)anthracene	19	13	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Indeno(123-cd)pyrene	18	60	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Fluoranthene	22607	22600	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Fluorene	308	63500	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC. Saturation limit is 31mg/kg
Naphthalene	750	204	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC. Saturation limit is 76mg/kg
Phenanthrene	21899	21900	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC

Pyrene	54263	54200	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
into account explosivity			
RDX ENVIRON	6412	6370	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
HMX ENVIRON	108049	107000	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
2,4,6 Trinitrotoluene (TNT) ENVIRON	1035	1040	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
PESTICIDES, VOCS & SVOCS)			
1,1,1,2-Tetrachloroethane	63	115	Calculated by Arup using CLEA v1.06. Equals LQM GAC
1,1,1-Trichloroethane	392	700	Calculated by Arup using CLEA v1.06. Equals LQM GAC
1,1,2 Trichloroethane	51	94	EIC/AGS/CL:AIRE GAC
1,1,2,2-Tetrachloroethane	156	290	Calculated by Arup using CLEA v1.06. Equals LQM GAC
1,1-Dichloroethane	148	280	EIC/AGS/CL:AIRE GAC
1,1-Dichloroethene	15	26	EIC/AGS/CL:AIRE GAC
1,2,3,4-Tetrachlorobenzene	1220	1630	Arup GAC based on LQM inputs but using different method of route-to-route extrapolation
1,2,3,5-Tetrachlorobenzene	28	48	Arup GAC based on LQM inputs but using different method of route-to-route extrapolation
1,2,3-Trichlorobenzene	59	108	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
1,2,4,5-Tetrachlorobenzene	197	35	Arup GAC based on LQM inputs but using different method of route-to-route extrapolation
1,2,4-Trichlorobenzene	123	228	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
1,2-Dichlorobenzene	5620	2140	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
1,2-Dichloroethane	0.356	0.7	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
1,2-Dichloropropane	1.720	3.3	EIC/AGS/CL:AIRE GAC
1,3,5-Trichlorobenzene	13	24	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
1,3-Dichlorobenzene	18	32	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
1,4-Dichlorobenzene	2210	4460	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
2,3,4,6-Tetrachlorophenol	2640	3900	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
2,4,6-Trichlorophenol	8480	3880	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
2,4-Dichlorophenol	3532	3470	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
2,4-Dimethylphenol	13879	16000	EIC/AGS/CL:AIRE GAC
2,4-Dinitrotoluene	3747	3700	EIC/AGS/CL:AIRE GAC
2,6-Dinitrotoluene	1861	1900	EIC/AGS/CL:AIRE GAC
2-Chloronaphthalene	1130	390	EIC/AGS/CL:AIRE GAC. Saturation limit is 114mg/kg
2-Chlorophenol	3587	3540	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
2-Methylphenol	162317		No published GAC available
3-Methylphenol	171596		No published GAC available
4-Methylphenol	163508		No published GAC available
Aldrin	53	51	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Alpha-endosulfan	0.028	2310	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC (vapour saturation limit is 0.003mg/kg)
Alpha-Hexachlorocyclohexane (HCH)	14008	1120	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Anthraquinone, 9,10-	1632		No published GAC available
Atrazine	877	733	Arup GAC based on LQM inputs but using different method of route-to-route extrapolation
Azobenzene	4900		No published GAC available
Beta-endosulfan	0.0007	2580	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC (vapour saturation limit is 0.0007mg/kg)
Beta-Hexachlorocyclohexane (HCH)	1126	1120	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Biphenyl	11292	18000	EIC/AGS/CL:AIRE GAC
Bis (2-chloroethoxy) methane	2.71		No published GAC available
Bis (2-chloro-ethyl) ether	0.554		No published GAC available
Bis (2-chloroisopropyl) ether	28		No published GAC available
Bis (2-ethylhexyl) phthalate	85379	85000	EIC/AGS/CL:AIRE GAC. Saturation limit is 8.68mg/kg
Bromobenzene	54	97	EIC/AGS/CL:AIRE GAC
Bromodichloromethane	1.10	2.1	EIC/AGS/CL:AIRE GAC
Bromoform	417	760	EIC/AGS/CL:AIRE GAC
Bromomethane	55		No published GAC available
Bromophenyl phenylether, 4-	3.388		No published GAC available
Butyl benzyl phthalate	942050	940000	EIC/AGS/CL:AIRE GAC
Butylbenzene, n-	250103		No published GAC available
Butylbenzene, sec-	333333		No published GAC available
Butylbenzene, tert-	333333		No published GAC available
Carbazole	4376		No published GAC available
Carbon Disulphide	7	12	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Chloro-3-methylphenol, 4-	31831		No published GAC available
Chloroaniline, p-	318		No published GAC available
Chlorobenzene	33	59	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Chlorobromomethane (bromochloromethane)	333333		No published GAC available
Chloroethane	567	960	EIC/AGS/CL:AIRE GAC
Chloroethene (Vinyl Chloride)	0.040	0.063	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Chloromethane	0.593	1	EIC/AGS/CL:AIRE GAC
Chlorophenyl phenylether, 4-	0.903		No published GAC available
Chlorotoluene, o (chlorotoluene-2)-	5290		No published GAC available
Chlorotoluene, p- (4-chlorotoluene)	333333		No published GAC available
Cis 1,2 Dichloroethene	8	14	EIC/AGS/CL:AIRE GAC
Cymene (isopropyltoluene)	333333		No published GAC available
Dibenzofuran	25465		No published GAC available
Dibromo-3-chloropropane, 1,2-	0.0182		No published GAC available
Dibromochloromethane	16086		No published GAC available
Dichlorodifluoromethane	1088		No published GAC available
Dichloromethane	142	270	EIC/AGS/CL:AIRE GAC
Dichloropropane, 1,3-	27		No published GAC available
Dichloropropane, 2,2-	44		No published GAC available
Dichloropropene, 1,1-	27		No published GAC available
Dichloropropene, 1,3-	27		No published GAC available
Dichloropropene, 1,3-cis	201		No published GAC available
Dichloropropene, 1,3-trans	27		No published GAC available

Dichlorvos	857	842	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Dieldrin	89	87	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Diethyl Phthalate	126344	150000	EIC/AGS/CL:AIRE GAC
Dimethylphthalate	333333		No published GAC available
Di-n-butyl phthalate	46	15000	EIC/AGS/CL:AIRE GAC
Dinitrophenol, 2,4-	24354		No published GAC available
Di-n-octyl phthalate	89115	89000	EIC/AGS/CL:AIRE GAC
Ethylene dibromide	0.182		No published GAC available
Gamma-Hexachlorocyclohexane (HCH)	534		No published GAC available
Hexachloro-1,3-butadiene	18		No published GAC available
Hexachlorobenzene	1.990	47	Arup GAC based on LQM inputs but using different method of route-to-route extrapolation. Saturation limit is 0.2mg/kg
Hexachlorocyclopentadiene	2.183		No published GAC available
Hexachloroethane	12	22	EIC/AGS/CL:AIRE GAC. Saturation limit is 8.17mg/kg
Isophorone	65607		No published GAC available
Iso-propylbenzene (cumene)	3880	1400	EIC/AGS/CL:AIRE GAC
Methyl naphthalene, 1-	2956		No published GAC available
Methylene bromide	44		No published GAC available
Methylnaphthalene, 2-	34290		No published GAC available
Nitroaniline, 2-	139		No published GAC available
Nitroaniline, 3-	2000		No published GAC available
Nitroaniline, 4-	1700		No published GAC available
Nitrobenzene	15		No published GAC available
Nitrophenol, 2-	12732		No published GAC available
Nitrophenol, 4-	24354		No published GAC available
Nitrosodi-n-propylamine, n-	5		No published GAC available
Pentachlorobenzene	430	630	Arup GAC based on LQM inputs but using different method of route-to-route extrapolation. Saturation limit is 43mg/kg
Pentachlorophenol	1234	1220	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Phenol	30790	3200	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Polychlorinated biphenyls (PCBS)	0.240	0.24	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Propylbenzene , n-	3990	4100	EIC/AGS/CL:AIRE GAC
Styrene	6070	3300	EIC/AGS/CL:AIRE GAC
Tetrachloroethene (PCE)	72	131	EIC/AGS/CL:AIRE GAC
Tetrachloromethane (carbon tetrachloride)	1.74	3	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Trans 1,2 Dichloroethene	12	22	EIC/AGS/CL:AIRE GAC
Tributyl tin oxide	134	130	EIC/AGS/CL:AIRE GAC
Trichloro-1,2,2-trifluoroethane, 1,1,2-	27000		No published GAC available
Trichloroethene (TCE)	0.725	12	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Trichlorofluoromethane	333333		No published GAC available
Trichloromethane (Chloroform)	57	107	Calculated by Arup using CLEA v1.06 using inputs by LQM/CIEH. Equals LQM GAC
Trichlorophenol, 2,4,5-	333333		No published GAC available
Trichloropropane, 1,2,3-	3.06		No published GAC available

D1.2.2 Soil Quality Assessment

The results of soil chemical testing from historical site investigations and the recent BAM Nuttall (2012) investigation have been compared to hazard screening guideline values derived as detailed above. The results of the testing carried out on samples of Made Ground and London Clay during the historic investigations are given on Table D2 and the 2012 BAM Nuttall investigation are given on Table D3 and the results of analyses of groundwater samples are given on Table D4.

Table D2 Screening assessment results, Pre 2012 ground investigations

Table D3 Soil screening assessment results, 2012 ground investigation

Table D4 Results of laboratory analysis of groundwater samples

GI contractor			NWH 08	NWH 08	NWH 08	NWH 08	NWH 08	NWH 08	SM
Soil Sample			TP1001	TP1001	TP1003	TP1003	TP1004	TP1004	BH7
Depth (m)			1.5	2	1.5	3	1	2.5	0.7
Date									39448
Strata			MG	MG	MG	LC	MG	MG	MG
		Screening Criteria							
Determinants	**Units**	**Commercial 1%**							
Metals									
Arsenic	mg/kg	640	44	4	18	6	8	8	11.3
Cadmium	mg/kg	230	<0.2	0.3	0.8	<0.2	0.5	<0.2	0.2
Chromium	mg/kg	na	33	48	28	44	13	<4.5	20.1
Copper	mg/kg	71700	190	32	95	29	21	26	25.4
Lead	mg/kg	7300	1100	17	340	19	290	60	86.8
Mercury	mg/kg	3600	<0.4	<0.4	1	0.5	0.7	<0.4	0.2
Nickel	mg/kg	1800	39	45	29	46	12	4.9	17.6
Selenium	mg/kg	13000	<3	<3	<3	<3	<3	<3	<0.5
Zinc	mg/kg	662000							142.2
water soluble Sulphate (SO4 2:1 Extract)	g/l	na	0.92	0.32	0.36	1.7	1.6	1.5	
Miscellaneous									
Total cyanide	mg/kg	na	9	<1	38	<1	<1	64	0.6
Inorganic Free Cyanide (chronic)	mg/kg	16200							
pH		na	8.14	7.48	8.06	8.12	9.22	7.2	11.6
Total Organic Matter	%	na	3.6	0.37	8.3	0.53	0.94	88	
Hexavalent Chromium	mg/kg	na	<3.0	<3.0					
Asbestos		na							NBFO
PAHs									
Total PAH 16 EPA	mg/kg	na		<0.001	0.23	<10		69	<11.40
Acenaphthene	mg/kg	84900	0.36				0.009	0.46	<0.09
Acenaphthylene	mg/kg	84300	0.067				0.23	2.7	<0.09
Anthracene	mg/kg	525000	0.36				0.088	5.1	0.27
Benzo[a]anthracene	mg/kg	90	0.8				0.37	30	0.73
Benzo[a]pyrene	mg/kg	14	0.78				0.68	2.3	0.83
Benzo[b]fluoranthene	mg/kg	100	1.4				0.9	2.7	1.14
Benzo[k]fluoranthene	mg/kg	141	0.48				0.32	1.4	0.54
Benzo[ghi]perylene	mg/kg	654	0.77				0.5	1.1	0.66
Chrysene	mg/kg	137	0.81				0.42	2.9	1.09
Dibenz[ah]anthracene	mg/kg	13	0.16				0.83	0.2	0.19
Fluoranthene	mg/kg	22600	1.8				0.45	8.2	1.84
Fluorene	mg/kg	63500	0.12				0.024	3.5	<0.09
Indeno[123-cd]pyrene	mg/kg	60	0.62				0.44	0.91	0.69
Naphthalene	mg/kg	204	0.33				0.12	0.44	<0.09
Phenanthrene	mg/kg	21900	1.6				0.11	13	0.52
Pyrene	mg/kg	54200	1.4				0.52	6	2.51
EPH (C10-C40)		na							
BTEX									
Benzene	mg/kg	28	<0.001				<0.001		<0.006
Ethylbenzene	mg/kg	518	<0.001				<0.001		<0.006
Toluene	mg/kg	870	<0.001				<0.001		<0.006
o-Xylene	mg/kg	480	<0.001				<0.001		<0.012
m-Xylene	mg/kg	625	<0.001				<0.001		
p-Xylene	mg/kg	575	<0.001				<0.001		
Phenols									
Phenols Monohydric	mg/kg	na	<0.15	<0.15			<0.15	3.2	

				Tranche	Tranche 1	Tranche 1	Tranche 1	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2
				Area	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5
Lab Sample Number					220415	220413	220414	227654	227651	227652	227653	227658	227673	227674	227675
Sample Reference					TP1201	TP1201	TP1201	BH1225	BH1225	BH1225	BH1225	WS1219	WS1217	WS1217	WS1217
Material type					LC	MG	MG	LC	MG	MG	MG	MG	MG	MG	MG
Depth (m)					2.10-2.20	1.10-1.20	1.60-1.70	7.30-7.40	0.80-1.00	2.60-2.70	6.00-6.10	0.70-0.80	0.30-0.40	1.20-1.30	3.20-3.30
Date Sampled					09/07/2012	09/07/2012	09/07/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012
Time Taken					1245	1245	1245	1615	1415	1500	1600	1325	1700	1710	1719
Temperature on reciept at laboratory (°C)				Screening criteria	7.2	7.2	7.2	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	**(commercial 1%)**											
Stone Content	%	0.1	NONE	nc	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	nc	22	26	16	20	10	19	14	17	5.7	14	12
Total mass of sample received	kg	0.001	NONE	nc	1.1	0.94	1.4	1.1	1.3	1.7	1.2	1.1	1.3	1.2	1.3
Asbestos in Soil Screen	P/A	N/A	ISO 17025	nc	-	Absent	Absent	-	Absent	Absent	Present	Absent	Present	Absent	Present
Asbestos Identification Name	Type	N/A	ISO 17025	nc				-	-	-	Chrysotile - Soil / Loose Aggregates	-	Chrysotile - Soil / Loose Aggregates	-	Chrysotile - Soil / Loose Aggregates
Asbestos Identification Name (Subcontracted)	Type	N/A	ISO 17025	nc							Chrysotile		Chrysotile		Chrysotile
Asbestos Quantification (Subcontracted)	%	0.001	ISO 17025	nc							< 0.001		0.0096		< 0.001
General Inorganics				-											
pH	pH Units	N/A	MCERTS	nc	8.4	8	7.9	7.7	10.2	9.6	11.6	8.5	8.8	8.1	10.1
Total Cyanide	mg/kg	1	MCERTS	16200	< 1	< 1	< 1	< 1	< 1	1	< 1	< 1	1	1	< 1
Complex Cyanide	mg/kg	1	NONE	nc	-	-	< 1								
Free Cyanide	mg/kg	1	NONE	nc	-	-	< 1								
Thiocyanate as SCN	mg/kg	5	NONE	nc	-	-	< 5.0								
Water Soluble Sulphate as SO_4 (2:1)	g/l	0.0025	MCERTS	nc	0.82	0.57	1.3	3.5	1.9	1.8	0.59	0.61	1.5	1.5	3.1
Water Soluble Sulphate as SO_4 (2:1)	mg/kg	2.5	MCERTS	nc	820	570	1300	3500	1900	1800	590	610	1500	1500	3100
Sulphide	mg/kg	1	MCERTS	nc	-	-	16	-	-	26	79	-	-	-	-
Water Soluble Chloride (2:1)	mg/kg	5	MCERTS	nc	-	-	42	-	-	110	57	-	-	-	-
Elemental Sulphur	mg/kg	20	NONE	nc	-	-	30	-	-	< 20	< 20	-	-	-	-
Ammoniacal Nitrogen as N	mg/kg	5	MCERTS	nc											
Ammonium as NH_4	mg/kg	5	MCERTS	nc	-	-	5.2	-	-	13	9.8	-	-	-	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	nc	0.8	6.3	1.7	< 0.1	2.2	1	0.6	0.1	0.7	1.3	1
Loss on Ignition @ 450°C	%	0.2	MCERTS	nc	4.1	17	5	4.3	6.1	4.2	5	4.2	4.7	4.9	5
				-											
Phenols by HPLC				nc											
Catechol	µg/kg	1	NONE	nc	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Resorcinol	µg/kg	1	NONE	nc	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butyl Phenols	µg/kg	1	NONE	nc	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cresols	µg/kg	1	NONE	nc	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthols	µg/kg	1	NONE	nc	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Phenol	µg/kg	0.1	ISO 17025	3200	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trimethylphenol	µg/kg	1	NONE	nc	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
				-											
Total Phenols				nc											
Total Phenols (monohydric)	mg/kg	2	MCERTS	nc	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Total Phenols (HPLC)	µg/kg	7	NONE	nc	-	-	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0
				-											
Speciated PAHs				nc											
Naphthalene	mg/kg	0.05	MCERTS	204	< 0.05	< 0.05	< 0.05	< 0.05	0.39	1.1	0.37	< 0.05	0.91	0.14	1.7
Acenaphthylene	mg/kg	0.2	MCERTS	84300	< 0.05	< 0.05	< 0.05	< 0.20	0.21	0.43	< 0.20	< 0.20	0.47	0.2	4.9
Acenaphthene	mg/kg	0.1	MCERTS	84900	< 0.05	< 0.05	< 0.05	< 0.10	0.81	0.49	0.29	< 0.10	0.2	0.15	2.2
Fluorene	mg/kg	0.2	MCERTS	63500	< 0.05	< 0.05	< 0.05	< 0.20	0.64	0.66	0.28	< 0.20	0.37	< 0.20	5.8
Phenanthrene	mg/kg	0.2	MCERTS	21900	< 0.05	< 0.05	< 0.05	< 0.20	6.3	6.4	3.2	< 0.20	3.8	2.2	52
Anthracene	mg/kg	0.1	MCERTS	525000	< 0.05	< 0.05	< 0.05	< 0.10	1.5	1.6	0.8	< 0.10	1.2	0.6	18
Fluoranthene	mg/kg	0.2	MCERTS	22600	< 0.10	< 0.10	< 0.10	< 0.20	9.8	9.7	4.5	< 0.20	6.1	3.6	79
Pyrene	mg/kg	0.2	MCERTS	54200	< 0.05	< 0.05	< 0.05	< 0.20	8.5	8	3.8	< 0.20	5.3	3.1	47
Benzo(a)anthracene	mg/kg	0.2	MCERTS	90	< 0.20	< 0.20	< 0.20	< 0.20	5.6	5	2.5	< 0.20	4.2	2.4	30
Chrysene	mg/kg	0.05	MCERTS	137	< 0.05	< 0.05	< 0.05	< 0.05	5.1	4	2	< 0.05	3	1.9	23
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	100	< 0.10	< 0.10	< 0.10	< 0.10	6.2	5.5	2.7	< 0.10	4.4	1.5	33
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	141	< 0.05	< 0.05	< 0.05	< 0.20	2.2	2.3	1.2	< 0.20	1.9	0.9	12
Benzo(a)pyrene	mg/kg	0.1	MCERTS	14	< 0.10	< 0.10	< 0.10	< 0.10	5	4.5	2.2	< 0.10	3.7	2	**23**
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	60	< 0.05	< 0.05	< 0.05	< 0.20	2.4	2	1.1	< 0.20	1.8	1.1	12
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	13	< 0.05	< 0.05	< 0.05	< 0.20	0.3	0.3	< 0.20	< 0.20	< 0.20	< 0.20	2.2
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	654	< 0.05	< 0.05	< 0.05	< 0.05	2.8	2.3	1.2	< 0.05	1.9	1.3	12
Coronene	mg/kg	0.05	NONE	nc	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	5.9
				-											
Total PAH				-											
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	nc	< 1.6	< 1.6	< 1.6								
Total WAC-17 PAHs	mg/kg	1.6	NONE	nc				< 1.6	58	54	26	< 1.6	39	21	360
				-											
Heavy Metals / Metalloids				-											
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	7442	1.6	3	1.7	2.2	8.3	3.5	2.7	2.3	2.8	2.6	5.7
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	640	8.4	12	9.2	11	21	14	13	12	11	16	15
Barium (aqua regia extractable)	mg/kg	1	MCERTS	22200	32	130	52	31	440	220	140	64	140	370	150
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	420	1.2	2.1	0.8	1	2	1.1	0.8	1.2	0.9	1.2	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	192000	2	4.5	1.3	1.9	2.3	2	2	0.5	1.1	1.2	1.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	230	< 0.2	0.5	0.3	< 0.2	0.6	0.2	0.2	< 0.2	< 0.2	0.2	0.5
Chromium (hexavalent)	mg/kg	4	MCERTS	35	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	30400	45	16	27	34	24	31	33	37	29	39	28
Copper (aqua regia extractable)	mg/kg	1	MCERTS	71700	29	160	45	22	160	42	30	26	31	35	43
Lead (aqua regia extractable)	mg/kg	2	MCERTS	7300	14	110	45	27	540	200	100	18	110	100	210
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	3600	0.5	0.6	0.4	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	0.5	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	1800	38	40	28	39	31	28	20	40	20	31	26
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	13000	< 1.0	< 1.0	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	3160	65	39	43	50	42	52	42	56	45	67	52
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	662000	73	120	72	77	270	130	100	87	100	130	180
				-											
Monoaromatics				-											
Benzene	µg/kg	1	MCERTS	28	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	870	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	518	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	575	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	480	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	7900	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
				-											
Petroleum Hydrocarbons				-											
Petroleum Range Organics (C6 - C10)	mg/kg	0.1	NONE	nc	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
				-											
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	3380	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	8250	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	2130	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	10300	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	60800	< 2.0	560	190	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	2.4	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	673000	< 8.0	1100	270	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	21	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	673000	< 8.0	400	110	< 8.0	41	33	< 8.0	< 8.0	93	< 8.0	29
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	nc	< 10	2100	570	< 10	41	33	< 10	< 10	120	< 10	29
				-											

				Tranche	Tranche 1	Tranche 1	Tranche 1	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2
				Area	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5
Lab Sample Number					220415	220413	220414	227654	227651	227652	227653	227658	227673	227674	227675
Sample Reference					TP1201	TP1201	TP1201	BH1225	BH1225	BH1225	BH1225	WS1219	WS1217	WS1217	WS1217
Material type					LC	MG	MG	LC	MG	MG	MG	MG	MG	MG	MG
Depth (m)					2.10-2.20	1.10-1.20	1.60-1.70	7.30-7.40	0.80-1.00	2.60-2.70	6.00-6.10	0.70-0.80	0.30-0.40	1.20-1.30	3.20-3.30
Date Sampled					09/07/2012	09/07/2012	09/07/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012
Time Taken					1245	1245	1245	1615	1415	1500	1600	1325	1700	1710	1719
Temperature on reciept at laboratory (°C)				Screening criteria	7.2	7.2	7.2	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	(commercial 1%)											
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	27700	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	59000	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	3670	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	16900	< 1.0	< 1.0	< 1.0	< 1.0	2.4	4.1	1.4	< 1.0	6.7	1.4	12
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	36200	< 2.0	< 2.0	< 2.0	< 2.0	5	4.8	< 2.0	< 2.0	< 2.0	< 2.0	54
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	26700	< 10	< 10	< 10	< 10	34	52	13	< 10	19	11	200
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	28400	< 10	< 10	< 10	< 10	92	110	32	< 10	46	33	250
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	nc	< 10	< 10	< 10	< 10	130	170	46	< 10	71	45	520
				-											
TPH (C10 - C25)	mg/kg	10	NONE	nc	< 10	1900	550	< 10	72	88	21	< 10	77	24	300
TPH (C25 - C40)	mg/kg	10	NONE	nc	< 10	520	150								
				-											
VOCs				-											
Chloromethane	µg/kg	4	ISO 17025	1000	-	-	< 1.0	-	-	-	< 4.0	-	-	-	-
Chloroethane	µg/kg	2	ISO 17025	960000	-	-	< 30	-	-	-	< 2.0	-	-	-	-
Bromomethane	µg/kg	6	ISO 17025	nc	-	-	< 80	-	-	-	< 6.0	-	-	-	-
Vinyl Chloride	µg/kg	24	ISO 17025	630	-	-	< 1.0	-	-	-	< 24	-	-	-	-
Trichlorofluoromethane	µg/kg	5	ISO 17025	nc	-	-	< 5.0	-	-	-	< 5.0	-	-	-	-
1,1-dichloroethene	µg/kg	7	MCERTS	26000	-	-	< 1.0	-	-	-	< 7.0	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	nc	-	-	< 1.0	-	-	-	< 7.0	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	14000	-	-	< 1.0	-	-	-	< 7.0	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	nc	-	-	< 1.0	-	-	-	< 1.0	-	-	-	-
1,1-dichloroethane	µg/kg	6	MCERTS	280000	-	-	< 1.0	-	-	-	< 6.0	-	-	-	-
2,2-Dichloropropane	µg/kg	6	NONE	nc	-	-	< 1.0	-	-	-	< 6.0	-	-	-	-
Trichloromethane	µg/kg	7	MCERTS	107000	-	-	< 1.0	-	-	-	< 7.0	-	-	-	-
1,1,1-Trichloroethane	µg/kg	7	MCERTS	700000	-	-	< 1.0	-	-	-	< 7.0	-	-	-	-
1,2-dichloroethane	µg/kg	4	MCERTS	700	-	-	< 4.0	-	-	-	< 4.0	-	-	-	-
1,1-Dichloropropene	µg/kg	7	NONE	nc	-	-	< 1.0	-	-	-	< 7.0	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	7	NONE	22000	-	-	< 1.0	-	-	-	< 7.0	-	-	-	-
Benzene	µg/kg	1	MCERTS	nc	-	-	< 1.0	-	-	-	< 1.0	-	-	-	-
Tetrachloromethane	µg/kg	7	MCERTS	3000	-	-	< 1.0	-	-	-	< 7.0	-	-	-	-
1,2-dichloropropane	µg/kg	6	MCERTS	3300	-	-	< 1.0	-	-	-	< 6.0	-	-	-	-
Trichloroethene	µg/kg	6	MCERTS	12000	-	-	< 1.0	-	-	-	< 6.0	-	-	-	-
Dibromomethane	µg/kg	7	MCERTS	nc	-	-	< 1.0	-	-	-	< 7.0	-	-	-	-
Bromodichloromethane	µg/kg	7	NONE	2100	-	-	< 1.0	-	-	-	< 7.0	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	nc	-	-	< 1.0	-	-	-	< 7.0	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	nc	-	-	< 1.0	-	-	-	< 8.0	-	-	-	-
Toluene	µg/kg	1	MCERTS	nc	-	-	< 1.0	-	-	-	< 1.0	-	-	-	-
1,1,2-Trichloroethane	µg/kg	5	MCERTS	94000	-	-	< 1.0	-	-	-	< 5.0	-	-	-	-
1,3-Dichloropropane	µg/kg	8	ISO 17025	nc	-	-	< 1.0	-	-	-	< 8.0	-	-	-	-
Dibromochloromethane	µg/kg	2	ISO 17025	nc	-	-	< 1.0	-	-	-	< 2.0	-	-	-	-
Tetrachloroethene	µg/kg	8	MCERTS	131000	-	-	< 1.0	-	-	-	< 8.0	-	-	-	-
1,2-Dibromoethane	µg/kg	3	ISO 17025	nc	-	-	< 1.0	-	-	-	< 3.0	-	-	-	-
Chlorobenzene	µg/kg	7	MCERTS	59000	-	-	< 1.0	-	-	-	< 7.0	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	115000	-	-	< 3.0	-	-	-	< 4.0	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	nc	-	-	< 1.0	-	-	-	< 1.0	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	nc	-	-	< 1.0	-	-	-	< 1.0	-	-	-	-
Styrene	µg/kg	5	MCERTS	3300000	-	-	< 1.0	-	-	-	< 5.0	-	-	-	-
Tribromomethane	µg/kg	7	MCERTS	nc	-	-	< 3.0	-	-	-	< 7.0	-	-	-	-
o-xylene	µg/kg	1	MCERTS	nc	-	-	< 1.0	-	-	-	< 1.0	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	3	MCERTS	290000	-	-	< 3.0	-	-	-	< 3.0	-	-	-	-
Isopropylbenzene	µg/kg	7	NONE	1400000	-	-	< 1.0	-	-	-	< 7.0	-	-	-	-
Bromobenzene	µg/kg	11	MCERTS	97000	-	-	< 1.0	-	-	-	< 11	-	-	-	-
N-Propylbenzene	µg/kg	5	ISO 17025	4100000	-	-	< 1.0	-	-	-	< 5.0	-	-	-	-
2-Chlorotoluene	µg/kg	11	NONE	nc	-	-	< 1.0	-	-	-	< 11	-	-	-	-
4-Chlorotoluene	µg/kg	11	NONE	nc	-	-	< 1.0	-	-	-	< 11	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	nc	-	-	< 1.0	-	-	-	< 4.0	-	-	-	-
Tert-Butylbenzene	µg/kg	4	NONE	nc	-	-	< 1.0	-	-	-	< 4.0	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	nc	-	-	< 1.0	-	-	-	< 5.0	-	-	-	-
Sec-Butylbenzene	µg/kg	5	NONE	nc	-	-	< 1.0	-	-	-	< 5.0	-	-	-	-
1,3-dichlorobenzene	µg/kg	7	ISO 17025	nc	-	-	< 1.0	-	-	-	< 7.0	-	-	-	-
P-Isopropyltoluene	µg/kg	16	ISO 17025	nc	-	-	< 1.0	-	-	-	< 16	-	-	-	-
1,2-dichlorobenzene	µg/kg	5	MCERTS	2140000	-	-	< 3.0	-	-	-	< 5.0	-	-	-	-
1,4-dichlorobenzene	µg/kg	8	MCERTS	nc	-	-	< 4.0	-	-	-	< 8.0	-	-	-	-
Butylbenzene	µg/kg	4	NONE	nc	-	-	< 1.0	-	-	-	< 4.0	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	nc	-	-	< 30	-	-	-	< 7.0	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	nc	-	-	< 3.0	-	-	-	< 9.0	-	-	-	-
Hexachlorobutadiene	µg/kg	7	NONE	nc	-	-	< 4.0	-	-	-	< 7.0	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	10	NONE	108000	-	-	< 10	-	-	-	< 10	-	-	-	-
VOCs TICs Compound Name		N/A	NONE	nc	-	-	ND	-	-	-	ND	-	-	-	-
VOC % Match	%	N/A	NONE	nc	-	-	ND	-	-	-	0	-	-	-	-
				-											
SVOCs				-											
Aniline	mg/kg	0.1	NONE	nc	-	-	< 0.05	-	-	-	< 0.1	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	3200	-	-	< 0.10	-	-	-	< 0.2	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	3587	-	-	< 0.10	-	-	-	< 0.1	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	nc	-	-	< 0.05	-	-	-	< 0.2	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	32	-	-	< 0.10	-	-	-	< 0.2	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	2140	-	-	< 0.05	-	-	-	< 0.1	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	4460	-	-	< 0.20	-	-	-	< 0.2	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	nc	-	-	< 0.05	-	-	-	< 0.1	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	nc	-	-	< 0.05	-	-	-	< 0.3	-	-	-	-
Hexachloroethane	mg/kg	0.3	MCERTS	22	-	-	< 0.05	-	-	-	< 0.3	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	nc	-	-	< 0.10	-	-	-	< 0.3	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	nc	-	-	< 0.20	-	-	-	< 0.2	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	nc	-	-	< 0.05	-	-	-	< 0.2	-	-	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	nc	-	-	< 0.10	-	-	-	< 0.3	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	16000	-	-	< 0.10	-	-	-	< 0.3	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	nc	-	-	< 0.30	-	-	-	< 0.3	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	228	-	-	< 0.05	-	-	-	< 0.3	-	-	-	-
Naphthalene	mg/kg	0.1	ISO 17025	204	-	-	< 0.05	-	-	-	0.4	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	3470	-	-	< 0.10	-	-	-	< 0.3	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	nc	-	-	< 0.05	-	-	-	< 0.1	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	nc	-	-	< 0.05	-	-	-	< 0.1	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	nc	-	-	< 0.10	-	-	-	< 0.1	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	3880	-	-	< 0.10	-	-	-	< 0.1	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	nc	-	-	< 0.20	-	-	-	< 0.2	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	nc	-	-	< 0.05	-	-	-	< 0.1	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	390	-	-	< 0.10	-	-	-	< 0.1	-	-	-	-

				Tranche	Tranche 1	Tranche 1	Tranche 1	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2
				Area	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5
Lab Sample Number					220415	220413	220414	227654	227651	227652	227653	227658	227673	227674	227675
Sample Reference					TP1201	TP1201	TP1201	BH1225	BH1225	BH1225	BH1225	WS1219	WS1217	WS1217	WS1217
Material type					LC	MG	MG	LC	MG	MG	MG	MG	MG	MG	MG
Depth (m)					2.10-2.20	1.10-1.20	1.60-1.70	7.30-7.40	0.80-1.00	2.60-2.70	6.00-6.10	0.70-0.80	0.30-0.40	1.20-1.30	3.20-3.30
Date Sampled					09/07/2012	09/07/2012	09/07/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012
Time Taken					1245	1245	1245	1615	1415	1500	1600	1325	1700	1710	1719
Temperature on reciept at laboratory (°C)				Screening criteria	7.2	7.2	7.2	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	**(commercial 1%)**											
Dimethylphthalate	mg/kg	0.1	MCERTS	nc	-	-	< 0.05	-	-	-	< 0.1	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	1900	-	-	< 0.20	-	-	-	< 0.1	-	-	-	-
Acenaphthylene	mg/kg	0.2	ISO 17025	nc	-	-	< 0.05	-	-	-	< 0.2	-	-	-	-
Acenaphthene	mg/kg	0.1	MCERTS	nc	-	-	< 0.05	-	-	-	0.3	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	3700	-	-	< 0.20	-	-	-	< 0.2	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	nc	-	-	< 0.05	-	-	-	< 0.2	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	nc	-	-	< 0.20	-	-	-	< 0.3	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	150000	-	-	< 0.05	-	-	-	< 0.2	-	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	nc	-	-	< 0.20	-	-	-	< 0.2	-	-	-	-
Fluorene	mg/kg	0.2	ISO 17025	63500	-	-	< 0.05	-	-	-	0.3	-	-	-	-
Azobenzene	mg/kg	0.3	MCERTS	nc	-	-	< 0.05	-	-	-	< 0.3	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	nc	-	-	< 0.10	-	-	-	< 0.2	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	47	-	-	< 0.20	-	-	-	< 0.3	-	-	-	-
Phenanthrene	mg/kg	0.2	ISO 17025	21900	-	-	< 0.20	-	-	-	3.2	-	-	-	-
Anthracene	mg/kg	0.1	MCERTS	525000	-	-	< 0.05	-	-	-	0.8	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	nc	-	-	< 0.05	-	-	-	< 0.3	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	15000	-	-	< 0.10	-	-	-	< 0.2	-	-	-	-
Anthraquinone	mg/kg	0.3	MCERTS	nc	-	-	< 0.05	-	-	-	< 0.3	-	-	-	-
Fluoranthene	mg/kg	0.2	MCERTS	22600	-	-	< 0.10	-	-	-	4.5	-	-	-	-
Pyrene	mg/kg	0.2	ISO 17025	54200	-	-	< 0.05	-	-	-	3.8	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	940000	-	-	< 0.05	-	-	-	< 0.3	-	-	-	-
Benzo(a)anthracene	mg/kg	0.2	MCERTS	90	-	-	< 0.20	-	-	-	2.5	-	-	-	-
Chrysene	mg/kg	0.05	ISO 17025	137	-	-	< 0.05	-	-	-	2	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.1	ISO 17025	100	-	-	< 0.10	-	-	-	2.7	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.2	ISO 17025	141	-	-	< 0.05	-	-	-	1.2	-	-	-	-
Benzo(a)pyrene	mg/kg	0.1	MCERTS	14	-	-	< 0.10	-	-	-	2.2	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	ISO 17025	60	-	-	< 0.05	-	-	-	1.1	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.2	ISO 17025	13	-	-	< 0.05	-	-	-	< 0.2	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	ISO 17025	654	-	-	< 0.05	-	-	-	1.2	-	-	-	-
				-											
SVOCs TICs				-											
SVOCs TICs Compound Name		N/A	NONE	nc	-	-	ND	-	-	-	Pyrene, 1-methyl-□	-	-	-	-
SVOC % Match	mg/kg	N/A	NONE	nc	-	-	ND	-	-	-	97	-	-	-	-
SVOCs TICs Compound Name		N/A	NONE	nc				-	-	-	Phenanthrene, 1-methyl-□	-	-	-	-
SVOC % Match	%	N/A	NONE	nc	-	-	-	-	-	-	96	-	-	-	-
SVOCs TICs Compound Name		N/A	NONE	nc	-	-	-	-	-	-	Pyrene, 1-methyl-□	-	-	-	-
SVOC % Match	%	N/A	NONE	nc	-	-	-	-	-	-	96	-	-	-	-
SVOCs TICs Compound Name		N/A	NONE	nc	-	-	-	-	-	-	3-Bromo-5-ethoxy-4-hydroxybenzaldehyde□	-	-	-	-
SVOC % Match	%	N/A	NONE	nc	-	-	-	-	-	-	96	-	-	-	-
SVOCs TICs Compound Name		N/A	NONE	nc	-	-	-	-	-	-	Z-11,13-Tetradecadien-1-ol acetate□	-	-	-	-
SVOC % Match	%	N/A	NONE	nc	-	-	-	-	-	-	96	-	-	-	-
SVOCs TICs Compound Name		N/A	NONE	nc	-	-	-	-	-	-	Triphenylene, 2-methyl-□	-	-	-	-
SVOC % Match	%	N/A	NONE	nc	-	-	-	-	-	-	95	-	-	-	-
SVOCs TICs Compound Name		N/A	NONE	nc	-	-	-	-	-	-		-	-	-	-
SVOC % Match	mg/kg	N/A	NONE	nc	-	-	-	-	-	-	95	-	-	-	-
SVOCs TICs Compound Name		N/A	NONE	nc	-	-	-	-	-	-	3-Chloro-N-hydroxy-N'-phenyl-benzamidine	-	-	-	-
SVOC % Match	mg/kg	N/A	NONE	nc	-	-	-	-	-	-	94	-	-	-	-
SVOCs TICs Compound Name		N/A	NONE	nc	-	-	-	-	-	-	Naphthalene, 2,7-dimethyl-□	-	-	-	-
SVOC % Match	mg/kg	N/A	NONE	nc	-	-	-	-	-	-	93	-	-	-	-
SVOCs TICs Compound Name		N/A	NONE	nc	-	-	-	-	-	-	Benzo[b]naphtho[2,3-d]furan□	-	-	-	-
SVOC % Match	mg/kg	N/A	NONE	nc	-	-	-	-	-	-	92	-	-	-	-
PCBs by GC-MS					-	-	-	-	-	-	-	-	-	-	-
PCB Congener 28	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
PCB Congener 52	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
PCB Congener 101	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
PCB Congener 118	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
PCB Congener 138	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
PCB Congener 153	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
PCB Congener 180	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
Total PCBs	mg/kg	0.3	NONE	0.24	-	-	-	-	-	-	-	-	< 0.30	-	-
					-	-	-	-	-	-	-	-	-	-	-
PCBs - WHO 12 Congeners					-	-	-	-	-	-	-	-	-	-	-
PCB Congener 077	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
PCB Congener 081	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
PCB Congener 105	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
PCB Congener 114	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
PCB Congener 118	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
PCB Congener 123	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
PCB Congener 126	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
PCB Congener 156	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
PCB Congener 157	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
PCB Congener 167	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
PCB Congener 169	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
PCB Congener 189	mg/kg	0.02	NONE	nc	-	-	-	-	-	-	-	-	< 0.02	-	-
					-	-	-	-	-	-	-	-	-	-	-
Total PCB (WHO12)	mg/kg	0.3	NONE	nc	-	-	-	-	-	-	-	-	-	-	-
					-	-	-	-	-	-	-	-	-	-	-
Organochlorine Pesticides (OCP)					-	-	-	-	-	-	-	-	-	-	-
Aldrin	mg/kg	0.01	NONE	51	-	-	-	-	-	-	-	-	< 0.01	-	-
Alpha-BHC(Lindane)	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Beta-BHC(Lindane)	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Chlordane (sum of cis & trans isomers)	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
DDD	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-

				Tranche	Tranche 1	Tranche 1	Tranche 1	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2
				Area	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5
Lab Sample Number					220415	220413	220414	227654	227651	227652	227653	227658	227673	227674	227675
Sample Reference					TP1201	TP1201	TP1201	BH1225	BH1225	BH1225	BH1225	WS1219	WS1217	WS1217	WS1217
Material type					LC	MG	MG	LC	MG	MG	MG	MG	MG	MG	MG
Depth (m)					2.10-2.20	1.10-1.20	1.60-1.70	7.30-7.40	0.80-1.00	2.60-2.70	6.00-6.10	0.70-0.80	0.30-0.40	1.20-1.30	3.20-3.30
Date Sampled					09/07/2012	09/07/2012	09/07/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012
Time Taken					1245	1245	1245	1615	1415	1500	1600	1325	1700	1710	1719
Temperature on reciept at laboratory (°C)				Screening criteria	7.2	7.2	7.2	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	**(commercial 1%)**											
DDE	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
DDT	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Dieldrin	mg/kg	0.01	NONE	87	-	-	-	-	-	-	-	-	< 0.01	-	-
Endosulphan I	mg/kg	0.01	NONE	2310	-	-	-	-	-	-	-	-	< 0.01	-	-
Endosulphan II	mg/kg	0.01	NONE	2570	-	-	-	-	-	-	-	-	< 0.01	-	-
Endosulphan Sulphate	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Endrin	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Gamma-BHC	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Heptachlor	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Heptachlor epoxide	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Hexachlorobenzene	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Hexachlorocyclohexane	mg/kg	0.01	NONE	14000	-	-	-	-	-	-	-	-	< 0.01	-	-
pp-Methoxychlor	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Propyzamide	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Organophosphorus Pesticides (OPP)					-	-	-	-	-	-	-	-	-	-	-
Azinphos methyl	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Diazinon	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Dichlorvos	mg/kg	0.01	NONE	842	-	-	-	-	-	-	-	-	< 0.01	-	-
Dimethoate	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Etion	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Fenitrothion	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Malathion	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Mevinphos	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Parathion	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Pirimiphos methyl	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Organonitrogen Pesticides (ONP)					-	-	-	-	-	-	-	-	-	-	-
Atrazine	mg/kg	0.01	NONE	733	-	-	-	-	-	-	-	-	< 0.01	-	-
Simazine	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Trietazine	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Phenyl Urea Pesticides					-	-	-	-	-	-	-	-	-	-	-
Benazolin	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Bromoxynil	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Carbazole	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Chlorotoluron	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Clopyralid	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Diblubenzuron	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Dicamb	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Diclofop	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Diuron	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Flamprop	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Fenoprop	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Fluometuron	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Linuron	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Loxynil	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
MCPB	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Methiocarb	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Monuron	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Picloram	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Pentachlorophenol	mg/kg	0.01	NONE	1220	-	-	-	-	-	-	-	-	-	-	-
Propanil	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Siduron	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Tebuthiuron	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Thidiazuron	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Triclopyr	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
2,4-DB	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
					-	-	-	-	-	-	-	-	-	-	-
Trifluralin	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Phenoxy Acetic Acid Herbicides					-	-	-	-	-	-	-	-	-	-	-
Mecoprop	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
MCPA	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Dichlorprop	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
2,4-D	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Fenoprop	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
2,4,5-T	mg/kg	0.01	NONE	nc	-	-	-	-	-	-	-	-	< 0.01	-	-
Ethanol	µg/kg	10	NONE	nc	-	-	-	-	-	-	-	-	< 10	-	-
Methanol	mg/kg	10	NONE	nc	-	-	-	-	-	-	-	-	< 10	-	-
n-butanol	mg/kg	10	NONE	nc	-	-	-	-	-	-	-	-	< 10	-	-
Propan-2-ol	mg/kg	10	NONE	nc	-	-	-	-	-	-	-	-	< 10	-	-
Propyl alcohol	mg/kg	10	NONE	nc	-	-	-	-	-	-	-	-	< 10	-	-
Ethylene Glycol	mg/kg	10	NONE	nc	-	-	-	-	-	-	-	-	-	-	-
					-	-	-	-	-	-	-	-	-	-	-
Dioxins and Furans	-	-	-		-	-	-	-	-	-	-	-	-	-	-
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1.00	-	-
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1.00	-	-
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1.00	-	-
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1.00	-	-
1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1.00	-	-
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1.00	-	-
1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1.00	-	-
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1.00	-	-
1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1.00	-	-
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1.00	-	-
1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1.00	-	-
2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1.00	-	-
2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1.00	-	-
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1.00	-	-
2,3,7,8-Tetrachlorodibenzofuran	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1.00	-	-
Octachlorodibenzo-p-dioxin	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1	-	-
Octachlorodibenzofuran	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1	-	-
Total Non-2,3,7,8-Heptachlorodibenzo-p-dioxins	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1	-	-
Total Non-2,3,7,8-Heptachlorodibenzofurans	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1	-	-
Total Non-2,3,7,8-Hexachlorodibenzo-p-dioxins	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1	-	-
Total Non-2,3,7,8-Hexachlorodibenzofurans	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1	-	-
Total Non-2,3,7,8-Pentachlorodibenzo-p-dioxins	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1	-	-
Total Non-2,3,7,8-Pentachlorodibenzofurans	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1	-	-
Total Non-2,3,7,8-Tetrachlorodibenzo-p-dioxins	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1	-	-

				Tranche	Tranche 1	Tranche 1	Tranche 1	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2	Tranche 2
				Area	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5	Area 5
Lab Sample Number					220415	220413	220414	227654	227651	227652	227653	227658	227673	227674	227675
Sample Reference					TP1201	TP1201	TP1201	BH1225	BH1225	BH1225	BH1225	WS1219	WS1217	WS1217	WS1217
Material type					LC	MG	MG	LC	MG	MG	MG	MG	MG	MG	MG
Depth (m)					2.10-2.20	1.10-1.20	1.60-1.70	7.30-7.40	0.80-1.00	2.60-2.70	6.00-6.10	0.70-0.80	0.30-0.40	1.20-1.30	3.20-3.30
Date Sampled					09/07/2012	09/07/2012	09/07/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012	18/09/2012
Time Taken					1245	1245	1245	1615	1415	1500	1600	1325	1700	1710	1719
Temperature on reciept at laboratory (°C)				Screening criteria	7.2	7.2	7.2	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	**(commercial 1%)**											
Total Non-2,3,7,8-Tetrachlorodibenzofurans	ng/kg	1	NONE	nc	-	-	-	-	-	-	-	-	< 1	-	-
				nc	-	-	-	-	-	-	-	-	-	-	-
Glycols	mg/kg	10	NONE	-	-	-	-	-	-	-	-	-	-	-	-
Ethylene Glycol	mg/kg	10	NONE	nc	-	-	-	-	-	-	-	-	< 10	-	-
Propylene Glycol	mg/kg	10	NONE	nc	-	-	-	-	-	-	-	-	< 10	-	-
Triethylene Glycol	mg/kg	10	NONE	nc	-	-	-	-	-	-	-	-	< 10	-	-
1,3 Butanediol	mg/kg	10	NONE	nc	-	-	-	-	-	-	-	-	< 10	-	-
1,3 Propaniedol	mg/kg	10	NONE	nc	-	-	-	-	-	-	-	-	< 10	-	-
1,4 Butanediol	mg/kg	10	NONE	nc	-	-	-	-	-	-	-	-	< 10	-	-
Diethylene Glycol	mg/kg	10	NONE	nc	-	-	-	-	-	-	-	-	< 10	-	-

			Tranche		Tranche 2
			Area		Area 5
Lab Sample Number					**230409**
Sample Reference					**WS1219**
Strata					**Perched water (MG)**
Sample Type					
Depth (m)					
Date Sampled					**11/10/2012**
Time Taken					**1115**
Temperature at receipt at laboratory	**°C**				**4.80**
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Screening criteria**		
General Inorganics					
pH	pH Units	N/A	nc		10.4
Electrical Conductivity	µS/cm	10	nc		3200
Total Cyanide	µg/l	10	50	UKDWS	**140**
Complex Cyanide	µg/l	10	nc		130
Free Cyanide	µg/l	10	nc		12
Thiocyanate as SCN	µg/l	70	nc		560
Sulphate as SO_4	ug/l	45	250000	UKDWS	**1250000**
Sulphide	µg/l	5	nc		< 5.0
Chloride	mg/l	4	250	UKDWS	**360**
Ammoniacal Nitrogen as N	µg/l	15	15	EQS	**13000**
Ammonium as NH_4	µg/l	15	nc		17000
Total Organic Carbon (TOC)	mg/l	0.1	nc		55
Alkalinity	mgCaCO3/l	10	nc		200
Total Suspended Solids	mg/l	5	nc		16
			nc		
Phenols by HPLC			nc		
Catechol	µg/l	0.5	nc		< 0.5
Resorcinol	µg/l	0.5	nc		< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	nc		< 0.5
Cresols	µg/l	0.5	nc		< 0.5
Naphthols	µg/l	0.5	nc		< 0.5
Phenol	µg/l	0.5	0.5	UKDWS 1989	< 0.5
Trimethylphenol	µg/l	0.5	nc		< 0.5
			nc		
Total Phenols			nc		
Total Phenols (monohydric)	µg/l	10	nc		< 10
Total Phenols (HPLC)	µg/l	3.5	nc		< 3.5
			nc		
Speciated PAHs			nc		
Naphthalene	µg/l	0.01	10	EQS	< 0.01
Acenaphthylene	µg/l	0.01	nc		< 0.01
Acenaphthene	µg/l	0.01	nc		< 0.01
Fluorene	µg/l	0.01	nc		< 0.01
Phenanthrene	µg/l	0.01	5	DIW	< 0.01
Anthracene	µg/l	0.01	0.4	EQS	< 0.01
Fluoranthene	µg/l	0.01	0.1	EQS	< 0.01
Pyrene	µg/l	0.01	nc		< 0.01
Benzo(a)anthracene	µg/l	0.01	0.5	DIV	< 0.01
Chrysene	µg/l	0.01	0.2	DIW	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	0.03	EQS	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	0.03	EQS	< 0.01
Benzo(a)pyrene	µg/l	0.01	0.01	UKDWS	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	nc		< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	nc		< 0.01
Benzo(ghi)perylene	µg/l	0.01	0		< 0.01
			nc		
Total PAH			nc		
Total EPA-16 PAHs	µg/l	0.2	0.2	EQS	< 0.20
			nc		
Heavy Metals / Metalloids			nc		
Antimony (dissolved)	µg/l	1.7	5	UKDWS	< 1.7
Arsenic (dissolved)	µg/l	1	50	EQS	7.4
Barium (dissolved)	µg/l	0.05	1000	EQS	100
Beryllium (dissolved)	µg/l	0.2	nc		< 0.2
Boron (dissolved)	µg/l	10	1000	UKDWS	43
Cadmium (dissolved)	µg/l	0.1	5	UKDWS	< 0.1
Chromium (hexavalent)	µg/l	5	nc		< 5.0
Chromium (dissolved)	µg/l	0.4	50	UKDWS	3.2
Copper (dissolved)	µg/l	0.7	2000	UKDWS	26
Iron (dissolved)	mg/l	0.004	1	EQS	0.12

			Tranche		Tranche 2
			Area		Area 5
Lab Sample Number					**230409**
Sample Reference					**WS1219**
Strata					**Perched water (MG)**
Sample Type					
Depth (m)					
Date Sampled					**11/10/2012**
Time Taken					**1115**
Temperature at receipt at laboratory	**°C**				**4.80**
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Screening criteria**		
Lead (dissolved)	µg/l	1	50	EUDWS	< 1.0
Mercury (dissolved)	µg/l	0.5	1	EUDWS	< 0.5
Nickel (dissolved)	µg/l	0.3	50	EQS	31
Selenium (dissolved)	µg/l	4	10	EUDWS	9.9
Vanadium (dissolved)	µg/l	1.7	100	EQS	75
Zinc (dissolved)	µg/l	0.4	300	EQS	< 0.4
			nc		
Calcium (dissolved)	mg/l	0.012	nc		410
Magnesium (dissolved)	mg/l	0.005	nc		7.1
Potassium (dissolved)	mg/l	0.025	nc		89
Sodium (dissolved)	mg/l	0.01	nc		340
			nc		
			nc		
Monoaromatics			nc		
Benzene	µg/l	1	1	EUDWS	< 1.0
Toluene	µg/l	1	40	EQS	< 1.0
Ethylbenzene	µg/l	1	200	EQS	< 1.0
p & m-xylene	µg/l	1	30	EQS	< 1.0
o-xylene	µg/l	1	nc		< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	nc		< 1.0
			nc		
Petroleum Hydrocarbons			nc		
			nc		
TPH-CWG - Aliphatic >C5 - C6	µg/l	10	15000	WHO 2004	< 10
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	15000	WHO 2004	< 10
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	300	WHO 2004	< 10
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	300	WHO 2004	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	300	WHO 2004	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	300	WHO 2004	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	nc		< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	nc		< 10
			nc		
TPH-CWG - Aromatic >C5 - C7	µg/l	10	10	WHO 2004	< 10
TPH-CWG - Aromatic >C7 - C8	µg/l	10	10	WHO 2004	< 10
TPH-CWG - Aromatic >C8 - C10	µg/l	10	120	WHO 2004	< 10
TPH-CWG - Aromatic >C10 - C12	µg/l	10	120	WHO 2004	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	120	WHO 2004	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	90	WHO 2004	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	90	WHO 2004	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	nc		< 10
			nc		
			nc		
VOCs			nc		
Chloromethane	µg/l	1	nc		< 1.0
Chloroethane	µg/l	1	nc		< 1.0
Bromomethane	µg/l	1	nc		< 1.0
Vinyl Chloride	µg/l	1	nc		< 1.0
Trichlorofluoromethane	µg/l	1	nc		< 1.0
1,1-dichloroethene	µg/l	1	nc		< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	1	nc		< 1.0
Cis-1,2-dichloroethene	µg/l	1	nc		< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	nc		< 1.0
1,1-dichloroethane	µg/l	1	nc		< 1.0
2,2-Dichloropropane	µg/l	1	nc		< 1.0

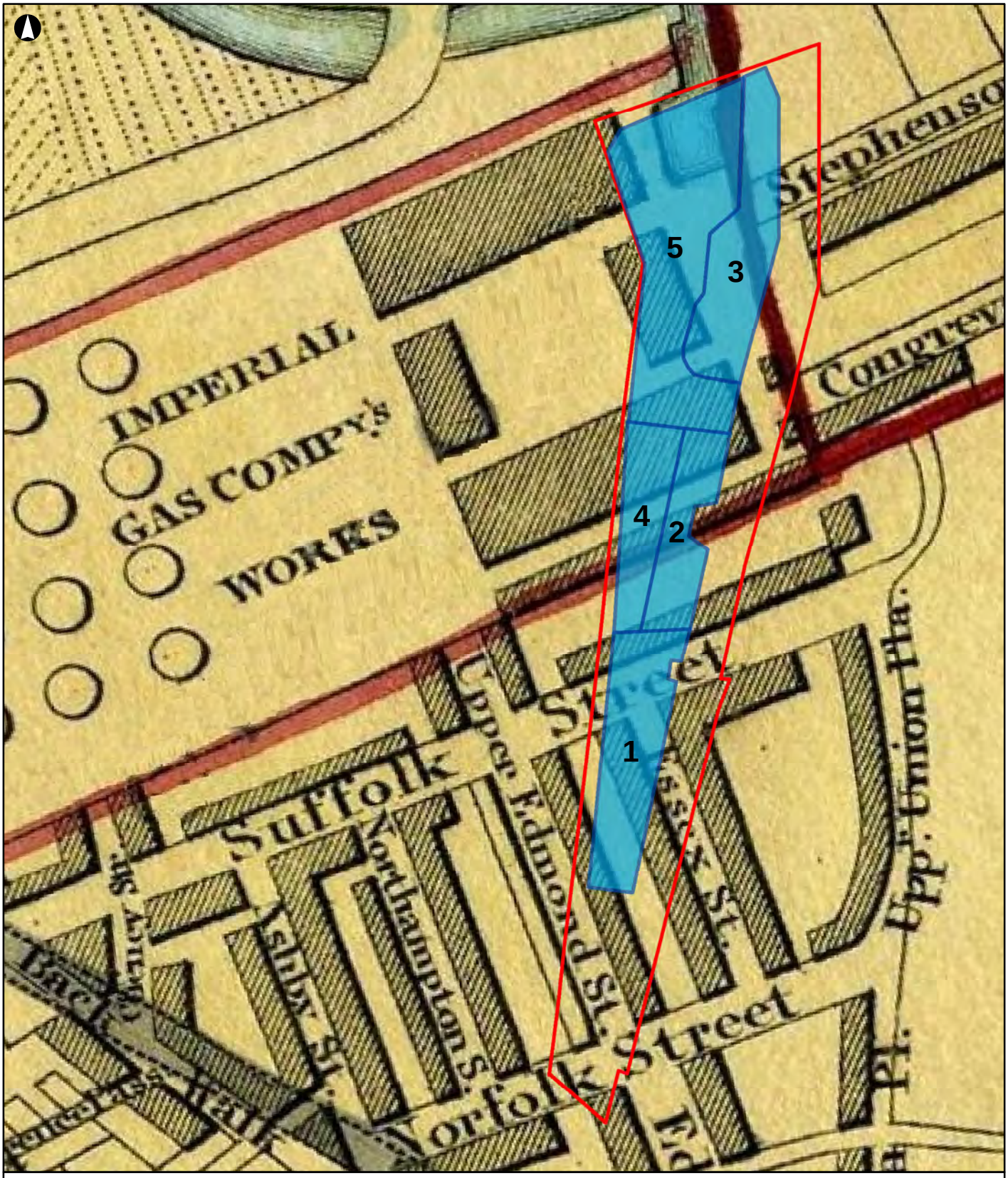
			Tranche		Tranche 2
			Area		Area 5
Lab Sample Number					**230409**
Sample Reference					**WS1219**
Strata					**Perched water (MG)**
Sample Type					
Depth (m)					
Date Sampled					**11/10/2012**
Time Taken					**1115**
Temperature at receipt at laboratory	**°C**				**4.80**
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Screening criteria**		
Trichloromethane	µg/l	1	nc		< 1.0
1,1,1-Trichloroethane	µg/l	1	nc		< 1.0
1,2-dichloroethane	µg/l	1	3	UKDWS	< 1.0
1,1-Dichloropropene	µg/l	1	nc		< 1.0
Trans-1,2-dichloroethene	µg/l	1	nc		< 1.0
Benzene	µg/l	1	nc		< 1.0
Tetrachloromethane	µg/l	1	nc		< 1.0
1,2-dichloropropane	µg/l	1	nc		< 1.0
Trichloroethene	µg/l	1	nc		< 1.0
Dibromomethane	µg/l	1	nc		< 1.0
Bromodichloromethane	µg/l	1	nc		< 1.0
Cis-1,3-dichloropropene	µg/l	1	nc		< 1.0
Trans-1,3-dichloropropene	µg/l	1	nc		< 1.0
Toluene	µg/l	1	nc		< 1.0
1,1,2-Trichloroethane	µg/l	1	nc		< 1.0
1,3-Dichloropropane	µg/l	1	nc		< 1.0
Dibromochloromethane	µg/l	1	nc		< 1.0
Tetrachloroethene	µg/l	1	nc		< 1.0
1,2-Dibromoethane	µg/l	1	nc		< 1.0
Chlorobenzene	µg/l	1	nc		< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	nc		< 1.0
Ethylbenzene	µg/l	1	nc		< 1.0
p & m-xylene	µg/l	1	nc		< 1.0
Styrene	µg/l	1	nc		< 1.0
Tribromomethane	µg/l	1	nc		< 1.0
o-xylene	µg/l	1	nc		< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	nc		< 1.0
Isopropylbenzene	µg/l	1	nc		< 1.0
Bromobenzene	µg/l	1	nc		< 1.0
N-Propylbenzene	µg/l	1	nc		< 1.0
2-Chlorotoluene	µg/l	1	nc		< 1.0
4-Chlorotoluene	µg/l	1	nc		< 1.0
1,3,5-Trimethylbenzene	µg/l	1	nc		< 1.0
Tert-Butylbenzene	µg/l	1	nc		< 1.0
1,2,4-Trimethylbenzene	µg/l	1	nc		< 1.0
Sec-Butylbenzene	µg/l	1	nc		< 1.0
1,3-dichlorobenzene	µg/l	1	nc		< 1.0
P-Isopropyltoluene	µg/l	1	nc		< 1.0
1,2-dichlorobenzene	µg/l	1	nc		< 1.0
1,4-dichlorobenzene	µg/l	1	nc		< 1.0
Butylbenzene	µg/l	1	nc		< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	nc		< 1.0
1,2,4-Trichlorobenzene	µg/l	1	nc		< 1.0
Hexachlorobutadiene	µg/l	0.1	nc		< 0.1
1,2,3-Trichlorobenzene	µg/l	1	nc		< 1.0
VOCs TICs			nc		
VOCs TICs Compound Name		10	nc		ND
VOC % Match	µg/l	10	nc		ND
SVOCs			nc		
Aniline	µg/l	0.05	nc		< 0.05
Phenol	µg/l	0.05	nc		< 0.05
2-Chlorophenol	µg/l	0.05	nc		< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	nc		< 0.05
1,3-Dichlorobenzene	µg/l	0.05	nc		< 0.05
1,2-Dichlorobenzene	µg/l	0.05	nc		< 0.05
1,4-Dichlorobenzene	µg/l	0.05	nc		< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	nc		< 0.05
2-Methylphenol	µg/l	0.05	nc		< 0.05
Hexachloroethane	µg/l	0.05	nc		< 0.05
Nitrobenzene	µg/l	0.05	nc		< 0.05
4-Methylphenol	µg/l	0.05	nc		< 0.05

			Tranche		Tranche 2
			Area		Area 5
Lab Sample Number					**230409**
Sample Reference					**WS1219**
Strata					**Perched water (MG)**
Sample Type					
Depth (m)					
Date Sampled					**11/10/2012**
Time Taken					**1115**
Temperature at receipt at laboratory	**°C**				**4.80**
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Screening criteria**		
Isophorone	µg/l	0.05	nc		< 0.05
2-Nitrophenol	µg/l	0.05	nc		< 0.05
2,4-Dimethylphenol	µg/l	0.05	nc		< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	nc		< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	nc		< 0.05
Naphthalene	µg/l	0.01	nc		< 0.01
2,4-Dichlorophenol	µg/l	0.05	20	EQS	< 0.05
4-Chloroaniline	µg/l	0.05	nc		< 0.05
Hexachlorobutadiene	µg/l	0.05	nc		< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	nc		< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	nc		< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	nc		< 0.05
2-Methylnaphthalene	µg/l	0.05	nc		< 0.05
2-Chloronaphthalene	µg/l	0.05	nc		< 0.05
Dimethylphthalate	µg/l	0.05	nc		< 0.05
2,6-Dinitrotoluene	µg/l	0.05	nc		< 0.05
Acenaphthylene	µg/l	0.01	nc		< 0.01
Acenaphthene	µg/l	0.01	nc		< 0.01
2,4-Dinitrotoluene	µg/l	0.05	nc		< 0.05
Dibenzofuran	µg/l	0.05	nc		< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	nc		< 0.05
Diethyl phthalate	µg/l	0.05	nc		< 0.05
4-Nitroaniline	µg/l	0.05	nc		< 0.05
Fluorene	µg/l	0.01	nc		< 0.01
Azobenzene	µg/l	0.05	nc		< 0.05
Bromophenyl phenyl ether	µg/l	0.05	nc		< 0.05
Hexachlorobenzene	µg/l	0.02	nc		< 0.02
Phenanthrene	µg/l	0.01	nc		< 0.01
Anthracene	µg/l	0.01	nc		< 0.01
Carbazole	µg/l	0.05	nc		< 0.05
Dibutyl phthalate	µg/l	0.05	nc		< 0.05
Anthraquinone	µg/l	0.05	nc		< 0.05
Fluoranthene	µg/l	0.01	nc		< 0.01
Pyrene	µg/l	0.01	nc		< 0.01
Butyl benzyl phthalate	µg/l	0.05	nc		< 0.05
Benzo(a)anthracene	µg/l	0.01	nc		< 0.01
Chrysene	µg/l	0.01	nc		< 0.01
Benzo(b)fluoranthene	µg/l	0.01	nc		< 0.01
Benzo(k)fluoranthene	µg/l	0.01	nc		< 0.01
Benzo(a)pyrene	µg/l	0.01	nc		< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	nc		< 0.01
Dibenzo(a,h)anthracene	µg/l	0.01	nc		< 0.01
Benzo(ghi)perylene	µg/l	0.01	nc		< 0.01

Appendix E

Historic Maps

A4



Legend

- Zone A boundary
- Sub-Areas

Issue	Date	By	Chkd	Appd
P1	10/05/2013	EF	RO	RO

ARUP

13 Fitzroy Street
London W1T 4BQ
Tel +44 20 7636 1531 Fax +44 20 7580 3924
www.arup.com

Client
Kings Cross Central Limited Partnership

Job Title
Zone A Reserved Matters - ERP

Metres
0 15 30 60

1834 Bartlett Map

Scale at A4
1:1,500

Job No	Drawing Status
219902-00	**Issue**

Drawing No	Issue
Figure E1	**P1**

MXD Location

A4

Legend

- Sub-Areas
- Zone A boundary

Issue	Date	By	Chkd	Appd
P1	10/05/2013	EF	RO	RO

ARUP

13 Fitzroy Street
London W1T 4BQ
Tel +44 20 7636 1531 Fax +44 20 7580 3924
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Client
Kings Cross Central Limited Partnership

Job Title
Zone A Reserved Matters - ERP

Metres
0 5 10 20

Historical OS map 1871

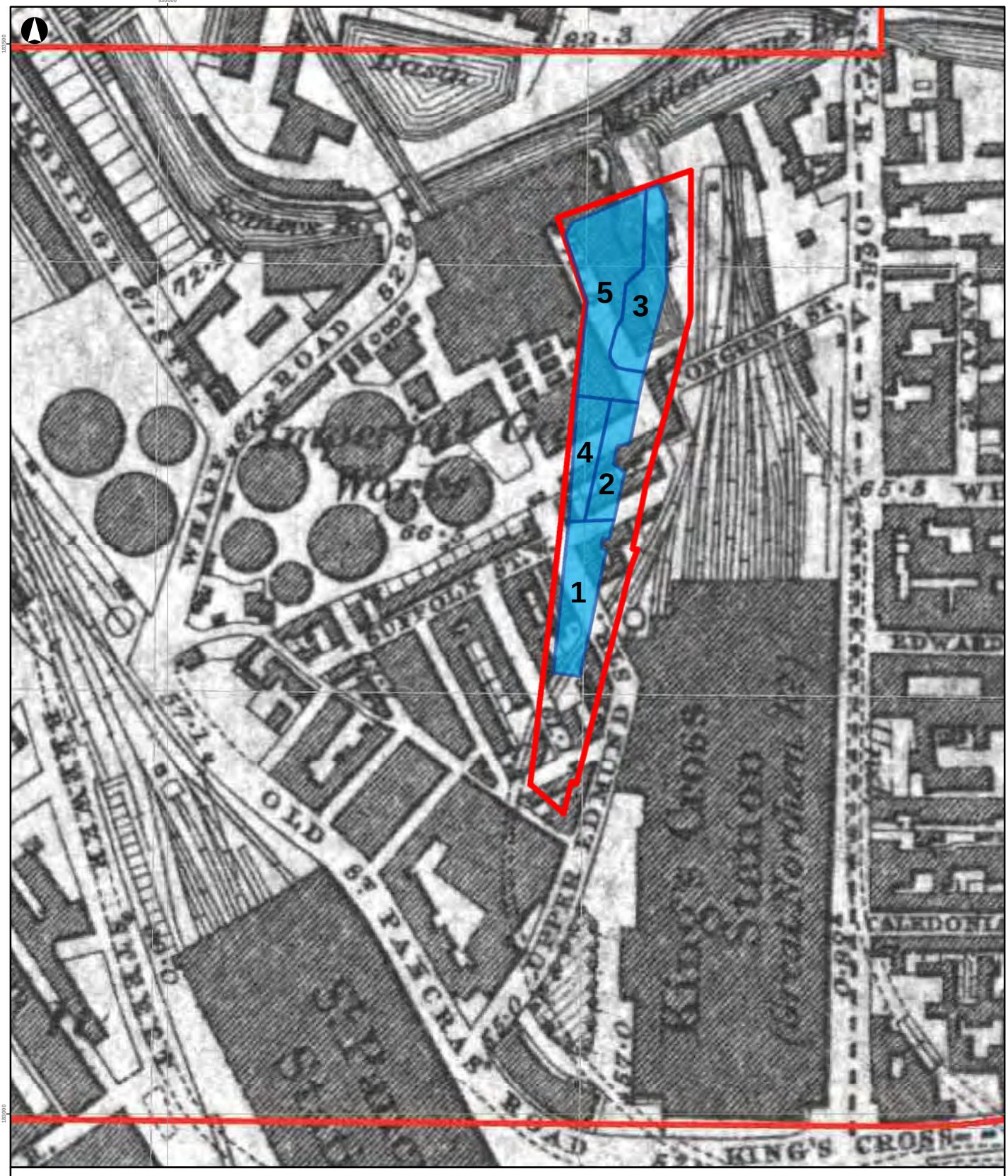
Scale at A4
1:650

Job No	Drawing Status
219902	**Issue**

Drawing No	Issue
Figure E2	**P1**

MXD Location

A4



Legend

- Zone A boundary
- Sub-Areas

Issue	Date	By	Chkd	Appd
P1	10/05/2013	EF	VC	RO

ARUP

13 Fitzroy Street
London W1T 4BQ
Tel +44 20 7636 1531 Fax +44 20 7580 3924
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Client
Kings Cross Central Limited Partnership

Job Title
Zone A Reserved Matters ERP

Metres
0 25 50 100

Historical OS map 1877

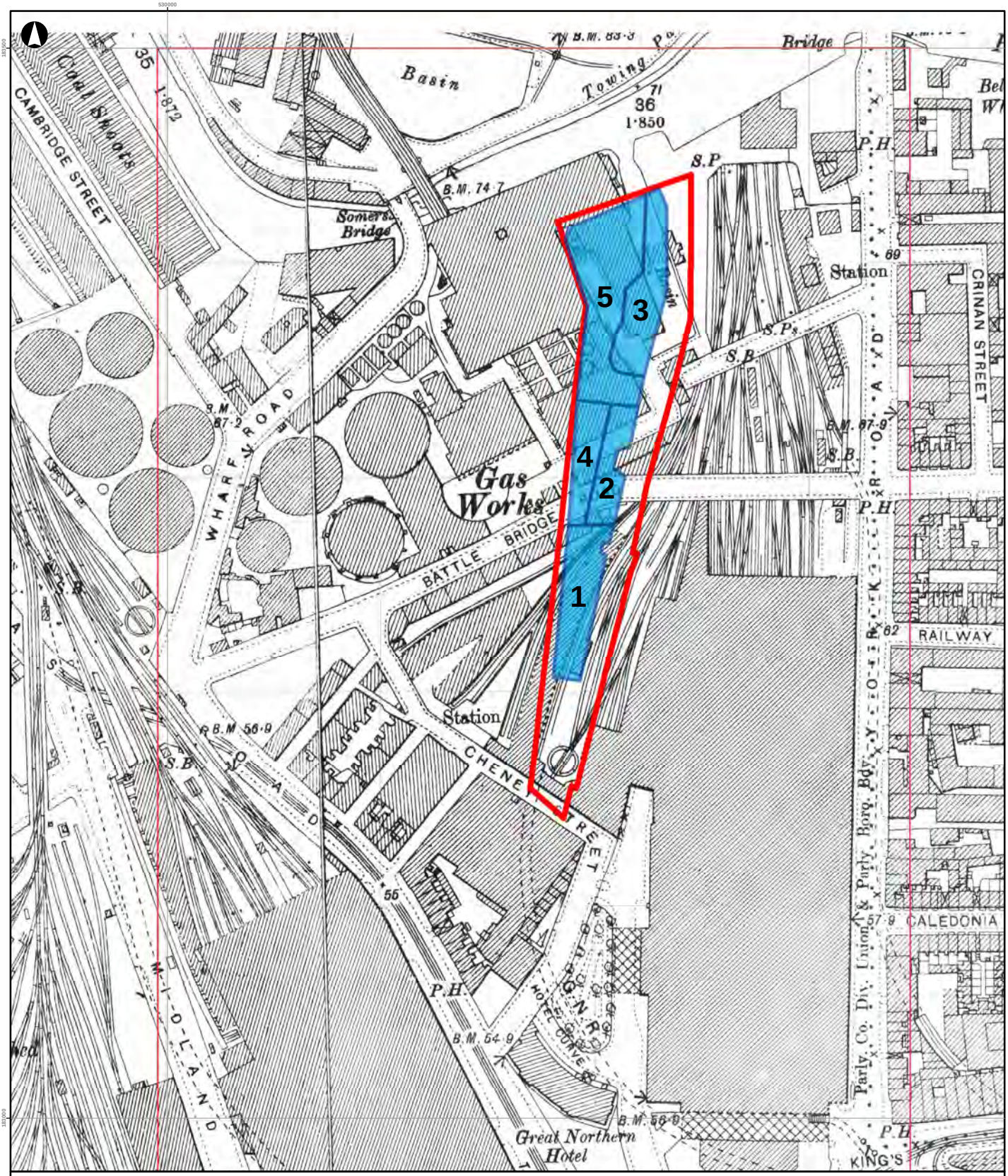
Scale at A4
1:2,500

Job No	Drawing Status
219902-00	**Issue**

Drawing No	Issue
Figure E3	**P1**

MXD Location

A4



Legend

- Zone A boundary
- Sub-Areas

Issue	Date	By	Chkd	Appd
P1	10/05/2013	EF	RO	RO

ARUP

13 Fitzroy Street
London W1T 4BQ
Tel +44 20 7636 1531 Fax +44 20 7580 3924
www.arup.com

Client
Argent Estates Limited

Job Title
Zone A - Reserved Matters ERP

Metres
0 25 50 100

Historical OS map 1894 - 1896

Scale at A4
1:2,500

Job No	Drawing Status
219902-00	**Issue**

Drawing No	Issue
Figure E4	**P1**

MXD Location

A4

Legend

- Zone A boundary
- Sub-Areas

Metres

0 5 10 20

Historical Goad Insurance Plan 1921

Scale at A4

1:800

Issue	Date	By	Chkd	Appd
P1	10/05/2013	EF	VC	RO

ARUP

13 Fitzroy Street
London W1T 4BQ
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Client

Kings Cross Central Limited Partnership

Job Title

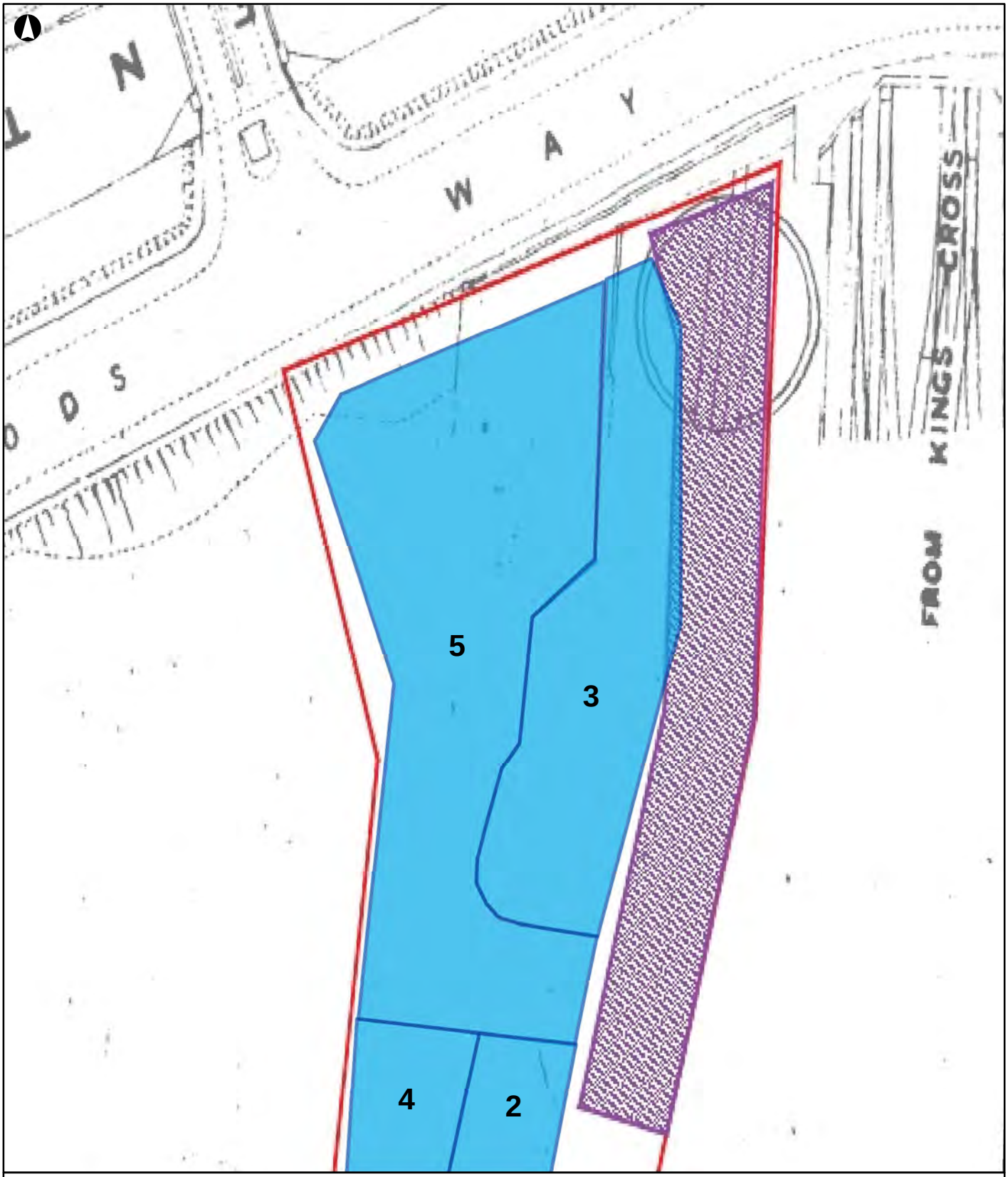
Zone A Reserved Matters - ERP

Job No	Drawing Status
219902	**Issue**

Drawing No	Issue
Figure E5	**P1**

MXD Location

A4



Legend

- Zone A boundary
- Sub-Areas

Issue	Date	By	Chkd	Appd
P1	10/05/2013	EF	VC	RO

ARUP

13 Fitzroy Street
London W1T 4BQ
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www.arup.com

Client
Kings Cross Central Limited Partnership

Job Title
Zone A Reserved Matters ERP

Metres
0 5 10 20

Historical LNER Plan 1933

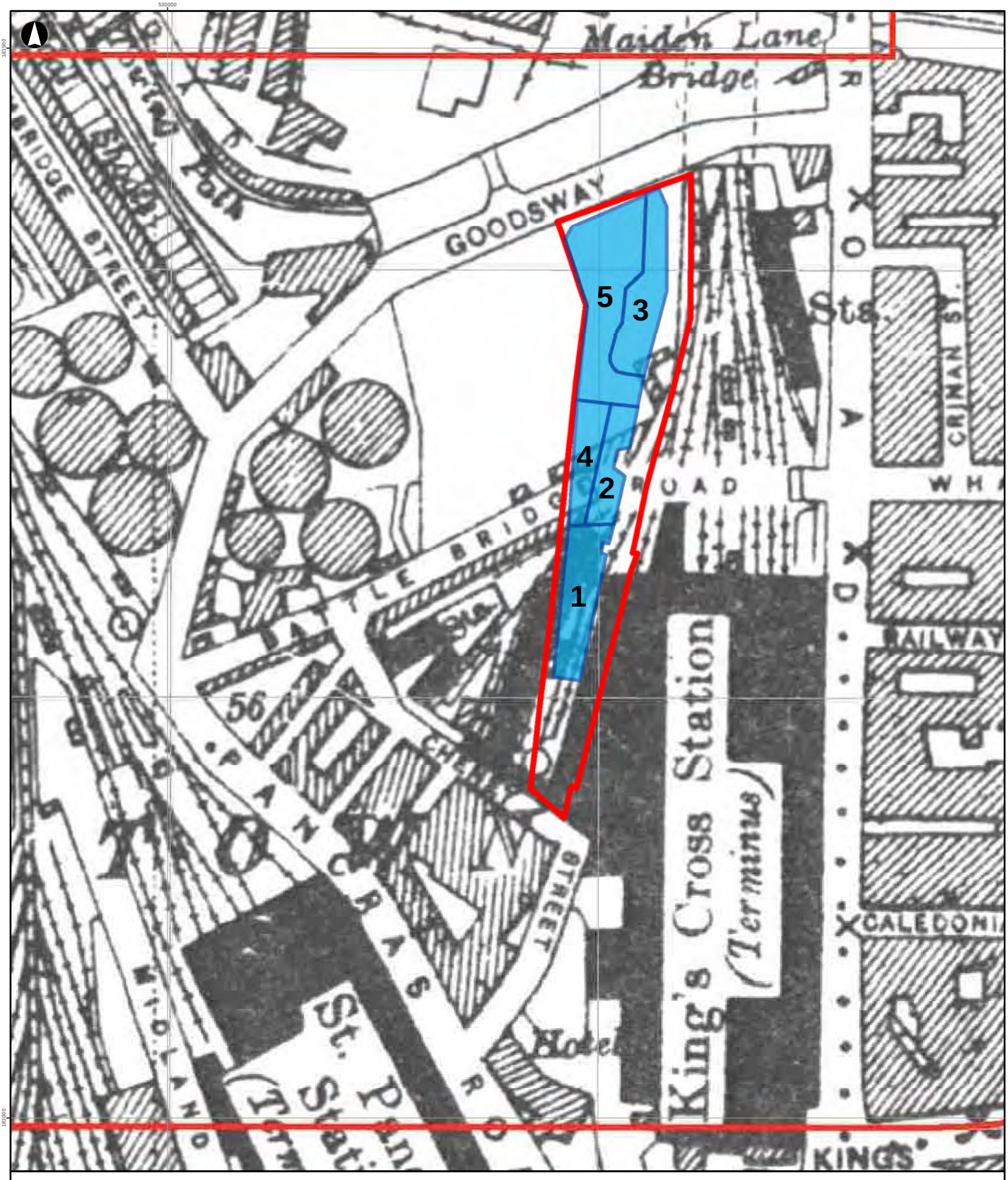
Scale at A4
1:700

Job No	Drawing Status
219902	**Issue**

Drawing No	Issue
Figure E6	**P1**

MXD Location

A4



Legend

- Zone A boundary
- Sub-Areas

Metres

0 25 50 100

Historical OS map 1938

Scale at A4

1:2,500

ARUP

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Issue	Date	By	Chkd	Appd
P1	10/05/2013	EF	VC	RO

Client

Kings Cross Central Limited Partnership

Job Title

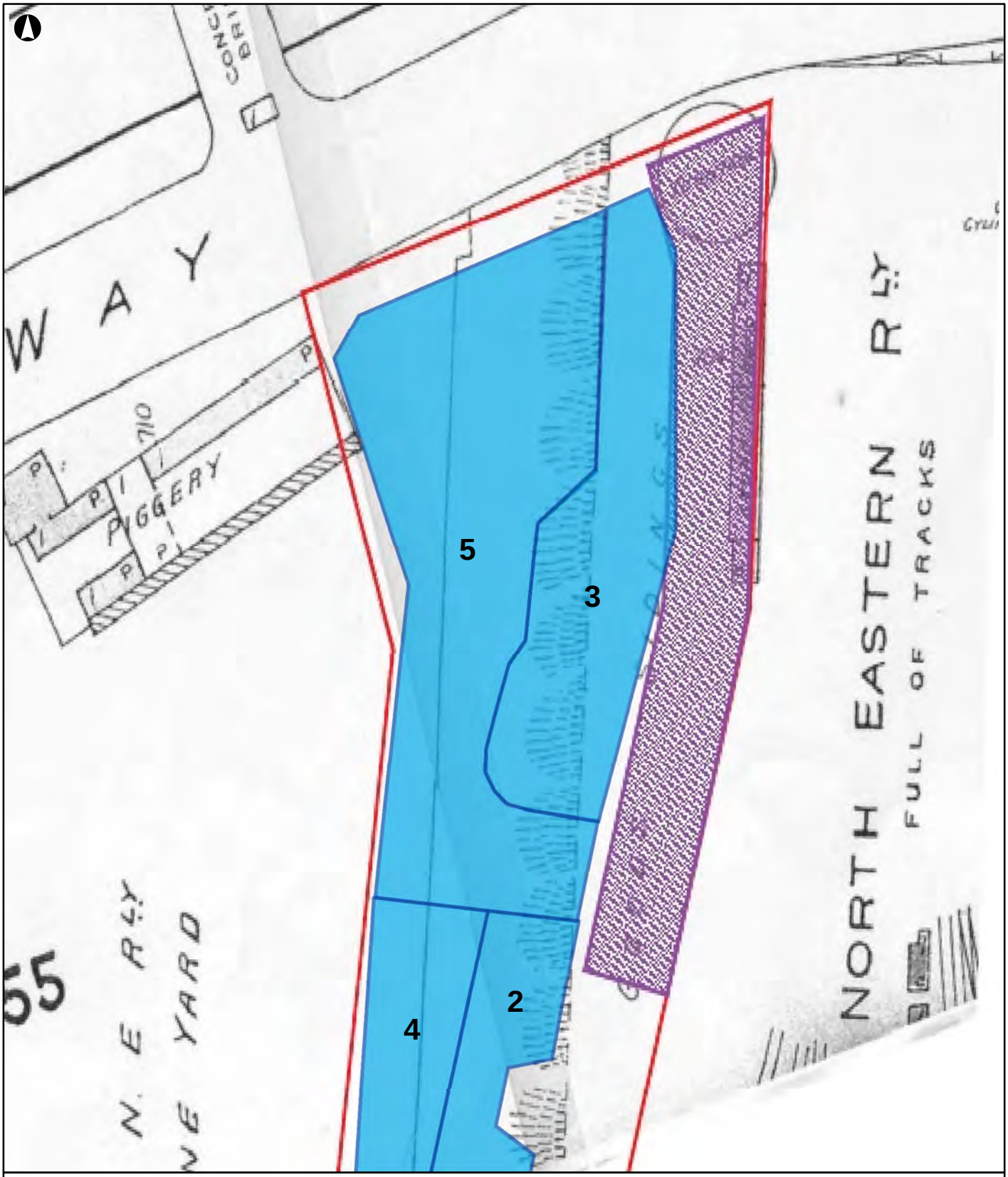
Zone A Reserved Matters ERP

Job No	Drawing Status
219902-00	**Issue**

Drawing No	Issue
Figure E7	**P1**

MXD Location

A4



Legend

- Zone A boundary
- Sub-Areas

Issue	Date	By	Chkd	Appd
P1	31-10-12	EF	VC	RO

ARUP

13 Fitzroy Street
London W1T 4BQ
Tel +44 20 7636 1531 Fax +44 20 7580 3924
www.arup.com

Client
Kings Cross Central Limited Partnership

Job Title
Zone A Reserved Matters ERP

Metres
0 5 10 20

Historical Goad Insurance Plan 1942

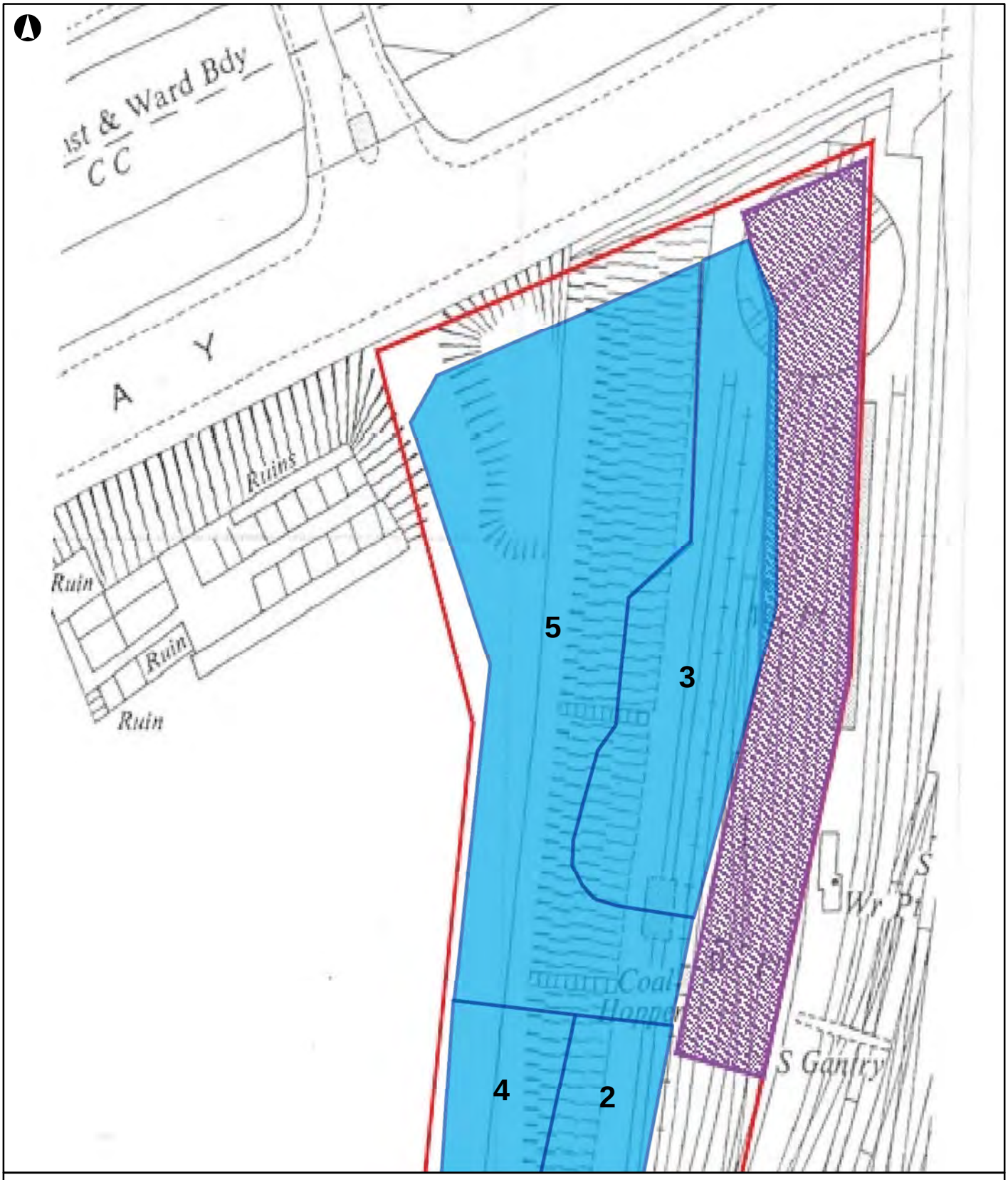
Scale at A4
1:750

Job No	Drawing Status
219902	**Issue**

Drawing No	Issue
Figure E8	**P1**

MXD Location

A4



Legend

- Zone A boundary
- Sub-Areas

Issue	Date	By	Chkd	Appd
P1	10/05/2013	EF	VC	RO

ARUP

13 Fitzroy Street
London W1T 4BQ
Tel +44 20 7636 1531 Fax +44 20 7580 3924
www.arup.com

Client
Kings Cross Central Limited Partnership

Job Title
Zone A Reserved Matters ERP

Metres
0 5 10 20

Historical OS map 1953

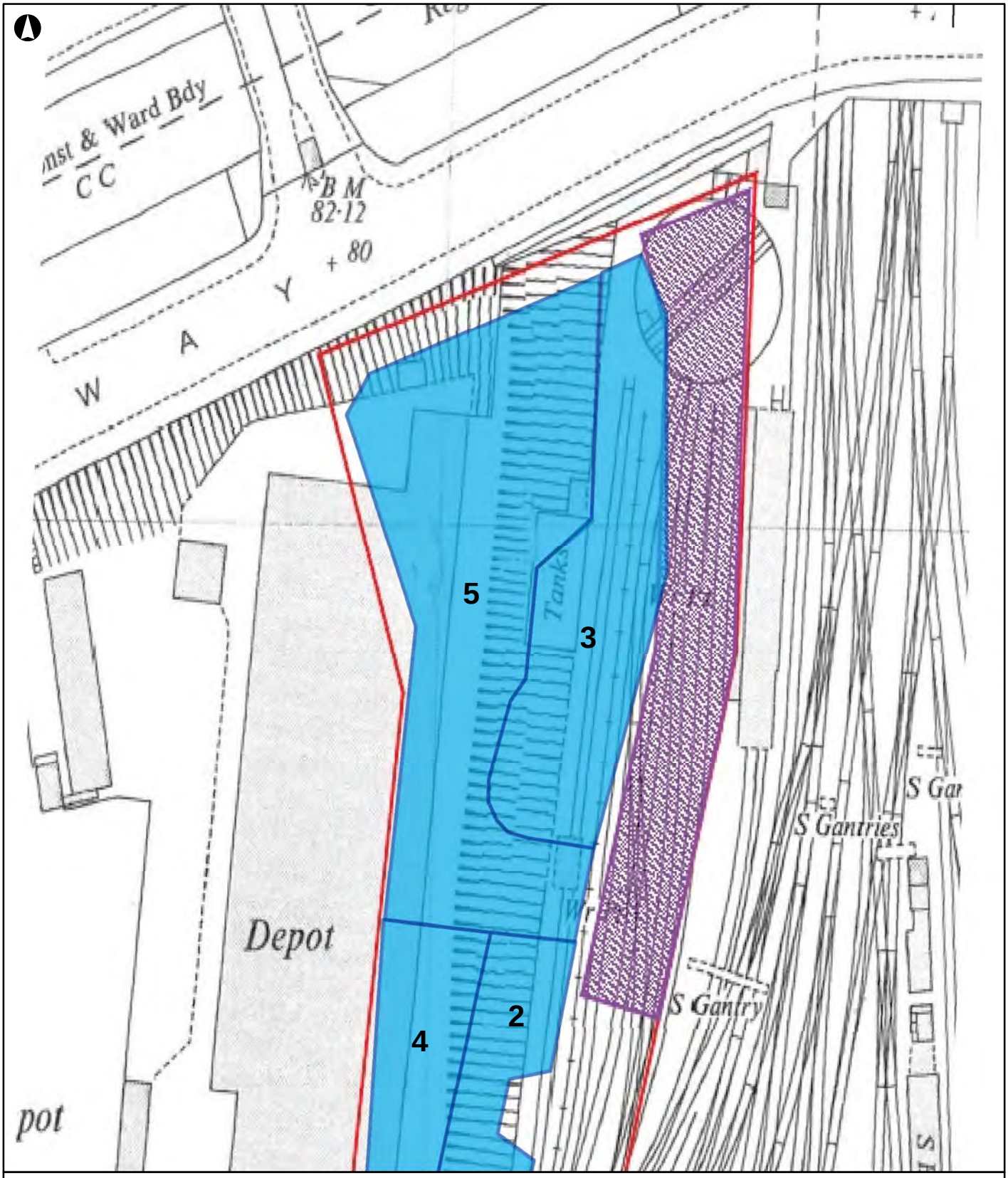
Scale at A4
1:700

Job No	Drawing Status
219902	**Issue**

Drawing No	Issue
Figure E9	**P1**

MXD Location

A4



Legend

- Zone A boundary
- Sub-Areas

Issue	Date	By	Chkd	Appd
P1	10/05/2013	EF	VC	RO

ARUP

13 Fitzroy Street
London W1T 4BQ
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Client
Kings Cross Central Limited Partnership

Job Title
Zone A Reserved Matters ERP

Metres
0 5 10 20

Historical OS map 1963

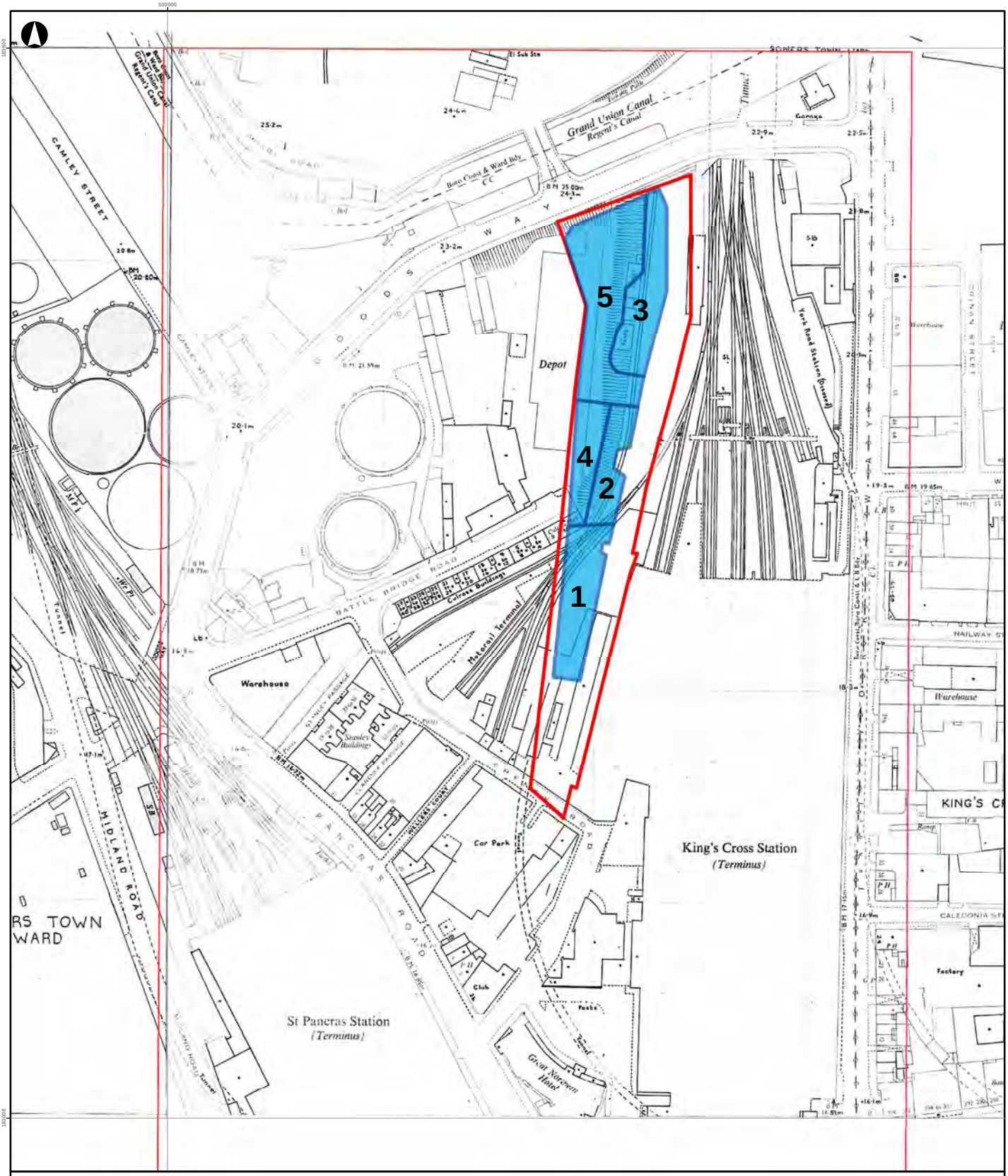
Scale at A4
1:800

Job No	Drawing Status
219902	**Issue**

Drawing No	Issue
Figure E10	**P1**

MXD Location

A4



Legend

- Zone A boundary
- Sub-Areas

Issue	Date	By	Chkd	Appd
P1	10/05/2013	EF	VC	RO

ARUP

13 Fitzroy Street
London W1T 4BQ
Tel +44 20 7636 1531 Fax +44 20 7580 3924
www.arup.com

Client
Kings Cross Central Limited Partnership

Job Title
Zone A Reserved Matters ERP

Metres
0 25 50 100

Historical OS map 1982 - 1986

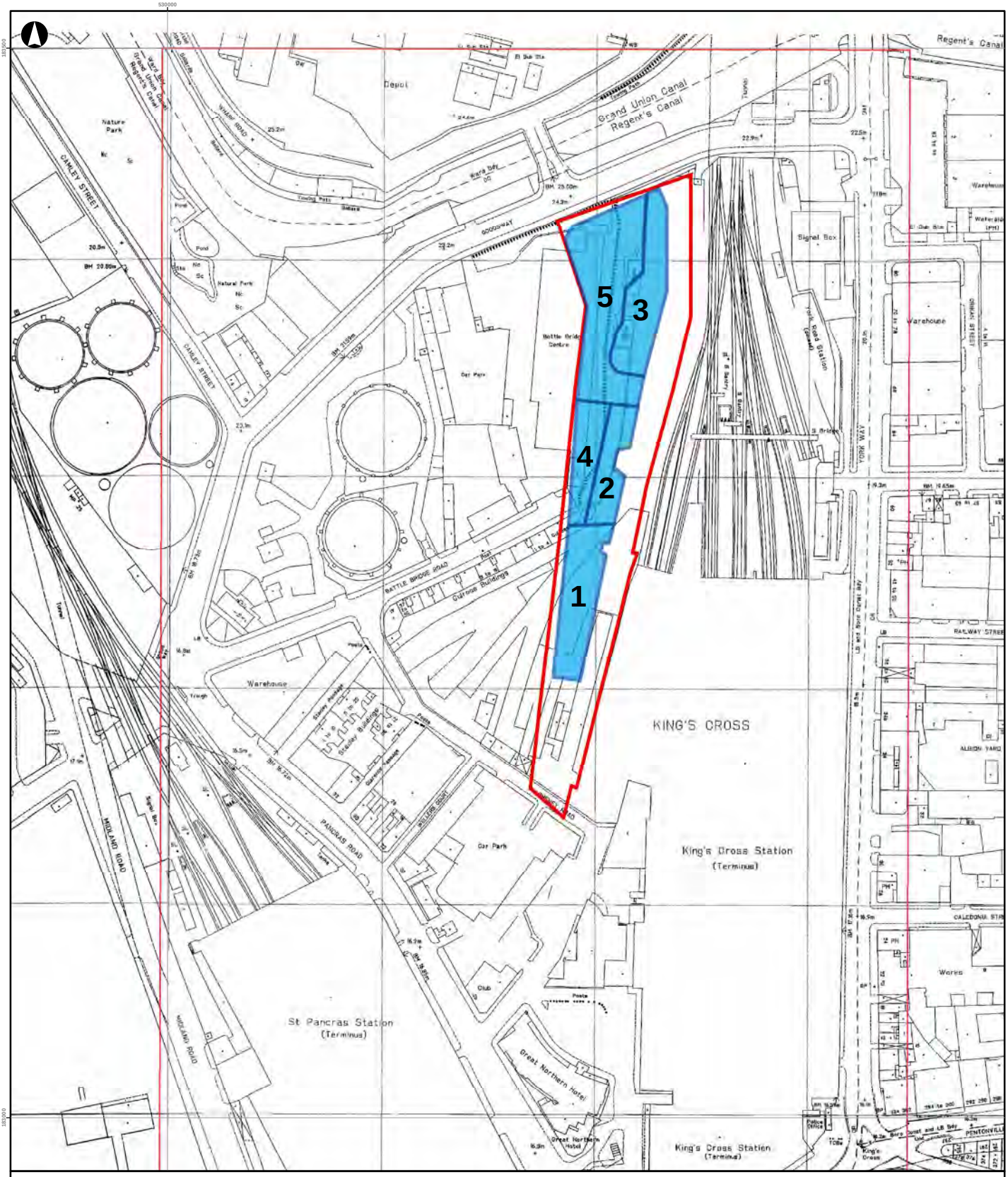
Scale at A4
1:2,500

Job No	Drawing Status
219902	**Issue**

Drawing No	Issue
Figure E11	**P1**

MXD Location

A4



Legend

- Zone A boundary
- Sub-Areas

Issue	Date	By	Chkd	Appd
P1	10/05/2013	EF	VC	RO

ARUP

13 Fitzroy Street
London W1T 4BQ
Tel +44 20 7636 1531 Fax +44 20 7580 3924
www.arup.com

Client
Kings Cross Central Limited Partnership

Job Title
Zone A Reserved Matters ERP

Metres
0 25 50 100

Historical OS map 1992 - 1994

Scale at A4
1:2,500

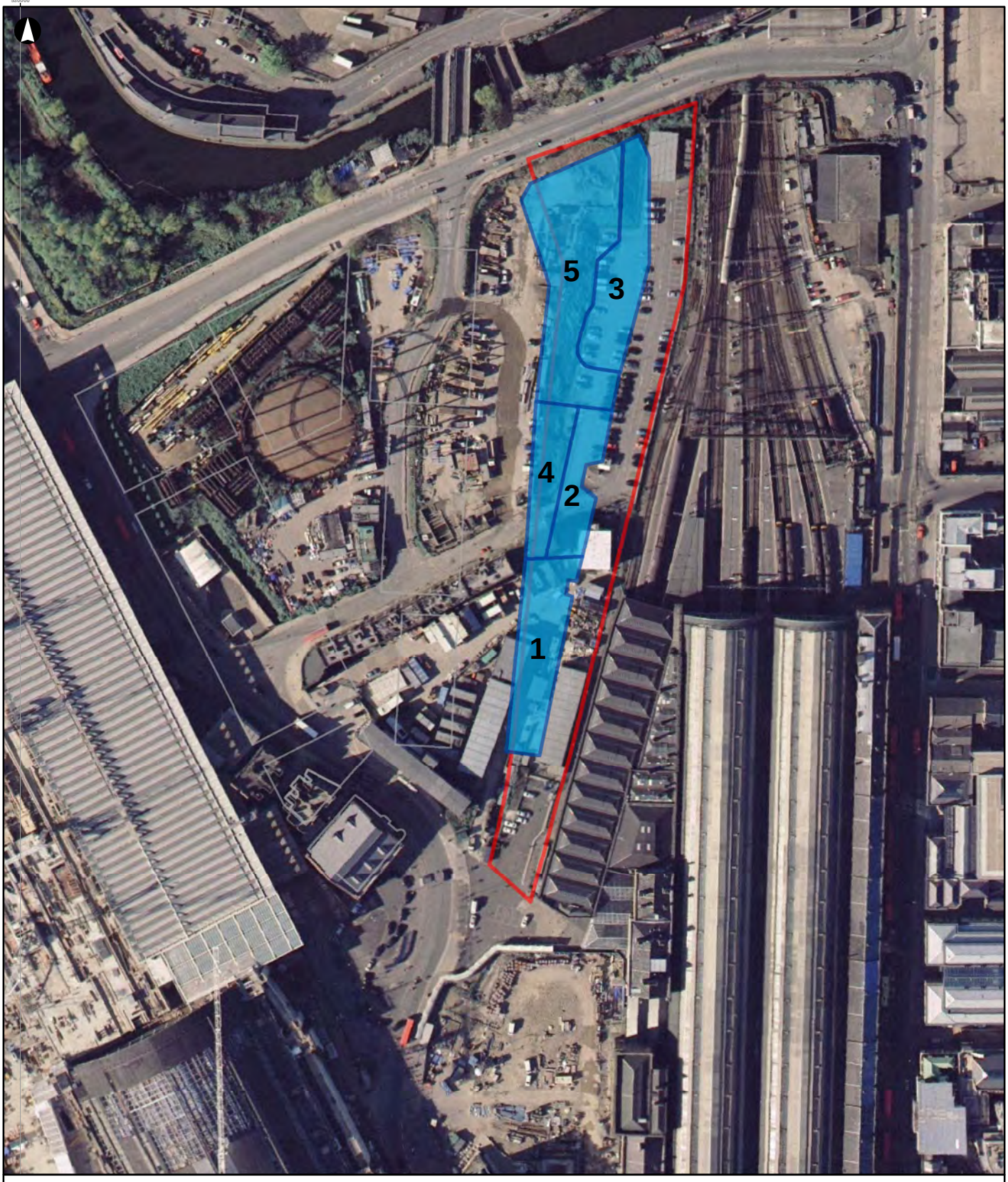
Job No	Drawing Status
219902	**Issue**

Drawing No	Issue
Figure E12	**P1**

MXD Location

A4

530000



Legend

- Zone A boundary
- Sub-Areas

Issue	Date	By	Chkd	Appd
P1	10/05/2013	EF	RO	RO

ARUP

13 Fitzroy Street
London W1T 4BQ
Tel +44 20 7636 1531 Fax +44 20 7580 3924
www.arup.com

Client
Kings Cross Central Limited Partnership

Job Title
Zone A Reserved Matters ERP

Metres
0 20 40 80

Historical aerial photograph 2004-05

Scale at A4
1:2,000

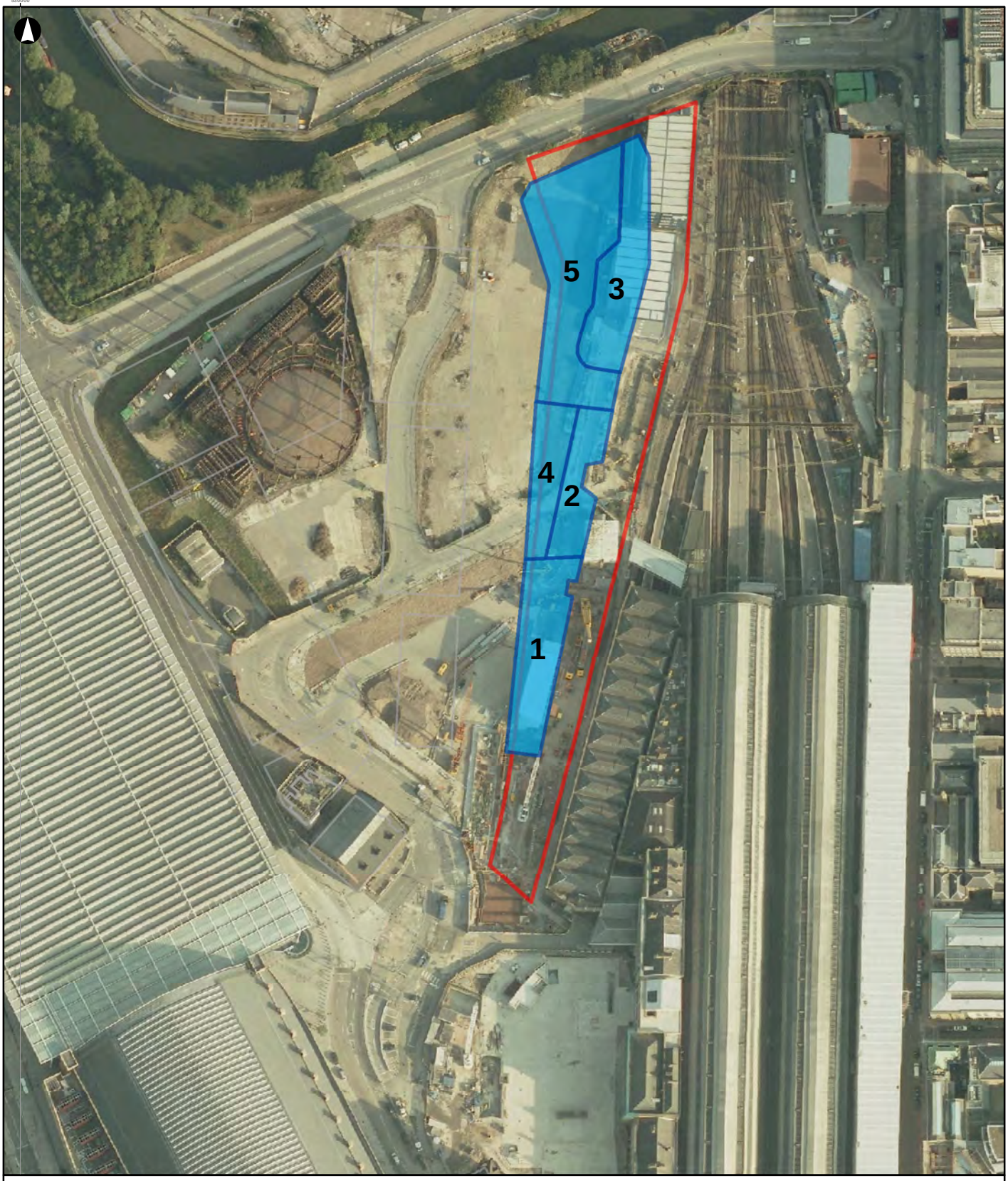
Job No	Drawing Status
219902	**Issue**

Drawing No	Issue
Figure E13	**P1**

MXD Location

A4

530000



Legend

Zone A boundary

Sub-Areas

Issue	Date	By	Chkd	Appd
P1	10/05/2013	EF	RO	RO

ARUP

13 Fitzroy Street
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www.arup.com

Client

Kings Cross Central Limited Partnership

Job Title

Zone A Reserved Matters ERP

Metres

0 20 40 80

Aerial photography 2008

Scale at A4

1:2,000

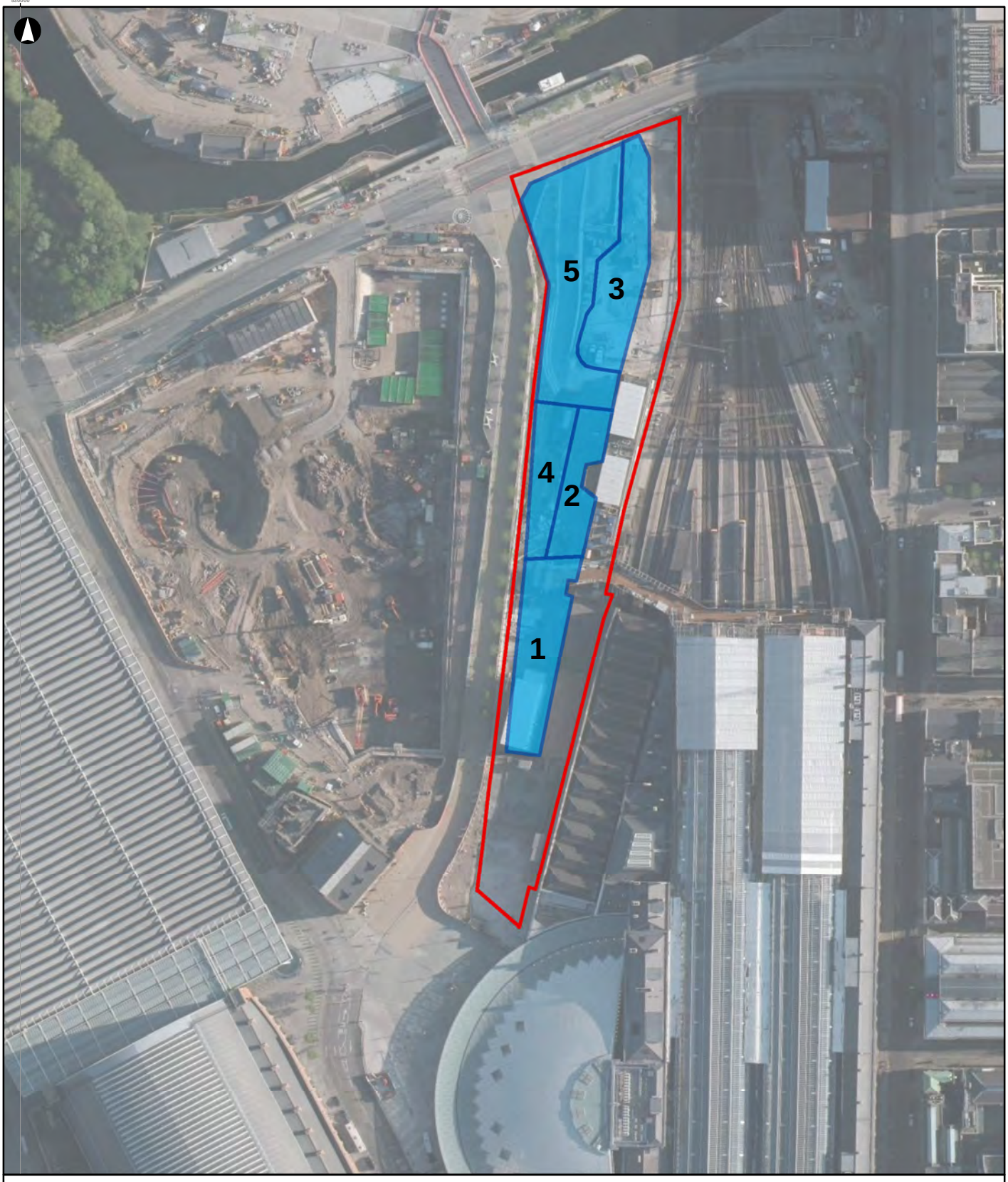
Job No	Drawing Status
219902-00	**Issue**

Drawing No	Issue
Figure E14	**P1**

MXD Location

A4

530000



Legend

Zone A boundary

Sub-Areas

Issue	Date	By	Chkd	Appd
P1	10/05/2013	EF	RO	RO

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Zone A Reserved Matters ERP

Metres

0 20 40 80

Aerial photography 2012

Scale at A4

1:2,000

Job No	Drawing Status
219902-00	**Issue**

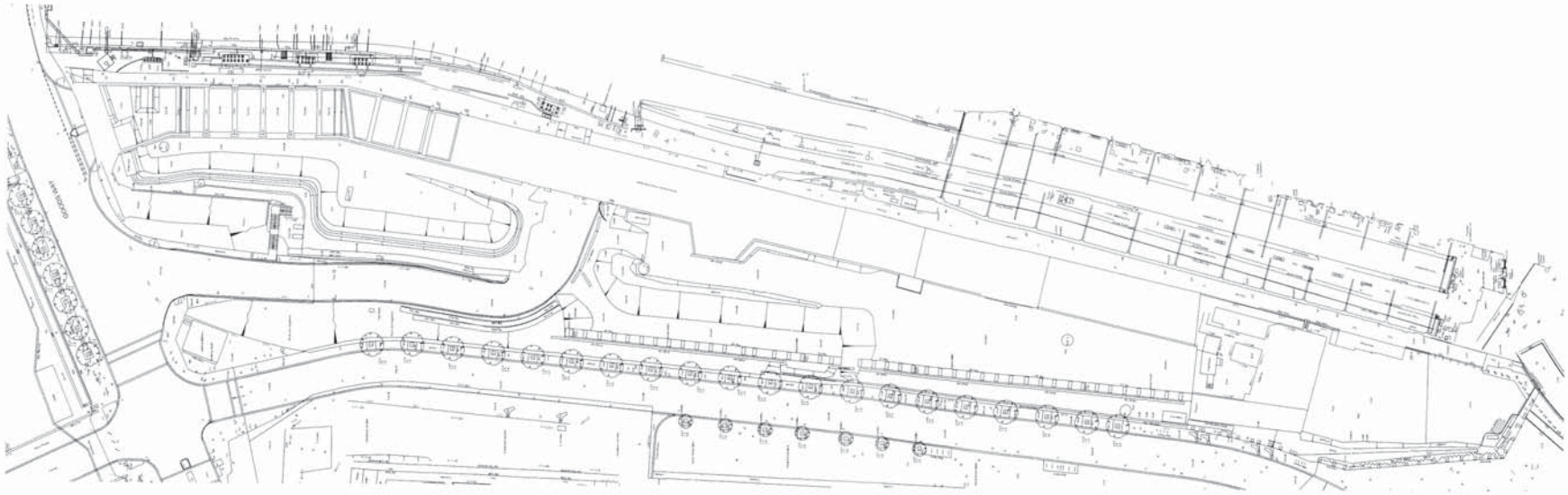
Drawing No	Issue
Figure E15	**P1**

MXD Location

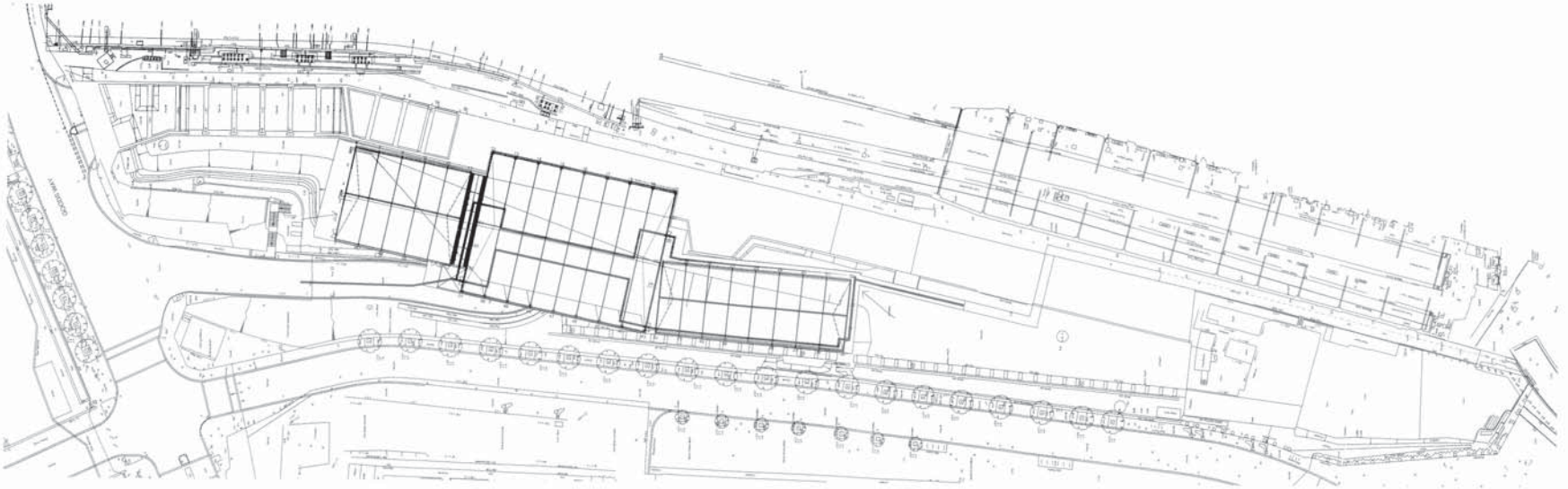
Appendix F

Railway Children Theatre
Drawings and Specification

Notes
1. Do not scale. Dimensions given.
2. All dimensions are in metres unless noted otherwise.
3. All dimensions to be verified on site before proceeding with the work.
4. The designer shall be notified in writing of any discrepancies.



01 Existing Floor Plan



02 Proposed Floor Plan

Rev	Date	Description	Checked
-	15.10.14	For Information	mc

atomik architecture

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Project

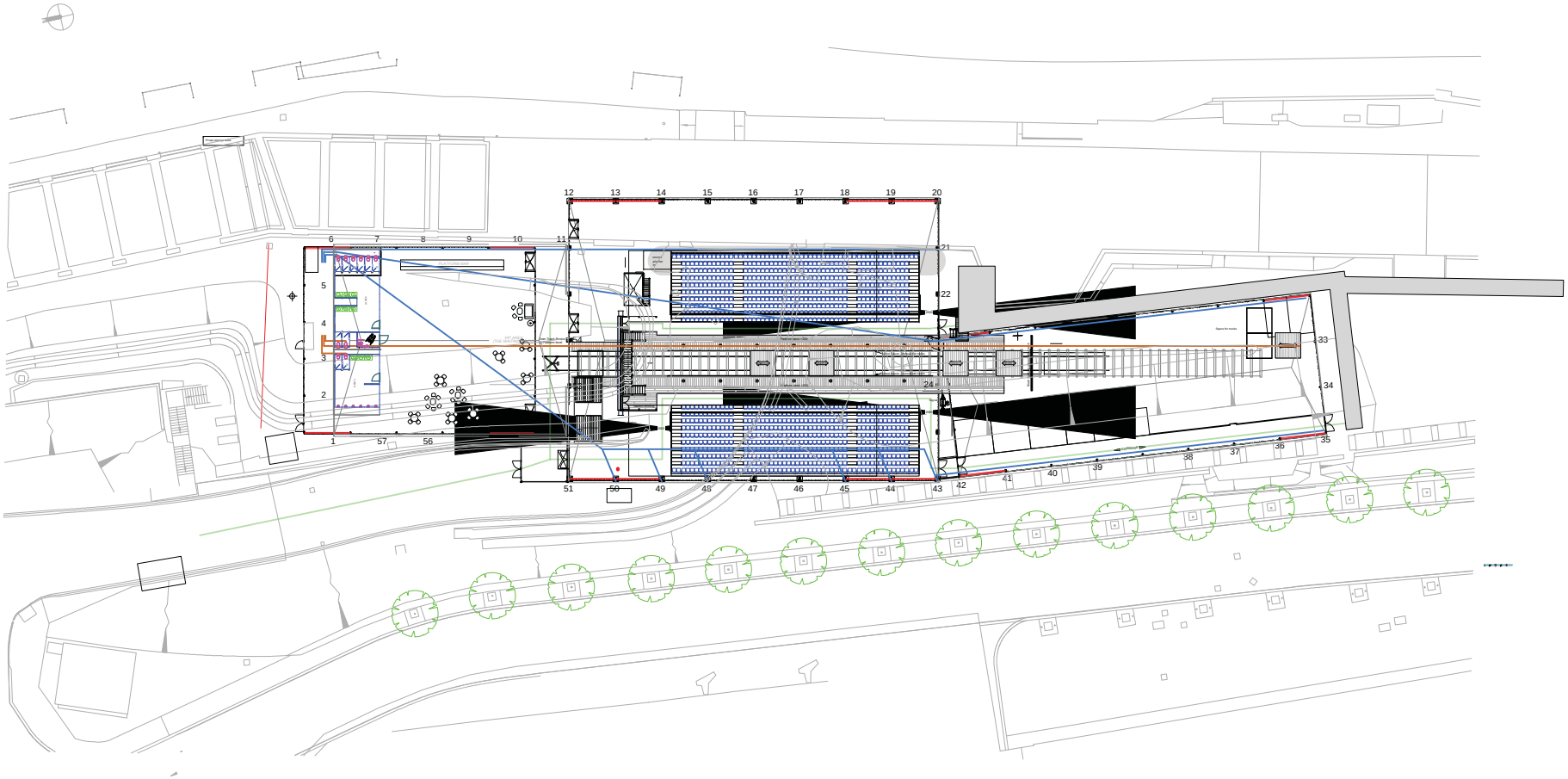
The Railway Children Theatre

Title

Existing and Proposed Plans

Project No.	Scale	Drawing Size
150	1:500	A1

Drawing No.	Revision
P-TRC-KX-14-009	-



Scale: 1:500
Structures Overview
The Railway Children
The King's Cross Theatre

Notes
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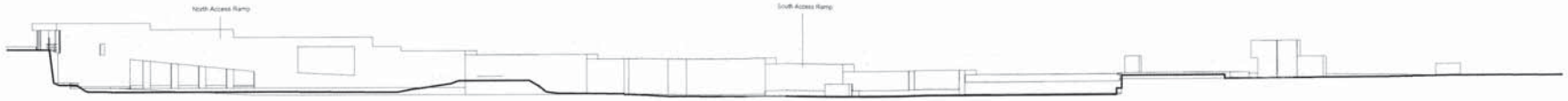
2. All dimensions are in metres unless noted otherwise.
3. All dimensions to be verified on site before proceeding with the work.
4. The designer shall be notified in writing of any discrepancies.



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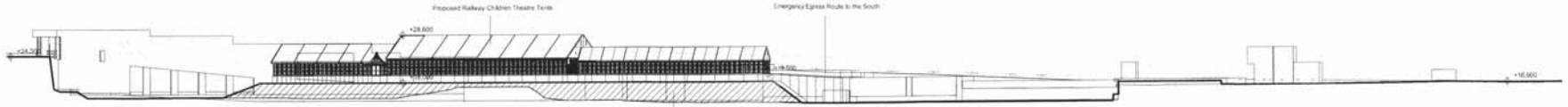
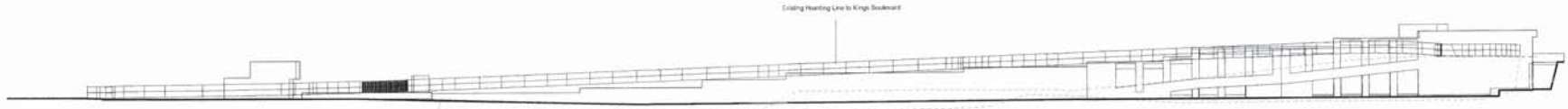
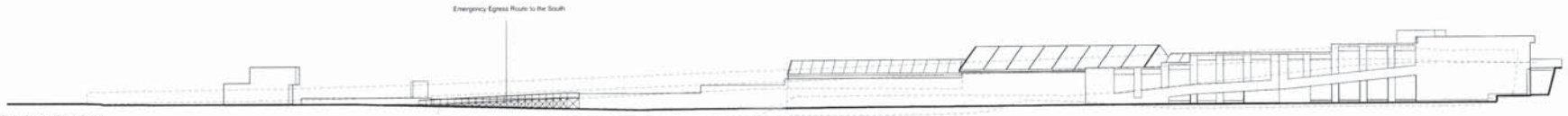


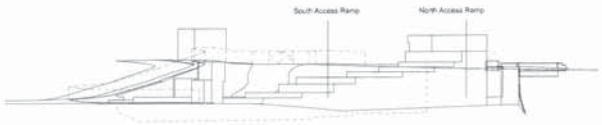
02 Proposed West Elevation



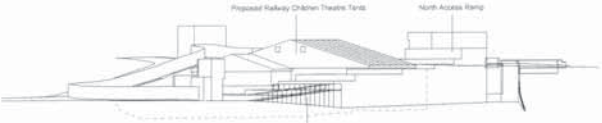
03 Existing East Facade



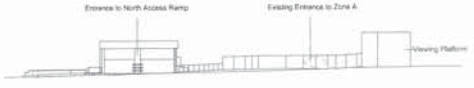
04 Proposed East Facade



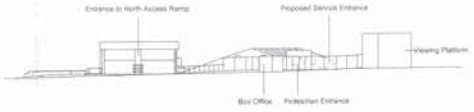
05 Existing South Facade



06 Proposed South Facade



07 Existing North Facade



08 Proposed North Facade

Rev	Date	Description	Checked
-	16.10.14	For Information	PR

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Project
The Railway Children Theatre

Title
Existing and Proposed Elevations

Project No.	Scale	Drawing Size
150	1:500	A1

Drawing No.	Revision
P-TRC-KX-14-008	-

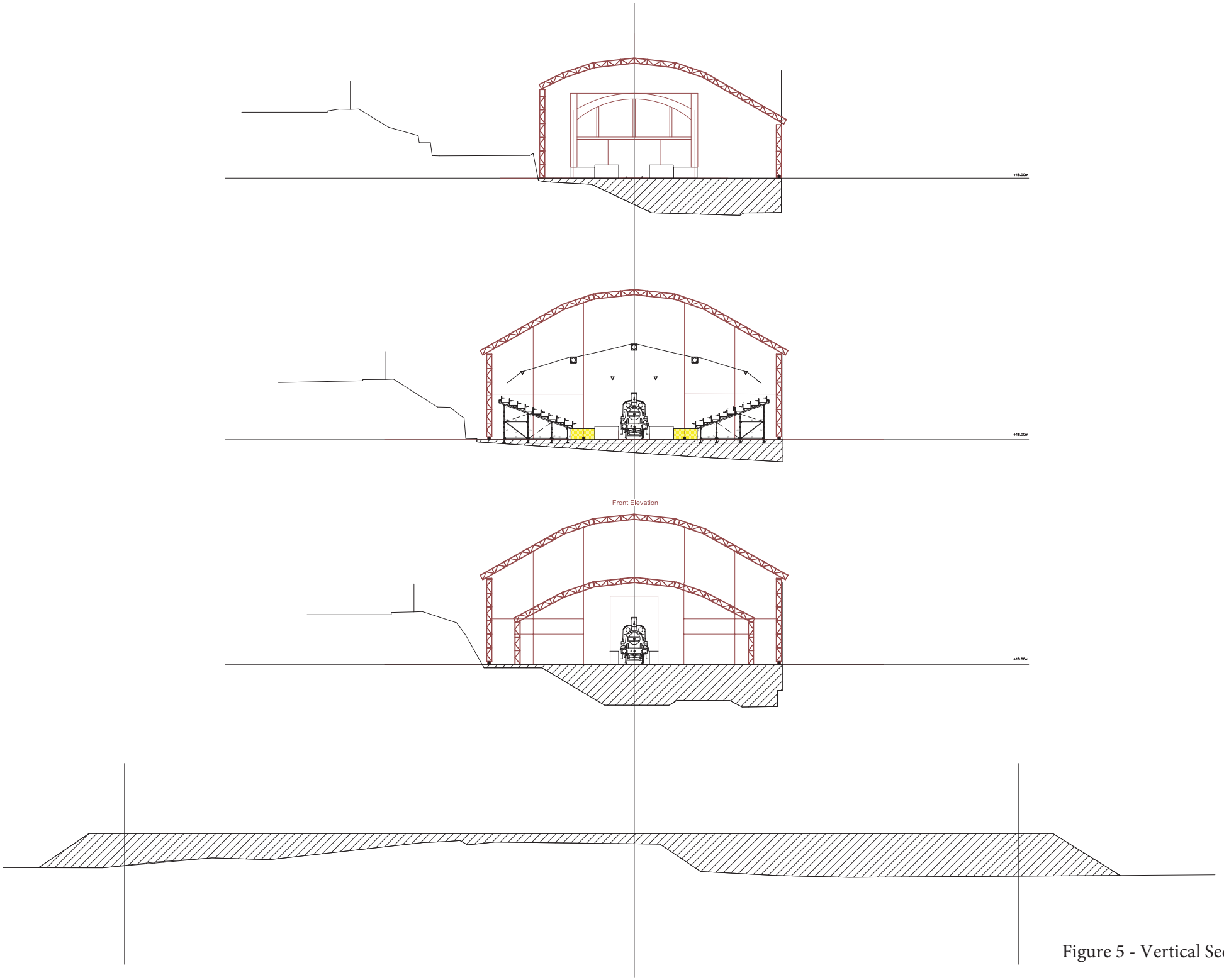

Figure 5 - Vertical Sections