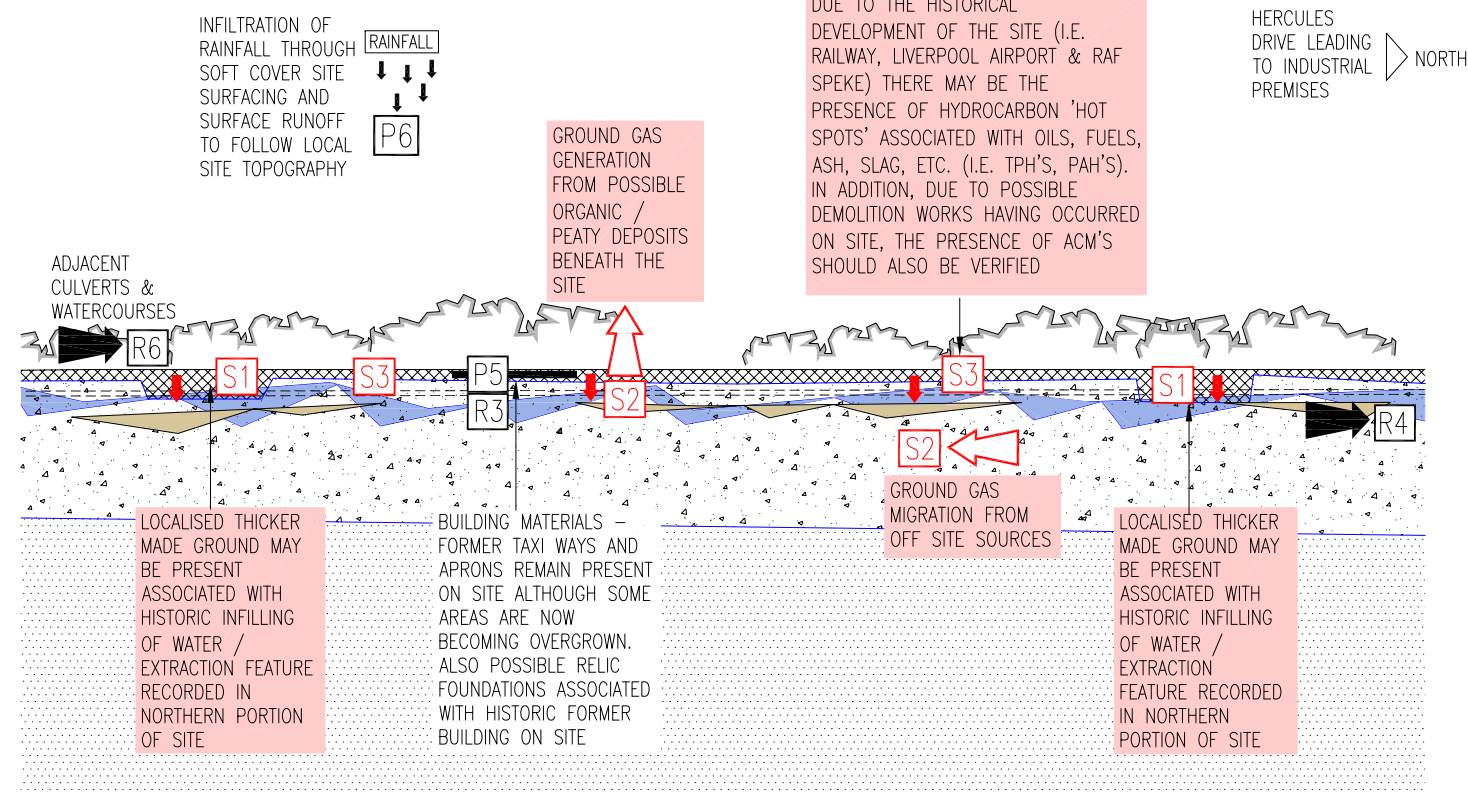
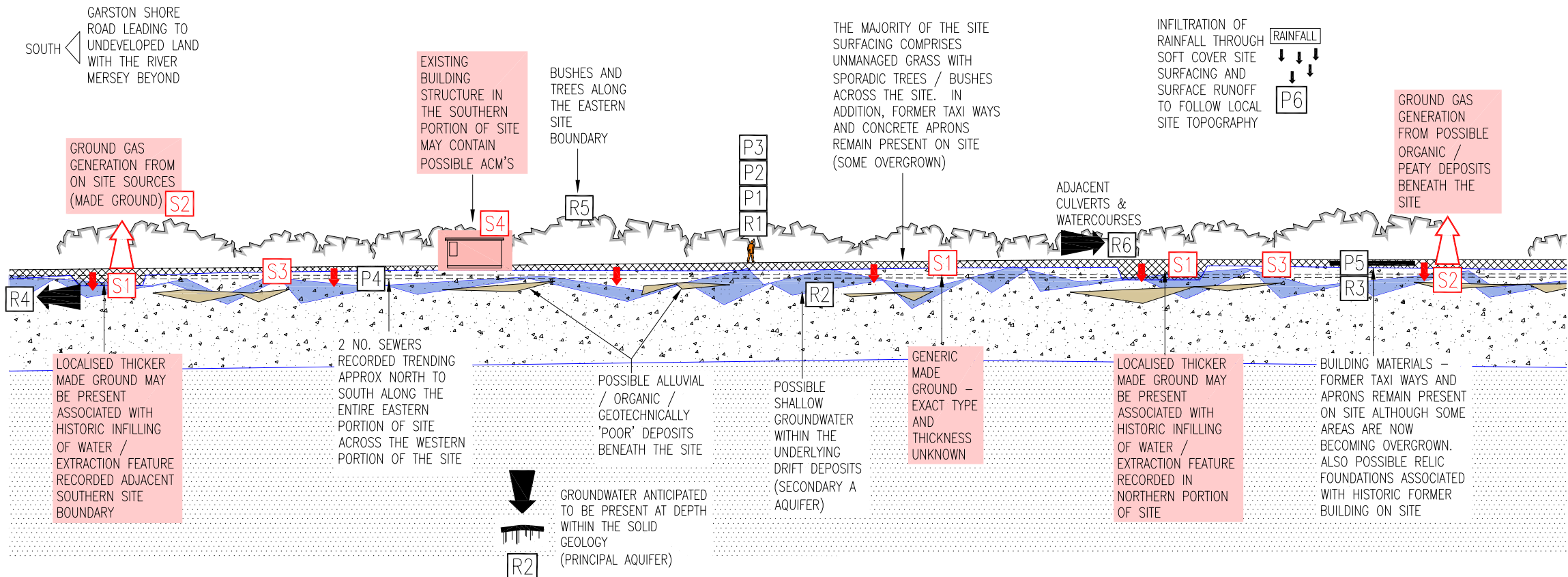


INDICATIVE SECTION THROUGH AREA OF TOTAL SITE AREA USING AN APPROXIMATE NORTH THROUGH SOUTH ORIENTATION



STRATA DETAILS



MADE GROUND:
PUBLISHED BGS DATA INDICATES THERE IS NO RECORDED EVIDENCE OF SIGNIFICANT MADE GROUND MATERIALS ON OR WITHIN CLOSE PROXIMITY TO THE SITE. HOWEVER, TAKING IN TO ACCOUNT THE SITES PREVIOUS DEVELOPMENT WITH THE CONSTRUCTION OF TAXI WAYS AND ASSOCIATED BUILDINGS IT IS LIKELY THAT THERE WILL BE AREAS OF MADE GROUND PRESENT ON SITE. IN ADDITION, SINCE THERE HAVE BEEN 3 NO. EXTRACTION/WATER FEATURES HISTORICALLY RECORDED ON SITE (SEE HISTORICAL PLANS IN APPENDIX IV) THERE MAY BE DEEPER AREAS OF MADE GROUND DUE TO THE INFILLING OF THESE FEATURES. THERE IS ALSO AN ADDITIONAL EXTRACTION / WATER FEATURE WHICH STRADDLES THE NORTH-WESTERN BOUNDARY OF THE SITE, BUT WHICH IS ONLY RECORDED ON THE EARLIEST HISTORICAL PLAN, C.1849 - C.1850. THE HISTORICAL TRIAL PIT & BOREHOLE RECORD SHEETS COMPLETED BY SOIL MECHANICS HAVE IDENTIFIED MADE GROUND TO DEPTHS OF BETWEEN C.0.10M UP TO C.1.70M BELOW GROUND LEVELS (BGL'S) WHICH INITIALLY COMPRISED SANDY SILTY TOPSOIL TO DEPTHS OF C.0.10M UP TO C.0.60M BGL'S.



DRIFT DEPOSITS:
BGS DATA INDICATES THE SITE IS INITIALLY UNDERLAIN BY BLOWN SAND (SHIRDOLEY HILL SAND) WHICH IN TURN OVERLIES BOULDER CLAY DEPOSITS. DUE TO THE PRESENCE OF THE HISTORICALLY RECORDED EXTRACTION / WATER FEATURES PRESENT ON SITE AS WELL AS THE DRAIN / WATERCOURSE RECORDED ADJACENT TO THE EASTERN BOUNDARY OF THE SITE, SOME LOCALISED "GEOTECHNICALLY POOR" NATURAL DRIFT DEPOSITS MAY ALSO BE PRESENT. THESE DEPOSITS MAY COMPRISE SOFT TO FIRM SILTY CLAY, SILT, SAND, GRAVEL AND ALSO PEAT. FOLLOWING A REVIEW OF THE AVAILABLE TRIAL PIT AND BOREHOLE DATA ATTACHED IN APPENDIX III, THE SITE IS SHOWN TO BE UNDERLAIN BY LOOSE SILTY SAND TO DEPTHS OF BETWEEN C.0.55M UP TO C.1.70M BGL'S BEFORE ENCOUNTERING THE INITIALLY FIRM BECOMING STIFF SANDY CLAY WITH OCCASIONAL LENSES OF SAND AND OCCASIONAL GRAVEL. WITHIN REPORT 1000, THE DRIFT DEPOSITS COMPRISED SAND AND CLAY DEPOSITS TO A MAXIMUM DEPTH OF C.6.00M BGL'S.



SOLID GEOLOGY:
THE SOLID GEOLOGY UNDERLYING THE SITE IS SHOWN TO COMPRISE THAT OF THE TRIASSIC PEBBLE BEDS WHICH ARE CONTAINED WITHIN THE SHERWOOD SANDSTONE DEPOSITED DURING THE PERIOD OF THE EARTH'S HISTORY KNOWN AS THE TRIASSIC. THE SOLID DEPOSITS HAVE PREVIOUSLY BEEN RECORDED DURING THE FIELDWORKS COMPLETED ON THE SITE ADJACENT TO THE NORTHERN BOUNDARY, AND ENCOUNTERED AT A DEPTH OF C.17M



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CRITICAL POLLUTANT LINKAGES

SOURCE	<ol style="list-style-type: none">1. MADE GROUND ASSOCIATED WITH THE HISTORICAL DEVELOPMENT OF THE SITE2. POSSIBLE HAZARDOUS GROUND GAS PRODUCTION / MIGRATION FROM BOTH ON SITE AND OFF SITE SOURCES (I.E. MADE GROUND & INFILLED EXTRACTION / WATER FEATURES), AS WELL AS THE PRESENCE OF ORGANIC ALLUVIAL DEPOSITS3. DUE TO THE HISTORICAL DEVELOPMENT OF THE SITE (I.E. RAILWAY, LIVERPOOL AIRPORT & RAF SPEKE) THERE MAY BE THE PRESENCE OF HYDROCARBON 'HOT SPOTS' ASSOCIATED WITH OILS, FUELS, ASH, SLAG, ETC. (I.E. TPH'S, PAH'S). IN ADDITION, DUE TO POSSIBLE DEMOLITION WORKS HAVING OCCURRED ON SITE, THE PRESENCE OF ACM'S SHOULD ALSO BE VERIFIED4. DURING THE SITE WALKOVER, IT WAS IDENTIFIED AN EXISTING BUILDING STRUCTURE MAY CONTAIN POSSIBLE ACM'S.
PATHWAY	<ol style="list-style-type: none">1. INGESTION2. INHALATION OF INDOOR / OUTDOOR AIR3. DERMAL CONTACT4. MIGRATION THROUGH EXISTING SERVICES5. DIRECT CONTACT WITH BUILDING MATERIALS6. SURFACE RUN OFF
RECEPTOR	<ol style="list-style-type: none">1. HUMAN HEALTH (END USERS AND CONSTRUCTION WORKFORCE)2. GROUNDWATER (SECONDARY A AQUIFER & PRINCIPAL AQUIFER)3. BUILDING MATERIALS*4. ADJACENT SITES5. FLORA AND FAUNA*6. NEARBY CULVERTS AND WATERCOURSES <p>* = Not included in the Human Health & Controlled Waters Risk Assessment</p>

Client:

ADEPT CONSULTING ENGINEERS LTD

Project Title:

Proposed Commercial Development

Estuary Boulevard

Speke, Liverpool, L24 8RL

Drawing Title:

Cocneptual Site Model

Scale at A3: NTS @ A3 | Date: 23.05.16 | Drawn by: P.D | Approved by: M.P.B

Job Ref: | Drg no: | Rev:

16-433

APPENDIX II

Historical Pond Cross Sections (Phase 3) And Validation Screening Assessment Criteria

Validation Screening Assessment Criteria

Table A2.1 - (Assessment Criteria for Imported Soils)

<u>Analyte</u>	<u>Critical Conc. (Cc) mg/kg</u>	<u>Analyte</u>	<u>Critical Conc. (Cc) mg/kg</u>
Metals/Metalloids		BTEX & Speciated TPH's	
Arsenic	640 ⁽¹⁾	Benzene	90 ⁽¹⁾
Cadmium	190 ⁽¹⁾	Toluene	180000 ⁽¹⁾
Chromium III	8600 ⁽¹⁾	Ethylbenzene	27000 ⁽¹⁾
Chromium VI	33 ⁽¹⁾	m & p-Xylene	30000 ⁽¹⁾
Copper	68000 ⁽¹⁾	o-Xylene	33000 ⁽¹⁾
Lead	2330 ⁽²⁾	TPH Aliphatic EC5-EC6	12000 ⁽¹⁾
Mercury	1100 ⁽¹⁾	TPH Aliphatic EC6-EC8	40000 ⁽¹⁾
Nickel	980 ⁽¹⁾	TPH Aliphatic EC8-EC10	11000 ⁽¹⁾
Selenium	12000 ⁽¹⁾	TPH Aliphatic EC10-EC12	47000 ⁽¹⁾
Zinc	730000 ⁽¹⁾	TPH Aliphatic EC12-EC16	90000 ⁽¹⁾
Cyanide	34 ⁽³⁾	TPH Aliphatic EC16-EC35	1800000 ⁽¹⁾
Speciated PAH's		TPH Aliphatic EC35-EC44	1800000 ⁽¹⁾
Acenaphthene	100000 ⁽¹⁾	TPH Aromatic EC5-EC7	86000 ⁽¹⁾
Acenaphthylene	100000 ⁽¹⁾	TPH Aromatic EC7-EC8	180000 ⁽¹⁾
Anthracene	540000 ⁽¹⁾	TPH Aromatic EC8-EC10	17000 ⁽¹⁾
Benzo(a)anthracene	180 ⁽¹⁾	TPH Aromatic EC10-EC12	34000 ⁽¹⁾
Benzo(a)pyrene	36 ⁽¹⁾	TPH Aromatic EC12-EC16	38000 ⁽¹⁾
Benzo(b)fluoranthene	45 ⁽¹⁾	TPH Aromatic EC16-EC21	28000 ⁽¹⁾
Benzo(ghi)perylene	4000 ⁽¹⁾	TPH Aromatic EC21-EC35	28000 ⁽¹⁾
Benzo(k)fluoranthene	1200 ⁽¹⁾	TPH Aromatic EC35-EC44	28000 ⁽¹⁾
Chrysene	350 ⁽¹⁾	Asbestos	Presence
Dibenz(ah)anthracene	3.6 ⁽¹⁾		
Fluoranthene	23000 ⁽¹⁾		
Fluorene	71000 ⁽¹⁾		
Indeno(123cd)pyrene	510 ⁽¹⁾		
Naphthalene	1100 ⁽¹⁾		
Phenanthrene	23000 ⁽¹⁾		
Pyrene	54000 ⁽¹⁾		

⁽¹⁾ = LQM CIEH Suitable 4 Use Levels (S4UL Nov 2014 (Revised August 2015)) – Commercial 6% SOM, ⁽²⁾ = C4SL Values (Commercial), ⁽³⁾ = ATRISK^{SOIL} SSV,
Note = All units are mg/kg.



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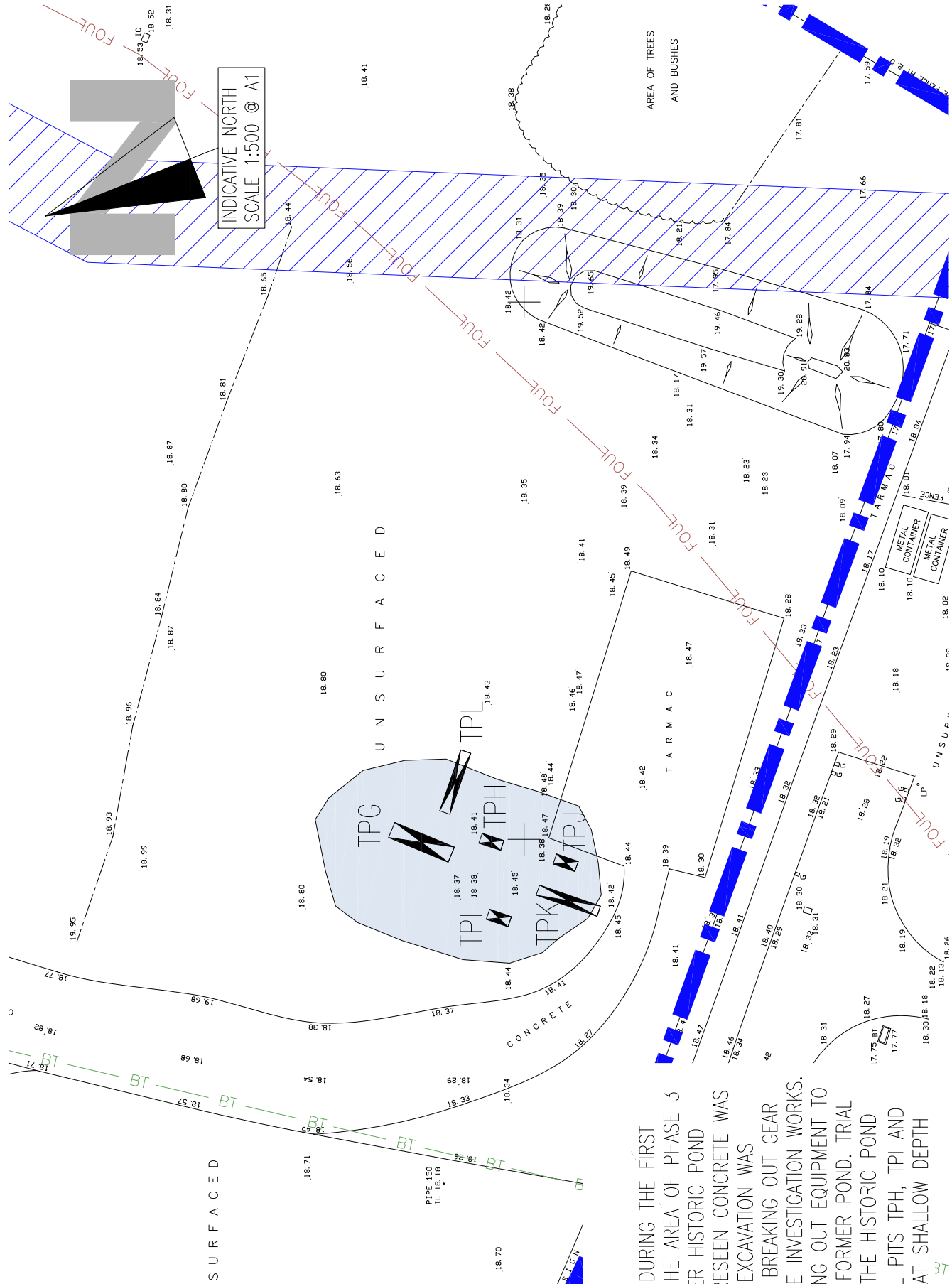
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Project Title:
Proposed Commercial Development
Hercules Drive
Speke, Liverpool, L24 8AD

Drawing Title:
Historic Pond Cross Sections (Phase 3)

Scale at A1:
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Date:
19.08.14
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P.D.
Approved by:
M.F.B.

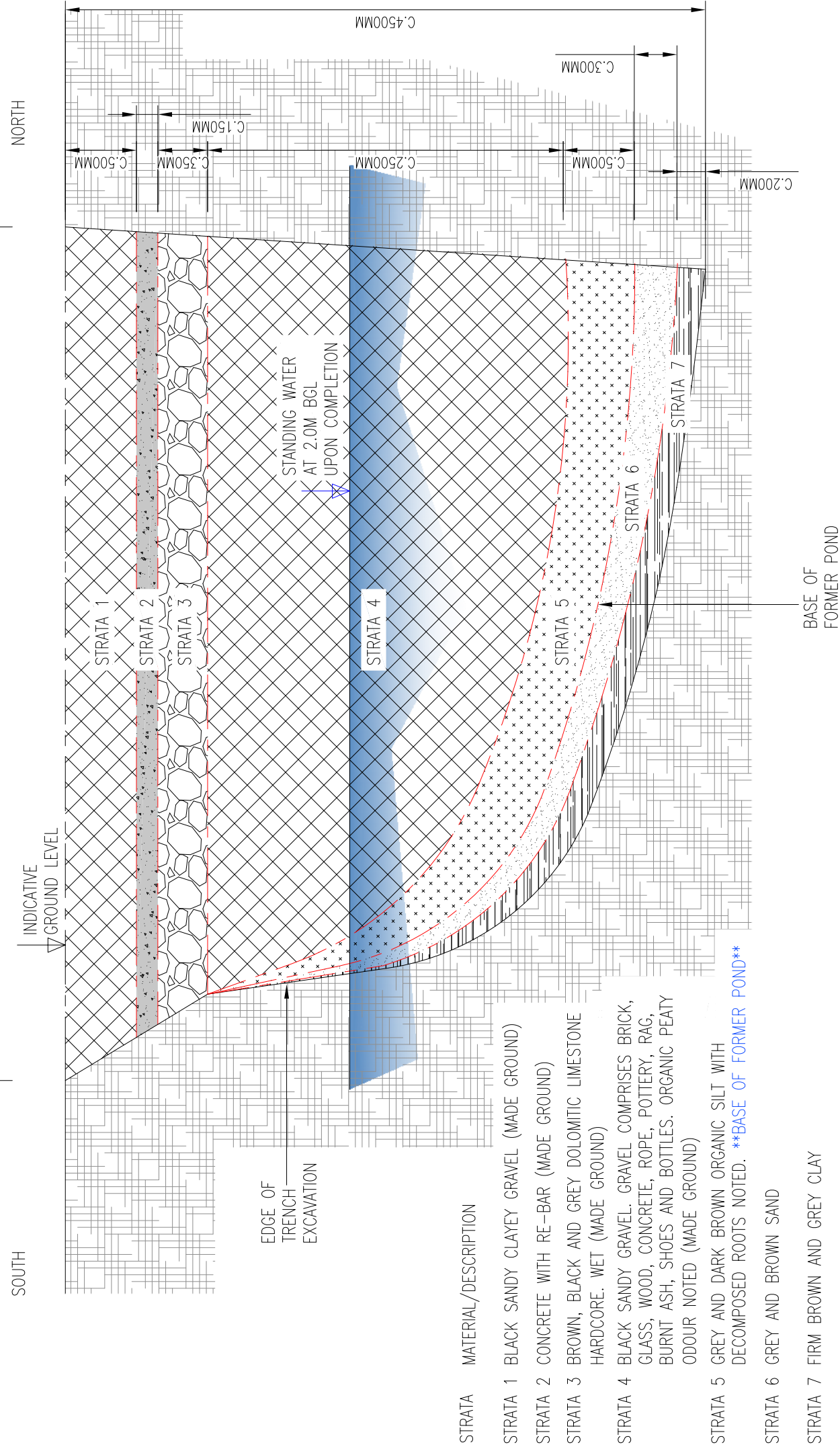
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NOTES:

1. TRIAL PIT TPG WAS INITIALLY CARRIED OUT DURING THE FIRST PHASE OF INVESTIGATION WORKS ACROSS THE AREA OF PHASE 3 WITH THIS POSITION TO TARGET THE FORMER HISTORIC POND RECORDED ON OS PLANS. SHALLOW UNFORESEEN CONCRETE WAS ENCOUNTERED AT THIS POSITION AND THE EXCAVATION WAS TERMINATED ON THIS OBSTRUCTION AS NO BREAKING OUT GEAR WAS AVAILABLE DURING THIS PHASE OF THE INVESTIGATION WORKS.
2. A SECOND VISIT WAS AGREED WITH BREAKING OUT EQUIPMENT TO FURTHER DELINEATE THE EXTENTS OF THE FORMER POND. TRIAL PITS TPK AND TPL PROVED THE EDGE OF THE HISTORIC POND FEATURE (SEE BELOW SECTIONS) AND TRIAL PITS TPK, TPL AND TPL PROVED THE UNFORESEEN CONCRETE AT SHALLOW DEPTH

INDICATIVE TRIAL TRENCH SECTION (TPK)
SCALE AS SHOWN



INDICATIVE TRIAL TRENCH SECTION (TPL)
SCALE AS SHOWN

