Material: High Permeability Turf Soil
Source: Bourne Amenity Ltd
Date: 03/01/2017
Tested Against: Queen Elizabeth Olympic Park Specification
Tested By: Tim O'Hare Associated (TOHA/16/6953/3/SS)

Parameter	Unit	Olympic Specification	Result	Compliance
Texture:				
Clay (<0.002mm)	% w/w	≤10	5	*No*
Silt (0.002 - 0.05mm)	% w/w		2	
Very Fine Sand (0.05 - 0.15mm)	% w/w		5	
Fine Sand (0.15 - 0.25mm)	% w/w	≤20	13	*Yes*
Medium Sand (0.25 - 0.50mm)	% w/w	50 - 65	48	*No*
Coarse Sand (0.50 - 1.0mm)	% w/w	20 - 35	23	*Yes*
Very Coarse Sand (1.0 - 2.0mm)	% w/w	≤5	4	*Yes*
Total Sand (0.05 - 2.0mm)	% w/w	--	93	--
Textual Class (UK Classification)	Sandy Loam			
Stones (>2mm)	% w/w DW	0	1	*No*
Stones (20-50mm)	% w/w DW	0	0	*Yes*
Stones (>50mm)	% w/w DW	0	0	*Yes*

pH Value (1:2.5 water extract)	units	5.5 - 8.5	8.1	*Yes*
Calcium Carbonate	%	--	<1.0	--
Exchangeable Sodium Percentage	%	--	2.4	--
Organic Matter (LOI)	% w/w	1.5 - 2.5	1.8	*Yes*

Available Nutrients:				
Total Nitrogen	mg/l	>0.10	0.08	*Yes*
Phosphorus	mg/l	>18	24	*Yes*
Potassium	mg/l	>120	436	*Yes*
Magnesium	mg/l	>27	80	*Yes*
Carbon:Nitrogen	ratio	--	13	--

Additional Analysis:				
Saturated Hydraulic Conductivity	mm/hr	>100	364	*Yes*
Total Porosity	%	35 - 55	47	*Yes*
Electrical Conductivity (1:2.5 water extract)	µS/cm	<1500	364	--
Electrical Conductivity (1:2 $CaSO_4$ extract)	µS/cm	<2800	2435	*Yes*

Visible Contaminants:				
Visible Contaminants >2mm	%	<0.5	0	*Yes*
Sharps >2mm	%	0	0	*Yes*
Plastics >2mm	%	<0.25	0	*Yes*

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Parameter	Unit	Guidelines	Value	Result	Compliance
Heavy Metals and Hydrocarbons					
Total Arsenic (As)	mg/kg	Soil Guideline Values CLEA 2009 (SGV)	<32	9	*Yes*
Total Cadmium (Cd)	mg/kg	SGV	<10	<0.2	*Yes*
Total Chromium (Cr)	mg/kg	SGV	<130	15	*Yes*
Hexavalent Chromium (Cr Vi)	mg/kg	Land Quality Management 2009 (LQM)	<4.3	<4.0	*Yes*
Total Copper	mg/kg	SGV	< 200	9.3	*Yes*
Total Cyanide (Cn)	mg/kg	Dutch Action Value (DAV)	<20	<1	*Yes*
Total Lead (Pb)	mg/kg	SGV	<450	8	*Yes*
Total Mercury (Hg)	mg/kg	SGV	<170	<0.3	*Yes*
Total Nickel	mg/kg	SGV	< 110	27	*Yes*
Total (mono) Phenols	mg/kg	SGV	<420	<1	*Yes*
Total Selenium (Se)	mg/kg	SGV	<350	<1.0	*Yes*
Total Zinc	mg/kg	SGV	< 300	23	*Yes*
Water Soluble Baron (B)	mg/kg	TOHA	<5	0.6	*Yes*
Acenaphthylene	mg/kg	LQM	<400	<0.10	*Yes*
Acenaphthene	mg/kg	LQM	<480	<0.10	*Yes*
Anthracene	mg/kg	LQM	<4900	<0.10	*Yes*
Benzo (a) Anthracene	mg/kg	LQM	<4.7	<0.10	*Yes*
Benzo (a) Pyrene	mg/kg	LQM	<0.94	<0.10	*Yes*
Benzo (b) Fluoranthene	mg/kg	LQM	<6.5	<0.10	*Yes*
Benzo (g,h,i) Perylene	mg/kg	LQM	<46	<0.05	*Yes*
Benzo (k) Fluoranthene	mg/kg	LQM	<9.6	<0.10	*Yes*
Chrysene	mg/kg	LQM	<8.0	<0.05	*Yes*
Dibenzo (a,h) Anthracene	mg/kg	LQM	<0.86	<0.10	*Yes*
Fluoranthene	mg/kg	LQM	<460	<0.10	*Yes*
Fluorene	mg/kg	LQM	<380	<0.10	*Yes*
Indeno (1,2,3-cd) Pyrene	mg/kg	LQM	<3.9	<0.10	*Yes*
Naphthalene	mg/kg	LQM	<3.7	<0.05	*Yes*
Pyrene	mg/kg	LQM	<1000	<0.10	*Yes*
Total PAHs (sum SUEPA16)	mg/kg	TOHA	<40	<1.6	*Yes*
Aliphatic TPH (C5 – C35)	mg/kg	LQM	<1100	<10	*Yes*
Aromatic TPH (C5 – C35)	mg/kg	LQM	<1100	<10	*Yes*
Benzene	mg/kg	SGV	<0.33	<0.001	*Yes*
Toluene	mg/kg	SGV	<610	<0.001	*Yes*
Ethylbenzene	mg/kg	SGV	<350	<0.001	*Yes*
O-xylene	mg/kg	SGV	<230	<0.001	*Yes*
M & P-xylene	mg/kg	SGV	<470	<0.001	*Yes*
MTBE	mg/kg	SGV	<470	<0.001	*Yes*