Maria Fidelis Old School Building Human Health Assessment - Soils		Commercial GAC (2.5% SOM)	Exploratory hole	BH1	TP4	TP5	TP6	TP3
			Sample depth (m)	0.1	0.4	0.5	0.65	0.7
			Date sampled	22/10/2018	22/10/2018	22/10/2018	22/10/2018	23/10/2018
			Strata	MG	MG	MG	MG	MG
			Ground Investigation	GE 2018	GE 2018	GE 2018	GE 2018	GE 2018
			Location	[1]	[1]	[2]	[2]	[3]
Determinands	Units	Criterion						
Inorganics								
pH	pH	nc			9.8	8.5	8	8.7
Moisture	%	nc			8.1	20	16	19
Sulphate (2:1 Water Soluble) as SO4	g/l	nc			0.22	0.023	0.72	0.3
Sulphide (Easily Liberatable)	mg/kg	nc			38	4.1	9.9	2.6
Cyanide, free	mg/kg	nc			<0.50	<0.50	<0.50	<0.50
Cyanide, Total	mg/kg	nc			<0.50	<0.50	<0.50	<0.50
Soil Organic Matter	%	nc			5.7	0.7	2.4	1.6
Asbestos								
ACM Type	Type	nc		Cement				
Asbestos Identification	%	nc		Chrysotile				
Asbestos by Gravimetry	%	nc		0.3				
Total Asbestos	%	nc		0.3				
Heavy Metals / Metalloids								
Antimony	mg/kg	7350						
Arsenic	mg/kg	635			17	15	28	23
Barium	mg/kg	22100						
Beryllium	mg/kg	11.7						
Boron	mg/kg	236000			0.47	0.65	2.1	1
Cadmium	mg/kg	190			0.3	0.31	0.19	0.11
Chromium	mg/kg	8570			20	33	35	28
Chromium, Hexavalent	mg/kg	32.8			< 0.50	<0.50	<0.50	< 0.50
Copper	mg/kg	68300			37	36	41	40
Lead	mg/kg	2300			310	44	220	280
Mercury	mg/kg	1120			1.2	0.2	1.2	0.83
Nickel	mg/kg	983			21	60	48	40
Selenium	mg/kg	12261			< 0.20	< 0.20	<0.20	<0.20
Vanadium	mg/kg	6360						
Zinc	mg/kg	730000			80	290	150	59
PAHs								
Naphthalene	mg/kg	462 (183)			1.5	0.55	<0.10	< 0.10
Acenaphthylene	mg/kg	96800 (212)			6.3	0.3	0.3	< 0.10
Acenaphthene	mg/kg	97100 (141)			2.1	0.36	0.3	< 0.10
Fluorene	mg/kg	68400.0			3.8	0.4	0.4	< 0.10
Phenanthrene	mg/kg	22300.0			47.0	5.5	4.1	0.9
Anthracene	mg/kg	536000.0			14.0	1.7	1.1	<0.10
Fluoranthene	mg/kg	22700.0			63.0	5.3	4.8	0.6
Pyrene	mg/kg	54400.0			57.0	5.1	4.5	0.7
Benzo(a)anthracene	mg/kg	174.0			28.0	1.6	1.8	< 0.10
Chrysene	mg/kg	352.0			29.0	2.4	2.3	< 0.10
Benzo(b)fluoranthene	mg/kg	44.7			30.0	1.6	2.1	< 0.10
Benzo(k)fluoranthene	mg/kg	1180.0			12.0	1.3	1.1	<0.10
Benzo(a)pyrene	mg/kg	35.5			25.0	0.98	1.4	<0.10
Indeno(1,2,3-c,d)pyrene	mg/kg	506.0			16.0	0.47	0.8	< 0.10
Dibenzo(a,h)anthracene	mg/kg	3.6			5.0	0.3	< 0.10	< 0.10
Benzo(g,h,i)perylene	mg/kg	3950.0			14.0	0.76	0.6	<0.10
PAH - USEPA 16, Total	mg/kg	NC			350.0	29	26.0	2.2
Phenols								
Total Phenols (monohydric)	mg/kg	NC			<0.30	< 0.30	0.3	< 0.30
Monoaromatics & Oxygenates								
Benzene	µg/kg	26.6						
Toluene	µg/kg	56294 (869)						
Ethylbenzene	µg/kg	5706 (518)						
p & m-xylene	µg/kg	NC						
o-xylene	µg/kg	6603 (478)						
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	NC						
Extractable Petroleum Hydrocarbons								
EPH >C8-10	mg/kg	nc						
EPH >C10-12	mg/kg	nc						
EPH >C10-40	mg/kg	nc						
EPH >C12-16	mg/kg	nc						
EPH >C16-21	mg/kg	nc						
EPH >C21-40	mg/kg	nc						
EPH >C8-40	mg/kg	nc						

Note:

[1] Within the development site of the Construction Skills Centre and Site Accommodation building in the north

[2] Adjacent to the school building in the north

[3] Adjacent to the school building in the south around the forecourt

Maria Fidelis Old School Building Human Health Assessment - Soils		Commercial GAC (2.5% SOM)	Exploratory hole	WS1	WS2	ML000-RO001	ML000-RO001
			Sample depth (m)	0.3	1.1	0.15	1
			Date sampled	23/10/2018	23/10/2018	04/11/2017	04/11/2017
			Strata	MG	MG	MG	MG
			Ground Investigation	GE 2018	GE 2018	HES	HES
			Location	[1]	[1]	[1]	[1]
Determinands	Units	Criterion					
Inorganics							
pH	pH	nc		10.3	8.6	8.7	7.86
Moisture	%	nc		14	17		
Sulphate (2:1 Water Soluble) as SO4	g/l	nc		0.6	0.51		
Sulphide (Easily Liberatable)	mg/kg	nc		5.1	2.4		
Cyanide, free	mg/kg	nc		<0.50	<0.50	<0.5	<0.5
Cyanide, Total	mg/kg	nc		<0.50	<0.50	<0.5	<0.5
Soil Organic Matter	%	nc		2.4	2.4	-	15.1
Asbestos							
ACM Type	Type	nc				Fibre Bundles	
Asbestos Identification	%	nc				Chrysotile	
Asbestos by Gravimetry	%	nc				<0.001	
Total Asbestos	%	nc					
Heavy Metals / Metalloids							
Antimony	mg/kg	7350					
Arsenic	mg/kg	635		19	25	16.9	30.1
Barium	mg/kg	22100				454	202
Beryllium	mg/kg	11.7				1.3	1.4
Boron	mg/kg	236000		1.1	0.66	0.2	2.3
Cadmium	mg/kg	190		< 0.10	0.3	0.5	<0.1
Chromium	mg/kg	8570		15	16	21.8	48.5
Chromium, Hexavalent	mg/kg	32.8		< 0.50	<0.50	<0.3	<0.3
Copper	mg/kg	68300		58	76	101	228
Lead	mg/kg	2300		150	770	1700	662
Mercury	mg/kg	1120		1.1	1.9	1.2	5.3
Nickel	mg/kg	983		18	23	19.5	32.6
Selenium	mg/kg	12261		< 0.20	< 0.20	<1	1
Vanadium	mg/kg	6360				42	67
Zinc	mg/kg	730000		58	65	412	137
PAHs							
Naphthalene	mg/kg	462 (183)		2.7	0.4	<0.40	<0.04
Acenaphthylene	mg/kg	96800 (212)		6.2	0.2	1.4	<0.03
Acenaphthene	mg/kg	97100 (141)		6.4	0.2	10.7	<0.04
Fluorene	mg/kg	68400.0		10.0	0.2	2.3	<0.04
Phenanthrene	mg/kg	22300.0		92	2.6	24.1	0.1
Anthracene	mg/kg	536000.0		30.0	1.1	10.7	<0.04
Fluoranthene	mg/kg	22700.0		94	4.0	52.3	0.2
Pyrene	mg/kg	54400.0		85	3.8	40.1	0.2
Benzo(a)anthracene	mg/kg	174.0		38	1.7	22.1	0.1
Chrysene	mg/kg	352.0		40	2.0	19.9	0.1
Benzo(b)fluoranthene	mg/kg	44.7		38	2.1	23.3	0.1
Benzo(k)fluoranthene	mg/kg	1180.0		15.0	1.2	9.1	0.0
Benzo(a)pyrene	mg/kg	35.5		30	1.6	19.9	0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	506.0		20.0	1.5	12.1	0.1
Dibenzo(a,h)anthracene	mg/kg	3.6		5.9	1.0	3.1	<0.04
Benzo(g,h,i)perylene	mg/kg	3950.0		16	0.9	10.7	0.1
PAH - USEPA 16, Total	mg/kg	NC		530	25.0	261.8	1.1
Phenols							
Total Phenols (monohydric)	mg/kg	NC		0.4	<0.30	<0.15	<0.15
Monoaromatics & Oxygenates							
Benzene	µg/kg	26.6				<5	<5
Toluene	µg/kg	56294 (869)				<5	<5
Ethylbenzene	µg/kg	5706 (518)				<5	<5
p & m-xylene	µg/kg	NC				<5	<5
o-xylene	µg/kg	6603 (478)				<5	<5
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	NC				<5	<5
Extractable Petroleum Hydrocarbons							
EPH >C8-10	mg/kg	nc				6	<5
EPH >C10-12	mg/kg	nc				<10	<10
EPH >C10-40	mg/kg	nc					
EPH >C12-16	mg/kg	nc				41	<10
EPH >C16-21	mg/kg	nc				535	<10
EPH >C21-40	mg/kg	nc				2824	<10
EPH >C8-40	mg/kg	nc				3406	<30

Note:

[1] Within the development site of the Construction Skills Centre and Site Accommodation building in the north

[2] Adjacent to the school building in the north

[3] Adjacent to the school building in the south around the forecourt

Maria Fidelis Old School Building Controlled Waters Assessment Soil Leachate			Exploratory hole	BH1
			Sample depth (m)	0.3
			Date sampled	22/10/2018
			Strata	
			Ground Investigation	GE 2018
			Location	[1]
Determinants	**Units**	**Criterion**	**Source**	
Arsenic	mg/l	0.5	EQS	0.0027
Barium	mg/l	1	EQS	0.03
Cadmium	mg/l	0.05	EQS	< 0.00010
Chromium	mg/l	0.5	EQS	0.0
Copper	mg/l	20	UK DWS 2000	0.0
Mercury	mg/l	0.01	EQS	<0.00050
Molybdenum	mg/l	NC		0.0005
Nickel	mg/l	0.5	UK DWS 1989	< 0.0010
Lead	mg/l	0.5	EQS	0.0023
Antimony	mg/l	0.1	UK DWS 1989	0.0
Selenium	mg/l	0.1	EQS	< 0.00J 0
zinc	mg/l	50	UK DWS 1989	0.0
Chloride	mg/l	NC		1.4
Fluoride	mg/l	15	UK DWS 2000	0.21
Sulphate	mg/l	2500	UK DWS	400
Total Dissolved Solids	mg/l	NC		510.0
Phenol Index	mg/l	5	DWS	< 0.030
Dissolved Organic Carbon	mg/l	NC		6.5

Note:

[1] Within the development site of the Construction Skills Centre and Site Accommodation building in the north

Maria Fidelis Old School Building Controlled Waters Assessment Waste Assessment		Exploratory hole	BH1
		Sample depth (m)	0.3
		Date sampled	22/10/2018
		Strata	
		Ground Investigation	GE 2018
		Location	[1]
Determinants	**Units**	**Inert WAC**	
Arsenic (dissolved)	mg/kg	0.5	< 0.050
Barium (dissolved)	mg/kg	20	< 0.50
Cadmium (dissolved)	mg/kg	0.04	< 0.010
Chromium (dissolved)	mg/kg	1	0.1
Copper (dissolved)	mg/kg	2	< 0.050
Mercury (dissolved)	mg/kg	0.01	0.0
Molybdenum	mg/kg	0.5	0.0
Nickel (dissolved)	mg/kg	0.4	< 0.050
Lead (dissolved)	mg/kg	0.5	0.0
Antimony (dissolved)	mg/kg	0.06	0.0
Selenium (dissolved)	mg/kg	0.1	<0.010
Zinc (dissolved)	mg/kg	4	< 0.50
Chloride (dissolved)	mg/kg	800	14.0
Fluoride (dissolved)	mg/kg	10	2.1
Sulphate as SO4 (dissolved)	mg/kg	1000	4000.0
TDS	mg/kg	4000	5100.0
Phenol Index	mg/kg	1	<0 30
DOC	mg/kg	500	65.0

Note:

[1] Within the development site of the Construction Skills Centre and Site Accommodation building in the north

Maria Fidelis Old School Building
Ground gas monitoring

Monitoring round	BH	Top response zone (m bgl)	Bottom response zone (m bgl)	Date	Atm pressure (mb)	Depth to GW (m)	Flow rate (l/h)	Methane (CH4) (%)	Carbon dioxide (CO2) (%)	Oxygen (O2) (%)	GSV Methane	GSV Carbon dioxide	CS
1	BH1	1	7	01/11/2018	993	Dry	0.1	0.1	1.3	18	0.0001	0.0013	CS1
2	BH1	1	7	14/11/2018	1020	Dry	0.1	0.1	1.3	17.3	0.0001	0.0013	CS1
3	BH1	1	7	21/11/2018	1007	Dry	0.1	0.1	1.4	17.6	0.0001	0.0014	CS1