

Appendices

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Appendix A

Drawing No. 2007-011-03-003 Rev 1:
Present Capped and Future Capping Areas Onsite

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Legend
 - - - - - WASTE LICENCE BOUNDARY

Rev.	1	Issue	ISSUE FOR EPA MEETING
Drawn	SK	Drawn Date	29.12.2008
Chk'd	SK	Chk'd Date	
App'd		App'd Date	
Author	A B S I	Author Date	

Name of Client: **CORK CITY COUNCIL**

Name of Job: **KINSALE ROAD SANITARY LANDFILL WASTE FILLING HISTORY**

Title of Drawing: **COMPLETED AND FUTURE MAJOR CONTRACTS ON SITE**

Scale Used: **A1-1:2000, A3-1:4000**

Dwg. No.: **2007-011-03-003**

Rev. 1

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Appendix B

Drawing No. CE08-011-001 Rev A:
Existing Environmental Monitoring Locations

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SITE PLAN
Scale 1:5000

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STATION	EASTING	NORTHING	STATION	EASTING	NORTHING
Groundwater Monitoring Location			Leachate Monitoring Station		
KC8	167813	069643	PS1	168039	069418
MWB1	168323	070148	PS2	168082	069272
MWB2	168336	069932	PS3	168233	069230
MWB3	168444	069327	PS4	168411	069233
MWB7	167994	069275	PS5	168415	069239
OB1	168331	070146	PS6	168532	069449
OB2	168347	069387	PS7	168596	069649
OB3	168442	069387	PS8	168518	069805
OB7	168334	069241	PS9	168248	069982
NW1	168012	069216			
NW2	168237	069258	Noise Monitoring Location		
NW3	168237	069218	B1	168081	069747
NW4	168455	069213	B2	168373	070046
NW5	168459	069201	B3	168600	069691
NW6	168672	069394	B4	168178	069276
NW7	168534	069550	A1	168831	069519
NW8	168590	069603	A2	169070	069416
NW9	168498	069981	A3	168824	068990
			A4	168193	070173
Ecological Monitoring Location			Air Quality Monitoring Station		
A	168633	069948	O1 AD1	168081	069747
B	168685	069662	O2 & D2	168373	070046
C	167986	069359	O3 & D3	168600	069691
D	168197	069210	O4 & D4	168178	069276
E	167642	069400	O5 & D5	167982	069648
F	168945	069204	S1	168286	069778
			S2	168188	069649
Bedrock Monitoring Locations			S3	168312	069303
BH1	168337	69568	S4	168085	069595
BH2	168223	69580	D6	168580	069463
BH3	168237	69384	D8	168222	069651
			07A	168576	069457
Leachate Monitoring Locations			07B	168575	069455
L1	168335	69567	Gas Monitoring Station		
L2	168219	69579	TV01	168097	069597
SSW4	168234	69377	TV02	168096	069591
			DP1	167781	069678
			DP2	167927	069655
			DP3	167869	069663
			DP4	167918	069666
			LG1	168322	070044
			LG2	168398	070031
			LG3	168480	069994
			LG4	168580	069964
			LG5	168585	069844
			LG5A	168682	069841
			LG6	168698	069752
			LG6A	168657	069757
			LG7	168704	069679
			LG7A	168706	069689
			LG8	168708	069607
			LG8A	168706	069632
			LG9A	168718	069525
			LG10A	168708	069471
			LG11AD	168651	069411
			LG11AS	168656	069412
			LG12	168322	069183
			LG13	168179	069181
			LG14	167896	069270
			LG15	168027	069918
			LG16	168031	069954
			LG17	168036	069988
			LG18	168054	070046
			LG19	168048	070078

STATION	EASTING	NORTHING
Surfacewater Monitoring Location		
EM0	166967	069478
EM1	167642	069400
EM2	167984	069454
EM6	169281	069193
EM7	168462	070014
EM8	168655	069412
EM9	167930	069459
EM10	168964	069197
EM11	168826	069191
Sewerwater/Reed Beds Monitoring		
SRP1	168654	069305
SRP2	168648	069242
SRP3	168644	069241
SRP4	168739	069227
SRP5	168758	069210
Sewer Monitoring Location		
SD1	167926	069201

NOTE
THE INFORMATION ON THIS DRAWING IS A COPY OF DRAWING No 98-011-27-006

LEGEND

- FACILITY BOUNDARY
- CAPREC AREA
- UNCAPREC AREA

Rev.	Drawn	Chkd	Appd	Description
A	KL	KL	KL	A.E.R 2007
	KL	KL	KL	31.01.2008
	KL	KL	KL	See Origin
	KL	KL	KL	Draw
	KL	KL	KL	Revision History

Name of Client: **CORK CITY COUNCIL**

Name of Job: **KINSALE ROAD LANDFILL 2007 ANNUAL ENVIRONMENTAL REPORT**

Title of Drawing: **EXISTING ENVIRONMENTAL MONITORING LOCATIONS**

Scale Used: **1:5000**

Draw. No.: **CE08-011-01-001**

Rev.: **A**

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Appendix C

Drawing CE08-011-01-003 Rev 0:
Hydrological Areas for Water Balance Assessment

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SITE PLAN
Scale 1:5000



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- LEGEND**
- CAPPED AREA
 - UNCAPPED AREA
 - FACILITY BOUNDARY
 - Surface Water Stake
 - Boundary of Irrigation Area
 - Boundary of Temporary Construction Area
 - Structure Footing Locations (B-1, B-2, B-3)
 - Structure Non-void Bertholes (L-1, L-2, L-3)
 - Surface Water Flow Measurement Location

Area	Description	Area (ha)	Water-Flowing?
1	Site-Active Area	8.32	✓
1a	Active Area	0.37	✓
2	Phase 1 Core Area	5.21	✓
3	Soil Storage Area	4.74	✓
4	Drift & Soil Core	2.17	✓
5	Adjacent to C.I.D. Facility	0.34	✓
6	C.I.D. Facility	4.29	✓
7	Gravel Area	2.36	✓
8	Phase 2 Core Area	5.49	✓
9	Transfer River Bank	1.20	✓
10	Lined Lagoon Area	1.43	✓
11	Eastern Access Road	2.35	✓
12	Washed Trading River Key	8.36	✓
13	Blackash Road Area	3.96	✓
14	Phase 3 Core Area	3.37	✓
TOTAL		61.55	

Rev	KL	Chkd	App'd	Drawn	Rev	Chkd	App'd	Drawn
1					1			

Date: 31.01.2008
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Appendix D

Extract of Licence W0012-02 Table D.5.1
Water and Leachate Testing Parameters/Frequency

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D.5 Surface Water, Groundwater and Leachate

Table D.5.1 Water and Leachate - Parameters / Frequency

Parameter ^{See 1}	SURFACE WATER ^{See 1}		GROUNDWATER		LEACHATE ^{See 1}	
	Monitoring Frequency	Monitoring Frequency	Monitoring Frequency	Monitoring Frequency	Monitoring Frequency	Monitoring Frequency
Visual Inspection/Odour ^{See 4}	Weekly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
Groundwater Level	Not Applicable	Monthly	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Not Applicable	Continuous	Continuous	Continuous
Ammoniacal Nitrogen	Quarterly	Quarterly ^{See 4}	Quarterly ^{See 4}	Quarterly ^{See 4}	Quarterly ^{See 4}	Quarterly ^{See 4}
BOD	Quarterly	Not Applicable	Not Applicable	Annually	Annually	Annually
COD	Quarterly	Not Applicable	Not Applicable	Annually	Annually	Annually
Chloride	Quarterly	Quarterly	Quarterly	Annually	Annually	Annually
Dissolved Oxygen	Quarterly	Quarterly	Quarterly	Not Applicable	Not Applicable	Not Applicable
Electrical Conductivity	Quarterly	Quarterly	Quarterly ^{See 4}	Quarterly ^{See 4}	Quarterly ^{See 4}	Quarterly ^{See 4}
pH	Quarterly	Quarterly	Quarterly ^{See 4}	Annually ^{See 4}	Annually ^{See 4}	Annually ^{See 4}
Total Suspended Solids	Quarterly	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Temperature	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
Cadmium & other metals elements ^{See 5}	Annually	Annually	Annually	Annually	Annually	Annually
Cyanide (Total)	Not Applicable	Annually	Annually	Annually	Annually	Annually
Fluoride	Not Applicable	Annually	Annually	Annually	Annually	Annually
List I/II organic substances ^{See 7}	Once off ^{See 8}	Annually ^{See 8}	Annually ^{See 8}	Once off ^{See 8}	Once off ^{See 8}	Once off ^{See 8}
Mercury	Annually	Annually	Annually	Annually	Annually	Annually
Sulphate	Annually	Annually	Annually	Annually	Annually	Annually
Total Alkalinity	Annually	Annually	Annually	Not applicable	Not applicable	Not applicable
Total Phosphosphate	Annually	Annually	Annually	Annually	Annually	Annually
Total Oxidised Nitrogen	Annually	Quarterly	Quarterly	Annually	Annually	Annually
Total Organic Carbon	Not Applicable	Quarterly ^{See 8}	Quarterly ^{See 8}	Not Applicable	Not Applicable	Not Applicable
Residue on evaporation	Not Applicable	Annually	Annually	Not Applicable	Not Applicable	Not Applicable
Biological Assessment	Annually ^{See 9}	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Note 1: All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures.

Note 2: See Table D.5.2 for monitoring requirements of stormwater retention ponds and reed beds.

Note 3: See Table D.5.3, for monitoring requirements at SDI, discharge point to sewer.

Note 4: Where there is evident gross contamination of leachate, additional samples should be analysed.

Note 5: For groundwater monitoring locations NW1-NW9 downgradient of the leachate collection drain, monitoring for these parameters shall be on a monthly basis. For the leachate pump sumps monitoring shall be for these parameters on a quarterly basis.

Note 6: Metals and elements to be analysed by AA/ICP should include as a minimum: boron, calcium, chromium (total), copper, iron, lead, magnesium, manganese, nickel, potassium, sodium and zinc.

Note 7: Samples screened for the presence of organic compounds using Gas Chromatography / Mass Spectrometry (GC/MS) or other appropriate techniques and using the list I/II Substances from EU Directive 76/464/EEC and 80/68/EEC as a guideline. Recommended analytical techniques include: volatiles (US Environmental Protection Agency method 524 or equivalent), semi-volatiles (USEPA method 525 or equivalent), and pesticides (USEPA method 608 or equivalent).

Note 8: Annually for groundwater (MWBRL, MWBR3, NW-1). Once off for surface water (EM1 and EM11); leachate (PS3 and PS4).

Note 9: Appropriate biological methods (such as EPA Q-Rating System) to be used for the assessment of rivers and streams.

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