

SECTION E : OPERATING COSTS AND EFFICIENCY
Table E4: Water Resources and Treatment

Line Ref.	Description	Ofwat Ref JR 07	WICS Reference AR 06	Units	Field Type
Source Types					
E4.0	Area Name	-	E4.0	-	I
E4.1	Impounding reservoirs	T12, L1	E4.1	nr, M/d	I/C
E4.2	Lochs	-	E4.2	nr, M/d	I/C
E4.3	River and burn abstractions	T12, L2	E4.3	nr, M/d	I/C
E4.4	Boreholes	T12, L3	E4.4	nr, M/d	I/C
E4.5	Total	-	E4.5	nr, M/d	C
E4.6	Bulk water exports	-	E4.6	nr, M/d	I/C
E4.7	Bulk water imports	-	E4.7	nr, M/d	I/C

Number of Own Sources				Total Number of Sources	Own Source Outputs				Total Source Outputs	
Area 1	Area 2	Area 3	Area 4		Area 1	Area 2	Area 3	Area 4		
number										
	North	East	South	West		North	East	South	West	M/d
	31	20	25	26	102	80.017	293.217	431.052	523.321	1327.606
	29	8	0	1	38	11.236	9.599	0.000	0.000	20.835
	45	17	2	14	78	11.023	160.212	0.018	216.934	388.188
	22	29	11	2	64	17.815	24.891	23.501	3.323	69.529
	127	74	38	43	282	120.091	487.918	454.571	743.578	1806.158
	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.000
	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.000

E4.8	Impounding reservoirs	-	E4.8	nr	C
E4.9	Lochs	-	E4.9	nr	C
E4.10	River and burn abstractions	-	E4.10	nr	C
E4.11	Boreholes	-	E4.11	nr	C
E4.12	Total	-	E4.12	nr	C

Proportional Breakdown of Source output produced				Proportion of Own Source Output
Area 1	Area 2	Area 3	Area 4	
0.044	0.162	0.239	0.290	0.735
0.006	0.005	0.000	0.000	0.012
0.006	0.089	0.000	0.120	0.215
0.010	0.014	0.013	0.002	0.038
0.066	0.270	0.252	0.412	1.000

Peak demand and Pumping Head					
E4.13	Peak demand - peak to average ratio	-	E4.13	nr	I
E4.14	Average pumping head - resources and treatment	T12, L5	E4.14	m	I

10	20
Total	CG
1.101	B2
28.3	C4

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Resources and Treatment costs (operational area)					
E4.15	Power	T21, L2	E1.2	£m	I/C
E4.16	Service charges by SEPA	T21, L7	E1.6	£m	I/C
E4.17	Total direct costs	T21, L10	E1.9	£m	I/C
E4.18	General and support costs	T21, L11	E1.10 + E1.11	£m	I/C
E4.19	Functional expenditure	T21, L12	E1.12	£m	C

Resource and treatment - Costs					110
Area 1	Area 2	Area 3	Area 4	Total	CG
3.259	4.730	2.307	4.293	14.589	A2
0.548	0.521	0.544	0.703	2.316	A2
11.928	14.382	10.012	15.811	52.133	A2
3.595	3.407	1.414	4.193	12.609	A2
15.523	17.789	11.426	20.004	64.742	A2

Water Treatment Works by Process Type					
E4.20	Simple Disinfection	T12, L6	E4.17	nr, M/d, £m	I/C
E4.21	W1	T12, L7	E4.18	nr, M/d, £m	I/C
E4.22	W2	T12, L8	E4.19	nr, M/d, £m	I/C
E4.23	W3	T12, L9	E4.20	nr, M/d, £m	I/C
E4.24	W4	T12, L10	E4.21	nr, M/d, £m	I/C
E4.25	Total numbers of works	T12, L12	E4.22	nr	C
E4.26	Total distribution input	T12, L11	E4.23	M/d	C
E4.27	Total Operating costs	-	-	£m	C

Total Nr of Works		Total volume Dist'n input		Tot. prop'n of D.I.	Operating Costs	
nr	CG	M/d	CG	Prop'n (0-1)	£m	CG
23	A2	22.821	B3	0.013	1.750	A2
5	A2	0.188	B3	0.000	0.270	A2
28	A2	645.027	B3	0.357	13.049	A2
151	A2	1081.065	B3	0.599	42.589	A2
32	A2	57.056	B3	0.032	7.084	A2
239	A2	1806.158	B3	1.000	64.742	A2

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Water Treatment Works by Size Band					
E4.28	Size band <=1 M/d	-	E4.30, E4.47	nr, £m	I/C
E4.29	Size band >1 - <=2.5 M/d	-	E4.31, E4.48	nr, £m	I/C
E4.30	Size band >2.5 - <=5 M/d	-	E4.32, E4.49	nr, £m	I/C
E4.31	Size band >5 - <=10 M/d	-	E4.33, E4.50	nr, £m	I/C
E4.32	Size band >10 - <=25 M/d	-	E4.34, E4.51	nr, £m	I/C
E4.33	Size band >25 - <=50 M/d	-	E4.35, E4.53	nr, £m	I/C
E4.34	Size band >50 - <=100 M/d	-	E4.36, E4.54	nr, £m	I/C
E4.35	Size band >100 - <=175 M/d	-	E4.37, E4.55	nr, £m	I/C
E4.36	Size band >175 M/d	-	E4.38, E4.56	nr, £m	I/C
E4.37	Total number of works	-	E4.39	nr	C
E4.38	Proportion of distribution input - total	-	E4.40	nr	C
E4.39	Total operating costs	-	E4.57	£m	C

Nr of Works		Prop'n of D.I.		Operating Costs	
nr	CG	Prop'n (0-1)	CG	£m	CG
130	A2	0.012	C3	11.138	A2
23	A2	0.013	C3	3.816	A2
22	A2	0.028	C3	4.559	A2
19	A2	0.046	C3	5.723	A2
18	A2	0.106	C3	9.988	A2
12	A2	0.154	C3	10.800	A2
9	A2	0.228	C3	8.361	A2
4	A2	0.206	C3	5.983	A2
2	A2	0.206	C3	4.374	A2
239	A2	1.000	C3	64.742	A2

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SECTION E : OPERATING COSTS AND EFFICIENCY
Table E6: Water Distribution

Line Ref.	Description	Ofwat Ref CMR 02, JR07	WICS Reference AR 06	Units	Field Type
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Area Data					
E6.0	Name	-	E6.0	Name	I
E6.1	Annual average resident connected population	-	E6.1	000	I/C
E6.2	Total connected properties	-	E6.2	000	I/C
E6.3	Volume of water delivered to households	-	E6.3	MI/d	I/C
E6.4	Volume of water delivered to non-households	-	E6.4	MI/d	I/C
E6.5	Area	-	E6.5	km ²	I/C
E6.6	Number of supply zones	-	E6.7	nr	I/C

Distribution costs					
E6.7	Power	T21, L2	E1.2	£m	I/C
E6.8	Service charges by SEPA	T21, L7	E1.6	£m	I/C
E6.9	Total direct costs	T21, L10	E1.9	£m	I/C
E6.10	General and support costs	T21, L11	E1.10 + E1.11	£m	I/C
E6.11	Functional expenditure	T21, L12	E1.12	£m	C

Water mains data					
E6.12	Potable mains: Band 1 (<=165mm)	T12,L13 C1	-	km	I
E6.13	Potable mains: Band 2 (166 - 320mm)	T12,L13 C2	-	km	I
E6.14	Potable mains: Band 3 (321 - 625mm)	T12,L13 C3	-	km	I
E6.15	Potable mains: Band 4 (>625mm)	T12,L13 C4	-	km	I
E6.16	Total length of mains	-	E6.8	km	C
E6.17	Total length of unlined iron mains	-	E6.9	km	I
E6.18	Total length of mains > 320mm diameter	-	E6.10	km	C
E6.19	Water mains bursts	-	E6.11	nr	I
E6.20	Leakage level	-	E6.12	MI/d	I
E6.21	Properties reported for low pressure	-	E6.13	nr	I/C

Pumping Stations					
E6.22	Total number of pumping stations	-	E6.14	nr	I/C
E6.23	Total capacity of pumping stations	-	E6.15	m ³ /d	I/C
E6.24	Total capacity of booster pumping stations	CM3, L18	E6.15a	Kw	I/C
E6.25	Average pumping head	-	E6.16	m	I

Service Reservoirs					
E6.26	Total number of service reservoirs	CM3, 13	E6.17	nr	I/C
E6.27	Total capacity of service reservoirs	CM3, L14	E6.18	MI	I/C

Water Towers					
E6.28	Total number of water towers	CM3, L15	E6.19	nr	I/C
E6.29	Total capacity of tower towers	CM3, L16	E6.20	MI	I/C

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10		20		30		40		199	
Report Year 2018-19									
Area 1		Area 2		Area 3		Area 4		Total	
CG		CG		CG		CG		CG	

North		East		South		West			
268.602	A2	1386.767	A2	1793.890	A2	1928.089	A2	5377.348	A2
145.112	B4	799.749	B4	655.053	B4	1090.640	B4	2690.554	B4
55.780	B2	253.780	B2	330.300	B2	346.610	B2	986.470	B2
21.650	B4	108.100	B4	103.470	B4	169.290	B4	402.510	B4
35208	A1	20371	A1	15475	A1	8744	A1	79799	A1
116	A1	58	A1	52	A1	59	A1	285	A1

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0.769	A2	3.161	A2	2.051	A2	3.458	A2	9.439	A2
0.000	A2	0.001	A2	0.000	A2	0.001	A2	0.002	A2
8.040	A2	14.952	A2	16.362	A2	21.358	A2	60.712	A2
3.313	A2	5.174	A2	5.411	A2	6.649	A2	20.547	A2
11.353	A2	20.126	A2	21.773	A2	28.007	A2	81.259	A2

6309.09	B2	11627.12	B2	10013.51	B2	7930.78	B2	35880.50	B2
1231.95	B2	2434.10	B2	2788.28	B2	2328.86	B2	8783.19	B2
174.06	B2	979.50	B2	1154.64	B2	775.55	B2	3083.75	B2
8.01	B2	139.98	B2	300.15	B2	410.62	B2	858.76	B2
7723.11	B2	15180.69	B2	14256.59	B2	11445.81	B2	48606.19	B2
757.78	B2	3129.64	B2	6047.87	B2	4880.50	B2	14815.80	B2
182.07	B2	1119.48	B2	1454.80	B2	1186.17	B2	3942.51	B2
1251	B3	1598	B3	2753	B3	2756	B3	8358	B3
45.988	B3	84.205	B3	151.311	B3	190.068	B3	471.571	B3
44	B2	322	B2	33	B2	22	B2	421	B2

184	B2	184	B2	132	B2	113	B2	613	B2
160831	C4	702379	C4	549851	C4	1191217	C4	2604278	C4
2964.2	C3	13322.0	C3	9540.1	C3	19979.8	C3	45806.2	C3
21.29	C4	29.28	C4	33.39	C4	29.45	C4	30.14	C4

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400	B2	443	B2	243	B2	225	B2	1311	B2
217.575	B2	1193.110	B2	956.649	B2	1485.948	B2	3853.282	B2

3	B2	5	B2	6	B2	4	B2	18	B2
0.532	B2	3.613	B2	12.544	B2	12.577	B2	29.266	B2

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SECTION E : OPERATING COSTS AND EFFICIENCY
Table E7: Wastewater Explanatory Factors - Sewerage & Sewage treatment by area

Line Ref.	Description	Ofwat Ref JR 07	WICS Reference AR 10	Units	Field Type	10	20	30	40	199	
						Report Year 2018-19					Total
						Area 1	Area 2	Area 3	Area 4	CG	
Area Data											
E7.0	Name	-	E7.0	Name	I						
E7.1	Annual average resident connected population	T17a, L1	E7.1	000	I/C	220.470	1250.633	1622.148	1897.207	4990.5	
E7.2	Annual average non- resident connected population	T17a, L2	E7.2	000	I/C	30.4	38.0	16.8	21.8	107.0	
E7.3	Volume of sewage collected (daily average)	T17a, L3	E7.3	MI/d	I/C	177.4	686.2	957.0	1093.3	2914.0	
E7.4	Total connected properties	T17a, L4	E7.4	nr	I/C	126897	656462	854881	923617	2561857.0	
E7.5	Area of Sewerage District	T17a, L5	E7.5	km ²	I/C	35208	20371	15475	8744	79799	
E7.6	Drained Area	-	E7.6	km ²	I/C	153.781	520.750	621.972	640.183	1937	
E7.7	Annual Precipitation	-	E7.7	mm	I	1161	758	923	1191	979	
Sewerage Data											
E7.8	Total length of sewer	T17a, L6	E7.8	km	I/C	3941	14246	18052	16964	53203	
E7.9	Total length of lateral sewer	-	E7.9	km	I/C	898	4684	6269	6645	18496	
E7.10	Length of combined sewer	-	E7.10	km	I/C	1444	4406	5480	6176	17506	
E7.11	Length of separate stormwater sewer	-	E7.11	km	I/C	554	2454	3273	2168	8449	
E7.12	Length of sewer > 1000 mm diameter	-	E7.12	km	I/C	15	155	259	373	802	
E7.13	Length of Critical Sewer	-	E7.13	km	I/C	823	2837	3703	3561	10924	
E7.14	Sewer Collapses	-	E7.14	nr	I/C	32	477	497	535	1541	
Sewerage costs											
E7.15	Power	T22, L2	E2.2	£m	I/C	1	2	2	3	8	
E7.16	Service charges by SEPA	T22, L7	E2.5	£m	I/C	0	1	1	1	3	
E7.17	Total direct costs	T22, L9	E2.7	£m	C	4	8	9	10	32	
E7.18	General and support costs	T22, L10	E2.8	£m	I/C	2.5	4.0	3.1	3.4	13	
E7.19	Functional expenditure	T22, L11	E2.9	£m	C	6	12	12	14	45	
Pumping Stations											
E7.20	Total number of pumping stations	-	E7.15	nr	I/C	530	804	447	469	2250	
E7.21	Total capacity of pumping stations (m ³ /d)	-	E7.16	m ³ /d	I/C	1654163	3358743.67	3200364	5676100	13889371	
E7.22	Total capacity of pumping stations (kw)	-	E7.16a	Kw	I/C	9851	25140	15119	35536	85646	
E7.23	Average pumping head	-	E7.17	m	I	33.4	23.3	16.5	30.3	33.5	
E7.24	Total number of combined pumping stations	-	E7.18	nr	I/C	318	462	261	290	1331	
E7.25	Total capacity of combined pumping stations	-	E7.19	m ³ /d	I/C	1171792	2437458	2450698	4048117	10108065	
E7.26	Total number of stormwater pumping stations	-	E7.20	nr	I/C	17	17	6	9	49	
E7.27	Total capacity of stormwater pumping stations	-	E7.21	m ³ /d	I/C	133655	182304.934	67312	334440	717712	
E7.28	Number of combined sewer overflows	-	E7.22	nr	I/C	357	731	956	1023	3067	
E7.29	Number of combined sewer overflows (screened)	-	E7.23	nr	I/C	223	246	372	511	1352	
Sewage treatment works											
E7.30	Number of sewage treatment works	-	-	nr	I/C	565	587	487	204	1843	
E7.31	Total Load	-	-	kg BOD/day	I/C	13292	45565	71690	95312	225858	
Sewage treatment costs											
E7.32	Power	T22, L2	E2.2	£m	I/C	2	4	6	6	18	
E7.33	Service charges by SEPA	T22, L7	E2.5	£m	I/C	1	2	2	2	6	
E7.34	Total direct costs	T22, L9	E2.7	£m	I/C	7	12	17	14	51	
E7.35	General and support costs	T22, L10	E2.8	£m	I/C	2.0	3.2	4.0	3.8	13	
E7.36	Functional expenditure	T22, L11	E2.9	£m	I/C	9	16	21	18	64	

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SECTION E : OPERATING COSTS AND EFFICIENCY
Table E9: Large Sewage Treatment Works Information Database

Line Ref.	Description	Owat Ref JF 07	WICS Reference AR 06	Units	Field Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Works Size						STW000011	STW001979	STW000033	STW000085	STW000125	STW001975	STW000218	STW000222	STW000378	STW001984	STW000265	STW000281	STW001989	STW000355	STW001977	STW001982	STW000455	STW001712	STW000576	STW000642	STW002268	STW000719	
E9.0	Name	T17b_L1	E9.0	Name	I	Allers South	Aloa West	Antoch West	Bothwellbank South	Carbarns South	Dalderose West	Dalderose South	Dalmock West	Dunbar South	Dunfermline East	Dunnewood West	Erskine West	Galashiels South	Hamilton South	Kinnell Keres South	Kirkcaldy East	Lairdpark (Paisley) West	Perth East	Philpshill South	Sheldhall West	Stirling West	Troquear South	
E9.0a	Name of operational area	-	-	Name	I	50	44	61	26	48	92	318	233	29	81	31	83	31	63	48	81	126	100	54	64	76	43	
E9.1	Population equivalent of total load received	T17b_L2	E9.5	000	I	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	
Compliance						100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E9.2	Suspended solids consent	T17b_L3	E9.11	mg/l	I	20	78	75	8	15	20	18	23	20	6	75	26	20	75	25	20	15	15	10	20	20	20	
E9.3	BOD consent	T17b_L4	E9.12	mg/l	I	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	
E9.4	COD consent	T17b_L5	E9.13	mg/l	I	5	30	13	2	25	5	11	4	1	1	40	15	5	15	5	15	20	2	20	45	0		
E9.5	Ammonia consent	T17b_L6	E9.14	mg/l	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
E9.6	Phosphate consent	T17b_L7	E9.15	mg/l	I	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E9.7	Compliance with effluent consent standard	-	-	%	I	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
Treatment Works Category						1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
E9.8	Primary	T17b_L8	E9.19	1/0	I	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
E9.9	Secondary activated sludge	T17b_L8	E9.20	1/0	I	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
E9.10	Secondary biological	T17b_L8	E9.21	1/0	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
E9.11	Tertiary A1	T17b_L8	E9.22	1/0	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
E9.12	Tertiary A2	T17b_L8	E9.23	1/0	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
E9.13	Tertiary B1	T17b_L8	E9.24	1/0	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
E9.14	Tertiary B2	T17b_L8	E9.25	1/0	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Works Cost						119	188	146	111	196	80	824	1050	265	65	169	334	-67	354	291	373	457	417	584	1333	396	130	
E9.15	Power costs	T17b_L10	E9.34	£'000	I	28	34	27	44	44	85	111	129	52	26	56	29	38	46	227	52	49	194	56	35	35		
E9.16	Service charges SEPA	T17b_L11	E9.37	£'000	I	338	338	326	436	436	1214	1725	387	299	318	582	178	587	489	674	808	2115	762	303	303			
E9.17	Total direct costs	T17b_L9	E9.39	£'000	I	129	53	100	39	70	60	267	202	59	57	26	126	22	81	84	135	91	152	169	40			
E9.18	General and support expenditure	T17b_L12	E9.40	£'000	I	481	430	490	385	520	406	1275	2023	447	357	345	709	100	648	549	788	748	1058	832	343			
E9.19	Functional Expenditure	T17b_L13	E9.41	£'000	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
E9.20	Estimated terminal pumping station costs	T17b_L14	E9.42	£'000	I	0	0	88	0	0	0	0	315	80	19	0	0	0	0	0	83	137	168	0	400	119		
E9.21	Estimated sludge costs	T17b_L15	E9.43	£'000	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

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SECTION E : OPERATING COSTS AND EFFICIENCY

Table E10: Sludge Treatment and Disposal

Line Ref.	Description	Ofwat Ref JR 07	WICS Reference AR 06	Units	Field Type	10	11	12	Disposal category						199			
						CG	CG	CG	Incineration		Landfill		Composted		Land Reclamation		Other	CG
									CG	CG	CG	CG	CG	CG	CG	CG		
Sludge volumes																		
E10.1	Resident population served	T17g, L1	E10.1	000	I	0.0	233.9	942.4	1145.7	16.4	0.0	257.7	0.0	2596.235				
E10.2	Amount of sewage sludge	T17g, L2	E10.2	ttds	I	0.0	2.7	9.8	0.0	0.4	0.0	2.4	0.0	15.278				
Sludge Treatment and Disposal costs																		
E10.3	Sludge Treatment direct costs	T17g, L3	-	£000	I	0.000	1027.208	5287.274	0.000	440.585	0.000	3156.096	0.000	9911.163				
E10.4	Sludge disposal direct costs	T17g, L4	-	£000	I	0.000	220.421	887.904	0.000	433.199	0.000	1274.678	0.000	2816.202				
E10.5	Sludge treatment & disposal: Power costs	T17g, L6	E10.4	£000	I	0.000	382.037	365.972	0.000	43.938	0.000	1077.249	0.000	1869.196				
E10.6	Sludge treatment & disposal: Service charges SEPA	T17g, L7	E10.7	£000	I	0.000	12.236	26.445	0.000	8.106	0.000	24.940	0.000	71.727				
E10.7	Sludge treatment & disposal: Total direct costs	T17g, L5	E10.9	£000	C	0.000	1247.629	6175.178	0.000	873.784	0.000	4430.774	0.000	12727.365				
E10.8	Sludge treatment and disposal: General and support expenditure	T17g, L8	E10.10	£000	I	0.000	359.785	2230.496	0.000	576.742	0.000	1588.576	0.000	4755.599				
E10.9	Sludge Treatment and disposal: Functional Expenditure	T17g, L9	E10.11	£000	C	0.000	1607.414	8405.674	0.000	1450.526	0.000	6019.350	0.000	17482.964				

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