Environmental Impact Statement-Treatment and Disposal of Wellington's Sewage.March 1988.

Over the last decade, improvements to the City's sewerage system and the quality of effluent have been proposed and studied in detail. The main reports covering options, technical feasibility, costs, and environmental aspects of the proposals are by the Wellington City Corporation (1976), Beca Carter-Caldwell Connell (1980) and Beca Carter Hollings and Ferner Ltd (1986).

In 1976, the Wellington City Corporation published an Environmental Impact Assessment on alternative treatment plant sites and recommended Moa Point as the future site, on reclaimed land. Between 1978 and 1980, a detailed study was undertaken of treatment options at Moa Point, oceanographic and related conditions and outfall options.

The 1980 report on the Moa Point study recommended that a fine screening and high-rate primary treatment plant (HRP) be provided, with the effluent being discharged to Cook Strait through a 1.95 km long outfall. The major treatment operations were fine screening (to remove all particles larger than about 1 mm), high-rate separation of floatable grease and scum and incineration of the materials removed by treatment. The ocean outfall would have provided a large initial dilution and maintained shellfishing water quality at Point Dorset.

Planning approvals were subsequently obtained for a milliscreening plant at Moa Point with initially a 300 metre outfall. However, there was no definite action to build the scheme until 1984, when the Council moved to raise a $10 million loan to build the milliscreening plant and related works. This proposal drew significant public opposition and lead to the formation of the Wellington Clean Water Campaign in September 1984 whose supporters included environmental, diving, Maori and trade union interests, as well as many individuals.

Two years of intensive debate followed. The WCC defended the milliscreening plant proposal. The Clean Water Campaign group opposed the Council's milliscreening plant proposal with their own programme for high quality land based treatment away from Moa Point.

The Clean Water Campaign maintained a philosophical objection to the discharge of untreated sewage into the sea. It was felt that pollution of the sea should be kept to a minimum so that if effluent must be discharged, it should first be treated to a high degree.

In March 1985 the Campaign sponsored a formal petition under the Local Authorities Loans Act demanding that a ratepayers poll be held on whether the $10 million loan should be raised. The validity of the demands made became the subject of High Court litigation, with the WCC deciding in March 1986 to conduct a

poll. Held in May 1986, the poll rejected the loan proposal by a 63/37 margin, with 61.7 per cent of eligible voters actually voting.

Three options to gauge preferences were put to vote at the October 1986 Council election. These were secondary treatment at Karori Stream mouth, and milliscreening and long ocean outfalls at Moa Point or Karori Stream. The form of the poll drew allegations from the Clean Water Campaign that it was designed to favour the milliscreening/long outfall options, particularly the Moa Point one, at the expense of the secondary treatment option. The results of the poll were as shown in Table 1.1.

Table 1.1 : Results of Poll of Wellington City Ratepayers October : 1986

Proposal	% Votes Cast	Number Voting
Secondary Treatment (Discharge at Karori Stream)	42	15,764
Milliscreen at Airport (SE corner, Discharge at Moa Point)	34 } 53%	12,888
Milliscreen at Happy Valley (Discharge at Karori Stream)	19	7,105
Informal Votes	5	1,704
Total	100	37,461[a]

41.93% of ELECTORATE

[a]Total number of eligible voters on the roll was 89 329

TABLE 8.2 Total Project Costs - As Adjusted by Review Panel

First Steps in a New Deal For the Harbour Capital.Cleaning the Slate.

Audit Report on Wellington Sewage Treatment.

	GOLF COURSE SITE			SOUTH OF GOLF COURSE SITE UNDERGROUND PLANT			SOUTH OF GOLF COURSE SITE ABOVE GROUND PLANT			
Scheme Item	EIS Stage II	PWT NZ Ltd Biological Aerated Filter	Aquatec-OTV Ltd. Biological Aerated Filter	EIS Stage II	PWT NZ Ltd Biological Aerated Filter	Aquatec-OTV Ltd. Biological Aerated Filter	EIS Stage II	PWT NZ Ltd Trickling Filter Solids Contact	PWT NZ Ltd Biological Aerated Filter	Aquatec-OTV Ltd Activated Sludge
CAPITAL COSTS										
1. Treatment Plant		77,695,639	82,635,300		75,233,639	80,768,300		61,365,600	66,046,639	66,469,70
2.(a) Sludge transfer, treatment and disposal		15,950,000	15,950,000		15,950,000	15,950,000		15,950,000	15,950,000	15,950,00
(b) Adjustment								(2,500,000)		
3. Millisereen extension		2,258,000	2,258,000		2,258,000	2,258,000		2,258,000	2,258,000	2,258,00
4. Stand-by power		1,020,000	1,020,000		915,000	915,000		905,000	905,000	905,00
5. Inlet pumpstation		1,400,000	1,400,000		1,400,000	1,400,000		1,400,000	1,400,000	1,400,00
6. Millisereened effluent pumpstation		2,695,000	2,695,000		2,695,000	2,695,000		2,695,000	2,695,000	2,695,00
7. Outfall		30,900,000	30,900,000		30,900,000	30,900,000		30,900,000	30,900,000	30,900,00
TOTAL CAPITAL COST	124,900,000	131,918,639	136,858,300	117,000,000	129,351,639	134,886,300	105,100,000	112,973,600	120,154,639	120,577,700
ANNUAL OPERATION AND MAINTENANCE COSTS										
1. Treatment Plant	2,790,000	3,931,622	3,703,044	2,970,000	4,074,822	3,866,044	3,780,000	3,612,411	3,818,926	3,810,514
2. Sludge transfer, treatment and disposal	955,000	1,221,000	1,271,000	955,000	1,221,000	1,271,000	955,000	904,000	1,221,000	1,271,00
Total Annual O&M	3,745,000	5,152,622	4,974,044	3,925,000	5,295,822	5,137,044	3,735,000	4,516,411	5,039,926	5,081,514
Capitalised O&M (x 12.8)	47,936,000	65,953,561	63,667,763	50,240,00	67,786,522	65,754,163	47,808,000	57,810,060	64,511,058	65,043,380
TOTAL PROJECT COST INCLUDING CAPITALISED O&M	172,836,000	197,872,200	200,526,063	167,240,000	197,138,161	200,640,463	152,908,000	170,783,660	184,665,692	185,621,080

Note: This table does not include deletion of the sludge thickeners

Comparison with the Moa Point Proposal

In order that the costs of the Western and Eastern Schemes can be compared with the previous Moa Point proposal, the costs of a scheme involving milliscreening and high rate primary (HRP) at Moa Point and discharge through a 2400 metre long outfall are given below. A 2400 metre long outfall would give shellfish quality shoreline waters. These costs were given for comparison purposes in the EIS, where it was noted that the Council does not intend to proceed with any Moa Point outfall option.

Cost Summary - Moa Point Long Outfall
(In March 1988 Dollars)

	Milliscreen with HRP
Capital Costs ($M)	
Treatment	16.2
Pipelines	3.3
Pump Stations	4.0
Outfall (2400 m)	35.8
	59.3
Annual Operating and Maintenance ($M)	
Milliscreening	0.444
Pumping	0.058
Treatment	0.37
	0.872
Capitalised O&M (x 12.873)	11.1
Total Cost, Including O&M	$70.4M

Submissions to the Panel

Because of their volume it is impossible to discuss all the written and oral submissions in this report. (A full list of submissions is appended). However, the Council and the panel are extremely grateful to those who made the personal effort to respond on this important subject.

Section 4 discusses the feasible options. In doing so, the leading arguments within the submissions received are drawn upon in developing the conclusions reached. Some of the key submissions include matters of general importance which do not relate to specific options. These matters are outlined below:

Department of Health

In an oral submission, the Medical Officer of Health (Dr Fogg) and the Principal Health Officer for the Wellington health district (Mr D. Buckland) advised that while the department welcomed all moves to improve water quality, the upgrading of water quality around Moa Point would not necessarily mean that shellfish could be taken safely from Wellington's coastal waters. Pollution from urban stormwater runoff would still be present.

They stated that sewage treatment and an outfall have to be seen against a background of an old and leaky sewerage system. When asked whether Wellington would be better to spend $70 million on the Moa Point option plus $74 million on the sewerage system, or $144 million on a western option, Mr Buckland replied that the city does not have unlimited resources and that water quality objectives could be achieved with a long outfall. He believes that both the existing Moa Point discharge and the sewerage system need to be fixed. This view was confirmed by Dr Fogg, who advised that the department is equally concerned about the Moa Point shoreline discharge and the leaking sewerage system.

Appendix C: Wellington Regional Council Bulletin on Faecal Coliform Levels in the Coastal Waters of the Wgton Region

Wellington Harbour - Summary of Results 1987-1992					
			Faecal Coliforms/100 ml		
Site	Year	Number Samples	Minimum	Maximum	Median
Overseas Terminal	1987	26	>2000	144000	41500
SB	1988	37	216	684000	45900
	1989	25	>2000	940000	187000
	1990	22	2000	1651000	150000
	1991	27	101	991000	54000
	1992	26	66	600000	55000
Oriental Bay	1987	20	0	182	34
	1988	25	1	5940	36
SB	1989	34	6	3200	43
	1990	28	0	>4000	97
	1991	30	5	>2000	111
	1992	31	2	760	56
Balaena Bay	1987	20	0	888	4
	1988	25	0	475	3
SB	1989	35	0	511	10
	1990	27	0	>2000	5
	1991	30	0	2040	7
	1992	30	0	19680	16
Hataitai Beach	1987	20	0	238	14
	1988	25	0	1980	33
SB	1989	34	0	1122	52
	1990	28	1	>2000	87
	1991	31	0	>2000	64
	1992	32	0	>2000	111
Evans Bay (Culvert)	1987	13	0	2130	150
	1988	25	0	5730	42
SB	1989	24	6	5220	450
	1990	22	<10	>20000	425
	1991	26	2	43800	1800
	1992	26	<100	>200000	8250

South Coast - Summary of Results 1987-1992					
Site	Year	Number Samples	Faecal Coliforms/100 ml		Median
			Minimum	Maximum	
Breaker Bay	1987	19	0	88	2
	1988	23	0	98	3
	1989	34	0	156	4
	1990	27	0	226	15
	1991	29	0	278	10
	1992	32	0	580	16
Palmer Bay SA	1987	19	0	928	9
	1988	23	0	401	3
	1989	26	0	513	9
	1990	22	0	288	27
	1991	24	0	>2000	33
	1992	24	1	526	41
West Huetetaka Peninsula (MOA POINT) SB	1987	20	0	2860	39
	1988	23	0	7230	12
	1989	26	0	630	29
	1990	22	0	>2000	74
	1991	24	1	2310	37
	1992	25	<2	5000	24
Lyall Bay SB	1987	19	0	54	16
	1988	23	0	>2000	4
	1989	34	0	385	12
	1990	28	0	>2000	34
	1991	30	0	1200	17
	1992	31	0	1070	24