

CAPITAL REGIONAL DISTRICT
CORE AREA
LIQUID WASTE MANAGEMENT PLAN

TABLE OF CONTENTS

CHAPTER 1 - GENERAL

Purpose	1.1
Plan Area	1.1
Approval of the Plan by the CRD Board	1.1
Steering Committee	1.1
Technical Advisory Committee	1.1
Public Advisory Committee	1.3
Additional Public, First Nations and Municipal Consultation	1.3
Specific Ministry of Environment, Lands and Parks Requirements	1.4
Response to Ministry Requirements	1.4
Federal Legislation	1.5

CHAPTER 2 - HISTORY

Stage 1	2.1
Stage 1 Reports	2.1
Stage 2	2.1
Stage 2 Reports	2.2
Site Acquisition	2.3

CHAPTER 3 - SEWERAGE AREAS

Areas Served by Municipal Collection Systems	3.1
Areas Not Served by Municipal Collection Systems	3.1

CHAPTER 4 - EXISTING WASTEWATER INFRASTRUCTURE

Overview	4.1
Municipal and Regional Responsibility	4.1
Municipal Systems	4.1
Regional Systems	4.1
Northwest Trunk Sewer – Macaulay Point Outfall	4.3
East Coast Trunk Sewers – General	4.3
East Coast Interceptor Sewer System	4.3
Clover Point Pump Station/Outfall	4.4
Septage Disposal	4.4
Federal Systems	4.4
Private Systems	4.4
References	4.5

CHAPTER 5 - POPULATION AND WASTEWATER QUANTITY PROJECTIONS

Areas Served by Municipal Collection Systems	5.1
General	5.1
East Coast Interceptor/Clover Point Outfall	5.1
Northwest Trunk/Macaulay Point Outfall	5.1
Flow Values Used in the Operational Certificates	5.5
Areas Not Served by Municipal Collection Systems	5.5
Number of On-Site Sewage Systems	5.5
Wastewater Quantities	5.6

CHAPTER 6 - PROGRAM OVERVIEW

Source Control	6.1
Management of Inflow and Infiltration	6.1
Wastewater and Marine Assessment	6.1
Stormwater Quality Management	6.1
Harbours Environmental Action	6.2
Management of Trucked Liquid Waste	6.2
Management of Sewerage System Overflows	6.2
Wastewater Treatment and Disposal for Areas Served by Municipal Collection Systems	6.2
Wastewater Treatment and Disposal in Areas Not Served by Municipal Collection Systems	6.2

CHAPTER 7 - SOURCE CONTROL

Goals	7.1
Commitments	7.1
Background	7.3
Current Status	7.3
Program Review	7.4
Contaminant Reduction Targets	7.5
Regional Source Control Program	7.5
Administration	7.5
Enforcement	7.6
Monitoring	7.6
Education	7.6
Special Projects	7.6

CHAPTER 8 - MANAGEMENT OF INFLOW AND INFILTRATION

Goal	8.1
Commitments	8.1
Background	8.1
Strategy and Schedule for Inflow and Infiltration Reduction	8.2
Strategy to Determine Appropriate Expenditure on Inflow and Infiltration	8.3
Comments	8.3
Strategy	8.3
Impact of Other Programs	8.3
Municipal Programs	8.4

CHAPTER 9 - WASTEWATER AND MARINE ASSESSMENT: CLOVER AND MACAULAY POINT OUTFALLS

Goals	9.1
Commitments	9.1
Background	9.1
Wastewater and Marine Assessment Program	9.2
Trigger Process Summary	9.2
Effluent Monitoring	9.6
Surface Water Monitoring	9.6
Water Column Investigations	9.6
Review and Reporting	9.6

CHAPTER 10 - STORMWATER QUALITY MANAGEMENT

Goal	10.1
Commitments	10.1
History	10.2
Evolution of the Program	10.2
Program Achievements	10.3
Strategy for Stormwater Quality Management	10.3

CHAPTER 11 - HARBOURS ENVIRONMENTAL ACTION

Goals	11.1
Commitments	11.1
Background	11.1
Harbours Environmental Action Program	11.2
References	11.4

CHAPTER 12 - MANAGEMENT OF TRUCKED LIQUID WASTE

Goal	12.1
Commitments	12.1
Review	12.1
Background	12.1
Problem	12.2
Strategy	12.2
Program Objectives	12.3
Role Definition	12.3
Program Tasks	12.3
Schedule	12.4
Budget	12.4
Funding Source	12.4

CHAPTER 13 - MANAGEMENT OF WASTEWATER OVERFLOWS

Goal	13.1
Commitments	13.1
Background	13.1
Sensitivity of Receiving Waters	13.7
Overflow Policy	13.8
Municipal Action Plan	13.9
CRD Overflow Facilities and Action Plan	13.9
Trunk Sewer Design Philosophy to Reflect Sensitivity of Receiving Waters	13.10

CHAPTER 14 - WASTEWATER TREATMENT AND DISPOSAL FOR AREAS SERVED BY MUNICIPAL COLLECTION SYSTEMS

Commitment	14.1
Trigger Process	14.1
Treatment Locations, Technologies and Land Requirements	14.1
Cost of Treatment Facilities	14.2
Timing of Additional Treatment	14.2
Treatment Plant Construction Schedule	14.2
Management of Sludge from Regional Treatment Facilities	14.3
Site Selection	14.3
Design and Construction	14.4

CHAPTER 15 - WASTEWATER TREATMENT AND DISPOSAL IN AREAS NOT SERVED BY MUNICIPAL COLLECTION SYSTEMS

Goal	15.1
Commitment	15.1
Background	15.1
Problem Areas	15.2
Saanich	15.2
Colwood	15.2
Langford	15.2
View Royal	15.3
Management of Systems to Prevent Problems – Five Year Plan	15.3
Management of Sludges from On-Site Systems	15.3

CHAPTER 16 - TRUNK SEWER SYSTEM INFRASTRUCTURE UPGRADING

Goals	16.1
Commitments	16.1
Background	16.1
System Improvements	16.2
Cost Sharing	16.2

CHAPTER 17 - CAPITAL FINANCING

Overview	17.1
Expected Provincial Commitments	17.1
Cost Sharing Among Municipalities	17.1
Development Cost Charges	17.2
Municipal Charges to Property Owners for CRD Sewage Requisition	17.2
Capital Regional District Bylaw No. 2312	17.2
Sharing of Capital Costs Between the CRD and Senior Governments	17.3

DRAFT OPERATIONAL CERTIFICATES

Clover Point Outfall
Macaulay Point Outfall

TABLES

5.1	Clover Point Sanitary Sewer System Residential and Equivalent Populations – 1996, 2025 and 2045	5.2
5.2	Macaulay Point Sanitary Sewer System Residential and Equivalent Populations – 1996, 2025 and 2045	5.3
5.3	Summary of CRD Projected Wastewater Flows.....	5.4
7.1	Regional Source Control Program Goals and Objectives – LWMP Core Area.....	7.2
7.2	Contaminant Reduction Targets – Development Schedule	7.5
9.1	Wastewater and Marine Monitoring Program – Clover and Macaulay Point Outfalls.....	9.3
13.1	Summary of CRD Overflow Facilities.....	13.2
13.2	Northwest Trunk Upgrading, Trigger Return Period for the Addition of Capacity.....	13.12
16.1	Core Area Liquid Waste Management Plan – Trunk Sewer Infrastructure Upgrading.....	16.3
17.1	Proposed Capital Funding Sources.....	17.4
17.2	Estimated Additional Annual Cost Per Average Residential Property	17.4

FIGURES

1.1	Liquid Waste Management Plan Area.....	1.2
3.1	Sewerage Areas.....	3.2
4.1	Existing Wastewater Infrastructure.....	4.2
9.1	Overview of the Trigger Process	9.5
11.1	Location Map Victoria and Esquimalt Harbours	11.3
13.1	CRD Bypass and Spill Points.....	13.11
16.1	Trunk Sewer Infrastructure Upgrading	16.8

APPENDICES

CHAPTER 1 - GENERAL

Appendix 1-A

- Letter from RW Warman of the CRD Requesting Appointment of Representatives to Technical Advisory Committee – 25 September 1998
- Letter from Chair of the Technical Advisory Committee to Chief Andy Thomas of Esquimalt Nation – 04 February 2000
- Letter from Chair of the Technical Advisory Committee to Chief Robert Sam of Songhees First Nation – 04 February 2000

Appendix 1-B

- Letter from Chair of the Environment Committee Requesting Appointment of Representatives to Public Advisory Committee – 21 October 1998
- Core Area Liquid Waste Management Plan Public Advisory Committee Terms of Reference
- Letter from Chair of the Public Advisory Committee to Chief Andy Thomas of Esquimalt Nation – 04 February 2000
- Letter from Chair of the Public Advisory Committee to Chief Robert Sam of Songhees First Nation – 04 February 2000

Appendix 1-C

- Letter from Ministry of Environment, Lands and Parks to CRD Board and Environment Committee Chairs and Directors – 31 March 1998

CHAPTER 9 - WASTEWATER AND MARINE ASSESSMENT: CLOVER POINT AND MACAULAY POINT OUTFALLS

Appendix 9-A

- Marine Monitoring Advisory Group Terms of Reference

Appendix 9-B

- The Trigger Process: An Early Warning of Adverse Environmental Effects for the Clover and Macaulay Point Outfalls, May 2000

Appendix 9-C

- Priority Pollutants List

CHAPTER 11 - HARBOURS ENVIRONMENTAL ACTION

Appendix 11-A

- Victoria and Esquimalt Harbours Environmental Action Program (VEHEAP) Memorandum of Understanding

Appendix 11-B

- Victoria and Esquimalt Harbours Environmental Action Program List of Reports

CHAPTER 12 - MANAGEMENT OF TRUCKED LIQUID WASTE

Appendix 12-A

- Program Schedule

CHAPTER 13 - MANAGEMENT OF WASTEWATER OVERFLOWS

Appendix 13-A

- Letter from The Corporation of the District of Oak Bay to Mr. Bob Warman of the CRD – 18 April 1996

CHAPTER 14 - WASTEWATER TREATMENT AND DISPOSAL FOR AREAS SERVED BY MUNICIPAL COLLECTION SYSTEMS

Appendix 14-A

- Letter from Dayton & Knight to Mr. Seamus B. McDonnell of the CRD – 03 April 2000

CHAPTER 17 - CAPITAL FINANCING

Appendix 17-A

- Capital Regional District Draft Bylaw No. 2312