

ITEM	23
MANAGER'S REPORT NO.	77
COUNCIL MEETING	88/12/12

RE: GREATER VANCOUVER LIQUID WASTE MANAGEMENT PLAN STAGE I DRAFT REPORT
MUNICIPAL MANAGER'S RECOMMENDATION:

1. THAT the recommendation of the Director Engineering and the Chief Public Health Inspector be adopted.

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TO: MUNICIPAL MANAGER 1988 DECEMBER 05

FROM: DIRECTOR ENGINEERING
CHIEF PUBLIC HEALTH INSPECTOR

SUBJECT: GREATER VANCOUVER LIQUID WASTE MANAGEMENT PLAN
STAGE 1 DRAFT REPORT

PURPOSE: TO PROVIDE COUNCIL WITH ADDITIONAL INFORMATION REGARDING
ENVIRONMENTAL HEALTH CONCERNS ASSOCIATED WITH THE GREATER
VANCOUVER REGIONAL DISTRICT LIQUID WASTE MANAGEMENT PLAN,
STAGE 1 DRAFT REPORT

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RECOMMENDATION:

1. THAT Council advise the Greater Vancouver Regional District of their support in principle for the Liquid Waste Management Plan.
2. THAT Council advise the Greater Vancouver Regional District of the Liquid Waste Management issues which should be implemented immediately and those considered for intermediate/long term implementation as outlined in this report.

REPORT

1.0 BACKGROUND:

The following represents the Director Engineering comments, Section 2 and the Chief Public Health Inspectors comments, Section 3 concerning the Greater Vancouver Regional District Liquid Waste Management Plan, Stage 1 Draft Report.

2.0 ENGINEERING DEPARTMENT COMMENTS:

Appearing on the Agenda of the 1988 November 01 regular meeting of Council was a delegation from the Greater Vancouver Regional District regarding its draft Stage 1 Liquid Waste Management Plan.

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The Liquid Waste Management Plan (LWMP) is intended to be a Master Plan for sewage and drainage disposal within the Greater Vancouver Regional District; years 2006 and 2036 are the near-and-long-term planning horizons respectively. The plan will also update the GVRD's existing plan, the RAWN Report, which was first published in 1953.

The LWMP is divided into two stages: the first stage (Stage 1) is for collecting existing information, examining existing conditions, developing waste management alternatives in conceptual form, and presenting a set of realistic waste management practices.

Stage 2 would produce a fully developed waste management plan and, where necessary, include recommendations for capital works. It would evaluate the need for and type of improvement alternatives in detail and would involve wastewater and receiving environment monitoring.

The purpose of the LWMP is twofold. The first purpose is to determine how well existing sewerage facilities (sewers, outfalls, sewage treatment plants, etc.) can handle existing and future sanitary flows; and secondly, to establish the most environmentally acceptable and cost-effective methods to dispose of liquid wastes. In this case, unlike earlier plans, urban runoff (stormwater drainage discharges and overland flows) is included as a liquid waste along with sewage treatment plant effluent and combined sewer overflows.

The GVRD utilized a steering committee and four technical advisory committees to assist them in the formation of the LWMP. The steering committee offered advice on the direction of the plan. The four technical committees studied and provided assistance on specialized technical topics; namely, (1) water quality/water use; (2) combined sewer overflows and urban runoff; (3) sewage treatment plant upgrading and sludge disposal, and (4) source control.

The committees were made up of GVRD staff and representatives from Provincial and Federal Agencies and municipalities. Burnaby's Engineering Department had representation on both the steering committee and the technical committee advising on combined sewer overflows and urban runoff.

Arising out of this Stage 1 study is the realization of the dearth of information regarding the receiving water impacts of the various wastewater discharges. In the absence of this detailed information, waste management programs can proceed in one of two ways; either blanket improvements, such as proceeding to secondary treatment at the Region's sewage treatment plants; or each specific type of discharge can be evaluated on its relative impact on the specific receiving waste environment, and the most environmentally cost-effective solution can be chosen from a range of options for that particular site. Corporation staff recommend the latter method as it would result in the better long-term solution to upgrading wastewater facilities.

Blanket upgrading programs may require higher degrees of wastewater treatment whether environmental conditions justify the need or not, and could result in substantial expenditures of funds which may better be spent elsewhere. (It is estimated that conventional secondary treatment for the Region's sewage treatment plants would result in a 40 to 45% increase in general municipal taxation). Because the costs are significant, the Stage 1 plan recommends that options should be pursued only with a clear understanding of the problems being addressed and the potential benefits to be achieved. Thus, the plan recommends that a regionwide environmental monitoring program be the next step in the planning process. Once environmental conditions have been identified, priorities can be set.

Of concern to Corporation staff is the potential that senior governments, rather than contributing to the resources required to obtain the environmental information necessary to set priorities, will be tempted to take a shortsighted approach and will establish guidelines that will result in blanket regionwide improvements. Notwithstanding the fact that such improvements would impact more significantly on Municipal and Regional budgets than on senior government agencies' budgets, without the detailed knowledge of environmental conditions required, such a non-selective approach would not necessarily be the best expenditure of the limited amount of funds available for upgrading liquid waste discharges. The areas to be protected, such as Burrard Inlet and the Fraser River, are of provincial and national importance. For these reasons, it is recommended that the Provincial and Federal Governments be encouraged to commit funds for their shares of the comprehensive monitoring program required.

The Stage 1 LWMP includes elements which can proceed upon the GVRD adopting the plan. These include development of a regional sewer use bylaw, various upgrades at regional sewage treatment plants, and the implementations of environmental and flow monitoring programs.

The study indicates that key questions which remain unanswered are: first, what is the environmental significance of sewage treatment plant discharges, combined sewer overflows, and urban runoff discharges and their relative significance compared to each other? second, what is the feasibility and practicality of treating stormwater runoff? third, how should wastewater upgrading be prioritized? fourth, how quickly should water quality improvements, which are shown to be necessary, be realized?

The LWMP Stage 1 concludes that substantially more information is required before the need, scope and priority for major upgrading of wastewater facilities can be determined. Corporation staff agree that it is imperative that these liquid waste management programs be "impact driven". In other words, resources should be applied selectively to those liquid waste management programs which would contribute and achieve the greatest environmental cost/benefit results.

The Director Engineering is recommending that Council advise the Greater Vancouver Regional District of their support in principle for the Liquid Waste Management Plan.

3.0 ENVIRONMENTAL HEALTH DIVISION COMMENTS:

Environmental Health Division staff did participate in the drafting of the source control section of the G.V.R.D. Liquid Waste Management Plan. Although staff agree and readily accept the text of the report, there is a disagreement in adoption of Appendix "A" (Chapter 10, Section 10.2) based on the existing information.

Environmental Health Division staff are of the opinion that the completion dates should be re-examined and categorized into immediate implementation and intermediate/long term implementation.

The "immediate implementation" category could include those issues that have low costs attached to it, have existing data that indicates a net positive impact on the environment, and/or generally proceed without being in conflict with stage two of LWMP. This may include:

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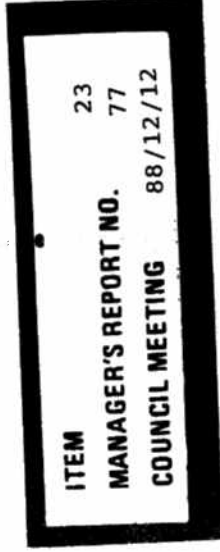
- a) Implementation of a public information program to explain and solicit comments on the LWMP Stage 1, and on the future direction of waste management programs.
 - b) Consideration by municipalities of programs to clean catchbasins frequently enough to prevent solids build up.
 - c) The focusing of source control activities on the control of pH, oil and grease, and metals.
 - d) Pretreatment improvements for metal and surface finishing industry discharges to sewer.
 - e) Development of a Regional Sewer Bylaw with cooperation from municipalities and industry, and considering the recommendations of the LWMP Source Control Committee. The bylaw should be based on the needs for protection of sewerage works, sewage treatment processes, receiving water quality, and public health and safety. Further, the Plan should include development of the additional resources needed to consistently administer the Sewer Use Bylaw throughout the GVS & DD.
 - f) Continuation and expansion, in cooperation with municipalities, of sewer inspections throughout the Region to ensure that all sanitary sewage is intercepted for treatment.
 - g) Upgrading of the District's flow monitoring program in sewers throughout the Region to re-evaluate design criteria, to determine the source of extraneous flows, and to serve as a tool for the long-term management of sewerage facilities.
 - h) Elimination of sludge discharges through the Lions Gate sewerage treatment plant effluent outfall.
 - i) Implementation of effluent dechlorination of Lions Gate sewage treatment plant.
 - j) Continuation with present levels of primary treatment and effluent disposal at Annacis, Iona, Lulu and Lions Gate sewage treatment plants pending guidance on the levels of treatment required and priorities for treatment upgrading from the results of the public information and consultation process, and the comprehensive environmental monitoring program.
- The "intermediate/long-term implementation" category could include those issues that need further data in order to have cost effective solution. This may include:
- k) Identify and select an alternate sludge disposal method for Annacis sewerage treatment plant.
 - l) Evaluation of alternate sludge disposal methods for Lulu Island and Iona Island sewage treatment plants. Studies should identify the most economic disposal options which will provide long-term, dependable service.

- m) A cooperative, comprehensive environmental and physical monitoring program for wastewater discharges and receiving waters to assess:
- The nature, extent, and sources of contamination (water, sediments, biota) in the receiving environment.
 - Impacts on primary contact recreational uses.
 - The seasonal variability of wastewater discharges.
 - Localized environmental impacts of wastewater adjacent to discharges (including initial dilution zones).
 - Toxicity and characteristics of wastewater discharges.
 - The nature and extent of wastewater impacts from non-point sources and discharges permitted by Waste Management.
 - The degree to which discharges from adjacent wastewater outfalls create overlapping effluent clouds; also, the extent to which the tides cause effluent discharges to enter water already contaminated on the previous tidal cycle.
- n) Dynamic simulations of combined sewer systems in the Region as a co-operative effort between the District, Vancouver, New Westminster, Burnaby, and senior government agencies. This work should include the collection of coordinated local rainfall and sewer flow data to verify the quality and quantity of urban runoff and combined sewer overflow, including the frequency of combined sewer overflow discharges. It should also include investigations into the feasibility of removing the Yukon Gate to reduce combined sewer overflow impacts on Vancouver Harbour. As an interim measure, in 1988, the District should identify any operational changes that can be made to the existing Gate to realize immediate reductions in discharges to the Harbour.
- o) Implementation of work on the high priority items in Table 4.2 and 4.3 - Adequacy of Existing Sewage Collection System for Sanitary Flows - for the Fraser and North Shore Sewerage Areas respectively.
- p) Re-assessment by the District, Vancouver, New Westminster and Burnaby of existing sewer separation policies in light of the Combined Sewer Overflow and Urban Runoff Committee Report and Study and information flowing from the proposed sewer modelling and environmental monitoring programs. The re-assessment should focus on achieving the most cost effective pollution control option for specific areas. In the interim, sewer reconstruction programs should be geared more to pollution control and projects should be selected to maximize environmental benefits.
- q) Recommendations on the need for additional capacity at Annacis STP. Based on current population growth, this will provide adequate lead time to implement any necessary works.

4.0 GENERAL COMMENTS:

The source control as defined in the LWMP applies to non-domestic waste discharges to sewers only. It does not address domestic discharges. There is thus a need to establish a program to better educate the residents of Burnaby in disposing of their wastes to sewers. Furthermore, alternative disposal methods must be made available to them to dispose items such as paint, thinner, pesticides, etc.

For the information of Council, staff are currently addressing a watercourse protection education task force which will serve to inform municipal residents and businesses on proper methods for disposing wastes and items of concern to our environment. The task force will have representatives from Environmental Health, Recreation and Cultural Services, Engineering and Planning and Building Inspection Departments.



5.0 CONCLUSION:

It is recommended that Council advise the Greater Vancouver Regional District of the Liquid Waste Management issues that should be implemented immediately and those considered for intermediate/long term implementation.

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CHIEF PUBLIC HEALTH INSPECTOR

HDH/GVH:gt

cc: Medical Health Officer
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