

MAY 29

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**THE CORPORATION OF THE CITY OF PORT COQUITLAM
ENVIRONMENTAL PROTECTION COMMITTEE**

Wednesday, May 29, 1991

**Meeting Room #2
2580 Shaughnessy Street, Port Coquitlam, BC**

5:00 p.m.

AGENDA

PERSONNEL IN ATTENDANCE:

DELEGATIONS:

- 1) Thelma MacAdam
- 2) Representative of Art Knapp Garden Centre
- 3) Representative of Plantland Garden Centre
- 4) Richard Schroeder

ITEM I: CONFIRMATION OF MINUTES OF PREVIOUS MEETING

**ITEM II: HOME COMPOSTING
(Delegation to discuss home composting demonstration project)**

**ITEM III: ENVIRONMENTAL CONCERNS - Thelma MacAdam
(Delegation to discuss environmental concerns)**

**ITEM IV: RECYCLING CONCERNS - RICHARD SCHROEDER
(Delegation to discuss concerns)**

**ITEM V: SOIL REMEDIATION - GEORGE TREAT PROPERTY
(Minutes of Council Meeting May 23, 1991)**

**ITEM VI: CHLORAMINATION OF MUNICIPAL DRINKING WATER
(Discussion on proposal)**

ENVIRONMENTAL PROTECTION COMMITTEE AGENDA Cont'd...

- ITEM VII:** **WATERSHED MANAGEMENT**
(Discussion on proposed Evaluation and Policy)
(Also various correspondence from Mr. Beecroft and Mr. Lawson)
- ITEM XVII:** **SOIL REMOVAL BYLAW**
(Review of status)
- ITEM IX:** **PITCH-IN WEEK CAMPAIGN SUMMARY**
(Report from Project Engineer dated May 27, 1991)
- ITEM X:** **HOUSEHOLD HAZARDOUS WASTE COLLECTION**
(Report from Project Engineer dated May 24, 1991)
- ITEM XI:** **LEAKING OIL - 1579 WESTERN DRIVE**
(Correspondence from Ron Criggie dated May 16, 1991)
- ITEM XII:** **DUMPING OF CONTAMINATED SOIL**
(Memo from City Administrator dated May 16, 1991)
- ITEM XIII:** **MULTI-MATERIAL RECYCLING FINANCIAL ASSISTANCE PROGRAM**
(Correspondence from Ministry of Environment dated May 3, 1991)
- ITEM IXV:** **ANIMAL CONTROL**
(Correspondence from Mrs. S. Newlands dated April 29, 1991)

ENVIRONMENTAL PROTECTION COMMITTEE AGENDA Cont'd...

- ITEM XV:** P.N.E. - British Columbia's Three R's Competition
Reduce, Reuse, and Recycle
(Correspondence from P.N.E. dated May 15, 1991)
- ITEM XVI:** 1991 ANNUAL MEETING AND EXHIBITION
OF THE AIR & WASTE MANAGEMENT ASSOCIATION
(Correspondence from G.V.R.D. dated May 16, 1991)
- ITEM XVII:** INTRAWEST SITE
(Correspondence from Ministry of Environment
dated May 17, 1991)
- ITEM XVIII:** B.C. WASTE EXCHANGE
(Correspondence from Recycling
Council of B.C. dated April 18, 1991)
- ITEM XIX:** NEW BUSINESS

**THE CORPORATION OF THE
CITY OF PORT COQUITLAM**

MEMORANDUM

TO: Kip Gaudry, Deputy Engineer
FROM: Andrew de Boer, Project Engineer
DATE: May 27, 1991

SUBJECT: COMPOST DEMONSTRATION GARDENS

On April 29th, 1991 Council, approved \$1,500 to set-up composter display gardens at Art Knapp's Plantland and David Hunter Garden Centre in Port Coquitlam. The following provides more detailed information on the set-up and operation of the displays.

The six composter models which have been selected are:

1. Earthmaker
2. Soil Saver
3. Garden Box composter
4. RoComp Tumbler
5. Green Genie (Bonar)
6. Compost King

Each garden centre would receive the following signs:

- 1) **City of Port Coquitlam
Composter Display**
 - 5" red lettering on plastic backing, on a 4' high wooden stand
 - city logo on upper left corner
 - underneath the title would be a short explanation of the purpose of the display
- 2) **Labels for each of the composters models.**
 - green lettering, dimension of each sign approx. 3x8" on plastic backing
- 3) **Two informational signs, 30"x45", floor mounted at approximately 30 deg. angle from vertical.**
 - see attached
- 4) **- 250 G.V.R.D. guides to home composting**

Some requirements of the gardens centres which need to be established are:

- 1) The acceptability of the recommended composters.
- 2) The number of composters which will be kept operational through regular turning and addition of compost materials.
- 3) The resource person on staff to answer questions on composting and give brochures to residents who request written information.
- 4) Landscaping of display area.
- 5) The degree of impartiality of the garden centres in displaying the different composter models and marketing their preferred model to the public.
- 6) A location on the garden centre premises where the display can be easily viewed
- 7) A start-date for setting up the displays.



Andrew de Boer
Project Engineer



OUR FILE

THE CORPORATION OF THE CITY OF PORT COQUITLAM

2580 SHAUGHNESSY STREET
PORT COQUITLAM, B.C.
V3C 2A8

TELEPHONE: 941-5411
FAX: 464-3524

May 17, 1991.

Thelma MacAdam
3695 Victoria Drive
Port Coquitlam, B.C.
V3C 3V4

Dear Ms. MacAdam:

RE: ENVIRONMENTAL PROTECTION COMMITTEE

Two of the items that the Environmental Protection Committee will be dealing with on May 22, 1991 agenda are the proposed Greater Vancouver Water District's Watershed Management evaluation and policy review and chemical treatment of the G.V.R.D. Drinking Water. Some of the information they will be using in their deliberations is attached here for your information.

Yours truly,

A handwritten signature in black ink, appearing to read "C.F. Gaudry".

C.F. (Kip) Gaudry, P. Eng.
Deputy City Engineer

CFG:ck

cc: Alderman Keryluk
Alderman Talbot
I.R. Zahynacz, City Engineer



Fisheries
and Oceans

Pêches
et Océans

610 Derwent Way
Annacis Island
New Westminster, B.C.
Canada V3L 5B3

Al Gust

24 April 1991

Your file *Votre référence*

Our file *Notre référence*

Doug Neden, P.Eng.
Water Quality Engineer
Greater Vancouver Regional District
4330 Kingsway
Burnaby, B.C.
V5H 4G8

Dear Mr. Neden

Re: PROPOSED CHLORAMINATION OF MUNICIPAL DRINKING WATER

EARP REVIEW

The purpose of this letter is to inform you that the Department of Fisheries and Oceans (DFO) is initiating a review under the Environmental Assessment Review Process (EARP) as outlined in the 1984 Environmental Assessment and Review Process Guidelines Order (attached). Originally, the EARP was intended to be applied for federal projects. However, as a result of several fairly recent court decisions, our department must now review all projects which have a potential impact on the fisheries resource. The principle legislative tool for this is the *Fisheries Act*. Section 36 of this act prohibits the release of a deleterious substance. On at least two recent occasions in Surrey, fish kills have resulted from the discharge of chloraminated drinking water. A lower court has established that chloraminated drinking water is a deleterious substance.

In addition to section 36 of the *Fisheries Act*, section 37 of this act empowers our department to request "plans and specifications" for any project that may have an impact on fisheries resources. This section allows our department to initiate project reviews. In this case, both of these sections make DFO the "lead initiating agency" with respect to the EARP guidelines order. Accordingly, this letter serves as our request for "plans and specifications" relating to the GVWD Drinking Water Improvement Plan. The submission being requested will serve as the "Initial Environmental Evaluation" (IEE).

To my knowledge, this is the first time such a project has undergone a review of this sort. We hope to be able to work cooperatively with your agency to carry out an efficient review of this project. I have attached a list of required information that should be addressed in your IEE. We would appreciate the opportunity to review the draft table of contents for this IEE so that we may comment on this prior to initiating the work. This

Canada

Doug Needen, GVRD

April 24, 1991

Drinking Water Improvement Plan

Page 2

request is made with the intention of preventing any unnecessary delays and/or costs.

It is unclear at this time whether the GVWD or its member municipalities should be the "proponent" for this project. I would appreciate clarification on this matter and confirmation that GVWD will be acting as the proponent for the Drinking Water Quality Improvement Plan.

I am the DFO contact for this review and will be glad to discuss any aspects of the review with you as well as review your draft IEE before it is made public. Please contact me at 666-8990 should you wish to discuss the project. Alain David with Environment Canada will be cooperating with DFO in the review of your submission. He can be reached at 666-2699.

Sincerely,



Lee Niki
Water Quality Biologist
Habitat Management Unit
Fraser River, N.B.C. & Y. Div.

cc. D. Paterson, DFO New West
A. David, Environmental Protection, North Vancouver
John Millen, Inland Waters, North Vancouver
GVRD Member Municipalities

attach.

INFORMATION REQUIREMENTS
FOR GVRD DRINKING WATER QUALITY IMPROVEMENT PLAN

The proponent should prepare an IEE containing the following information:

- A description of the intended project.
- The potential environmental impact of this project, particularly as it relates to the fisheries resource. This should consider not only acutely lethal but also sublethal impacts of this project on any life stage of fish and their food organisms.
- Any mitigation measures that could realistically be used to mitigate the adverse impacts of this project.
- A description of the water distribution system. This should include not only GVRD distribution pipes but also any water mains belonging to member municipalities. This description should consider the age of the pipes and the material from which they are constructed.
- A description of the problem and what means, other than chloramine, can be used to protect public health.
- Any additional information which is pertinent to this project.

Copies of this IEE should be made available to the public for their viewing. In order to facilitate this, a copy of the IEE should be deposited in all public libraries within the areas receiving GVRD water.

WATERSHED MANAGEMENT EVALUATION AND POLICY REVIEW

EXECUTIVE SUMMARY

JANUARY 1991

GREATER VANCOUVER WATER DISTRICT

PREPARED BY:

ECONOMIC AND ENGINEERING SERVICES, INC.

IN COOPERATION WITH:

TERRASOL
UNIVERSITY OF BRITISH COLUMBIA - FORESTRY DEPARTMENT
JENSAN CONSULTING
ENVIROWEST CONSULTANTS, LTD.
B.C. FOREST SERVICE
CANADIAN WILDLIFE SERVICE

Executive Summary

Introduction

The Greater Vancouver Water District (GVWD) began a comprehensive assessment of its watershed policies and management programs in March of 1989. Since the last independent review of watershed management was conducted in the mid-1960s and watershed management philosophies have changed in the past two decades, the GVWD appointed a panel of technical experts to review current practices and policies and prepare a report on its findings. A description of the Panel participants is contained in Appendix B.

The review included assessments of all aspects of the watershed program including administration, forest and vegetation cover management, access development, watershed control and security, wildlife, fisheries, education, recreation, and special uses such as rights of way. However, since watershed control; access development within the watersheds; and forest and vegetation cover management were the primary concerns, the majority of this summary report deals with these three issues. To facilitate review, a glossary of terms is provided at the end of the report.

The GVWD manages three watersheds — Capilano, Seymour and Coquitlam.

The GVWD is responsible for controlling activities in the Capilano, Seymour and Coquitlam watersheds for the purpose of supplying drinking water to the residents of the Lower Mainland. The Watershed Management Program is the primary protective barrier available to the GVWD to maintain high water quality at the sources and is considered an integral part of the water supply system. The system map at the end of this Executive Summary identifies the locations of the watersheds relative to the Greater Vancouver area.

Overview of the Current Watershed Management Program

Restrictive GVWD policies protect water quality.

The current watershed control program restricts access by the general public to the watershed catchments. Access is controlled by a security staff and is granted to personnel on official business who have received prior clearance. Strict sanitation requirements are enforced throughout the watersheds to protect water quality.

Road development to enable access into remote areas of the watersheds has been actively pursued since 1961. The primary purpose of constructing roads has been to provide access for fire fighting, watershed maintenance and timber harvesting.

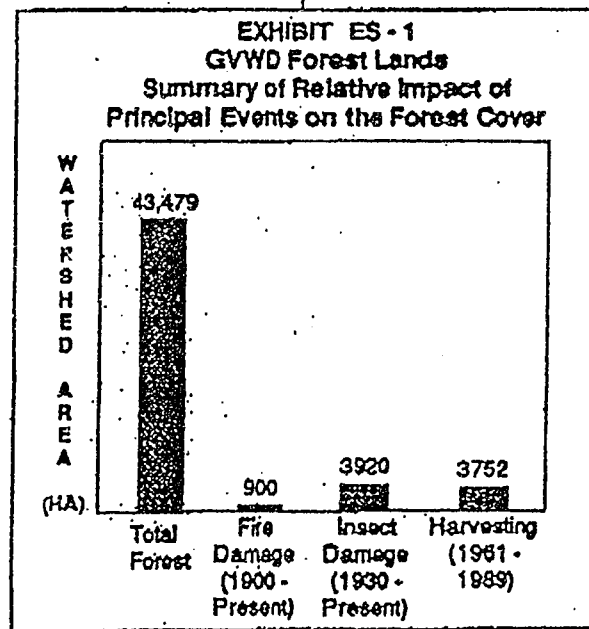
EXECUTIVE SUMMARY

The forest cover in the watersheds is considered to be generally mature or over-mature timber, that is, timber more subject to natural decline from insect attack, disease and fire than younger forests. The GVWD's ongoing program is aimed at developing a more diverse, multi-aged forest cover that is healthier and more resistant to this natural aging process. Two-thirds of the land base is currently in reserve, however timber from the remaining one-third of the watersheds is being harvested on a sustained yield basis. To date, approximately one-half of the harvesting has been conducted to salvage damaged or diseased timber. Revenue realized from the harvests is being re-invested in the watershed for improved road access, protection of unstable areas, and silvicultural activities, including reforestation and stand management.

Several processes have shaped the watersheds' landscapes.

Natural processes — including forest succession, erosion, and insect infestations — as well as catastrophic events such as fire have combined to shape the watersheds' landscapes. Although the GVWD secured control of activities in the watersheds in the 1920s, it did not begin active management of the forests until the early 1960s. In fact, the current forest management program is the direct result of several related developments at that time, including:

- A major infestation of the balsam wooly aphid that occurred in the late 1950s and early 1960s and damaged 2300 ha of forest;
- The recognition of the need to clear dead trees and snags from the watershed to reduce the risk of fire;
- A 1954 consulting firm's report recommending development of an active forest management plan; and
- Completion in 1967 of a legal agreement between the GVWD and the Ministry of Lands, Forests and Water Resources termed the "Amending Indenture."



The Amending Indenture required sustained yield management of the timber in the watersheds but at the same time insisted that water supply protection, not timber supply, be the highest priority of the watershed management program.

Findings of the Technical Panel

Review Procedures:

The Panel reviewed available information and made site inspections, but did not conduct extensive field investigations as part of this study as this was

EXECUTIVE SUMMARY

beyond the scope of this evaluation process. The Panel found that documentation relating to short term operations, such as timber harvesting and road building, was generally adequate. However, there was a lack of well defined information relating to long term strategies and planning. Consequently, the Panel found it necessary to obtain this information through interviews with staff and various consultant reports.

Current Strategies:

The Panel found that the GVWD's program in regard to control and security of the watersheds is excellent — one of the best in North America — and should be continued. Concerning access development, the Panel also found that the long term benefits afforded by road access to remote areas within the watersheds far outweigh the short term drawback of potential increased erosion. Watershed roads are required by the Amending Indenture and provide a major benefit by improving fire fighting capability.

Concerning management of forest and vegetation cover, there are only two basic strategies that the Panel considered viable in a municipal watershed — a “reactive” approach that responds to natural processes and disasters, or a “pro-active” approach that attempts to anticipate these processes and develops strategies to minimize these risks. One additional school of thought that was considered suggests a “hands off” approach that allows natural processes to proceed without human intervention. That approach would allow for the eventual decline of forest health, increasing the risk of a catastrophic event. A “hands off” approach is not considered a preferred option for municipal watersheds as it would eventually lead to a degradation of water quality.

History tells us “hands off” management approach invites problems.

Both reactive and pro-active management approaches would require harvesting of some timber. At a minimum, diseased, insect-infested and fire-damaged trees would need to be removed and seedlings replanted. After weighing the benefits and drawbacks of the two strategies, the Panel unanimously determined that the long term benefits of a conservative pro-active approach outweigh the potential short term drawbacks. The basis for this finding lies in the historical problems encountered when the GVWD used the reactive approach between 1936 to 1961, and the realization that natural processes can be anticipated with some degree of certainty and that measures can be implemented to minimize risks accordingly.

The Panel's findings are summarized below:

Policies :

- The stipulations in the Amending Indenture in regard to the administrative structure and requirements for the allowable annual cuts (AAC) need clarification. Staff are faced with the potential dilemma of weighing water quality risks against timber harvest and the need to meet an AAC. Although it does not appear to have

EXECUTIVE SUMMARY

Panel finds that the administrative structure and funding procedures create a dilemma for staff.

happened to date, this decision-making process could possibly compromise water quality in the long run.

- Changes in the methods of funding the Watershed Management Program are needed so that watershed programs are not solely dependent on revenue from timber harvesting. This total dependency potentially weighs a risk to water quality against budgetary considerations and is not consistent with the spirit of the water supply objective. In addition, necessary road maintenance or erosion control projects, which need to occur in any event, could go unfunded because of a lower level of timber harvest or a downturn in timber markets.
- The GVWD needs to better define the long term goals of its mandate. Policies should be clearly outlined in terms of forest stand and vegetation management goals. The current management program focuses on only one-third of the land base, with no defined management goals for the remaining two-thirds that are held in reserve.

Planning:

- The Panel found that long-term vegetation management planning is not sufficiently developed and that GVWD does not have enough information to provide a basis for long term forest stability planning. Current planning horizons range from one to 20 years, while long range plans should consider several decades at a minimum and preferably 200 years for such forests.
- The Panel found that a long term road development plan is also needed. The GVWD should lay out the ultimate road network to provide access for the protection of forests and vegetation, land and water resources.
- The Panel also found that both the vegetation and road plans need to be based on a detailed ecological inventory of the watersheds.

Current Operations and Monitoring:

- The Panel found that the GVWD's day-to-day forest programs are generally well managed, with staff employing appropriate techniques for the harvesting and reforestation of timber. The panel supported the GVWD's use of a unique index — the Aqua-Terra Classification System (ATCS) — to identify unstable slopes so that timber harvest and road building operations can be confined to stable terrain.
- The Panel found that timber harvesting in the watershed — including the current patch clear-cut system — does not appear to create a water quality problem. Most of the water quality problems result from natural causes such as mass soil movements (slides) or debris torrents accompanying heavy rains.
- The Panel found that the roads in the watershed were of a high quality, and construction procedures were consistent with general good practice.

EXECUTIVE SUMMARY

Panel recommends a pro-active strategy and better long term planning.

Future harvesting should be based on forest cover goals.



Amending Indenture needs revision.

However, formal sediment control plans for construction and maintenance should be developed.

- Current programs for monitoring the condition and health of forest and vegetation cover are not adequate and should be significantly expanded. Monitoring currently consists of periodic spot checks, which do not form an adequate basis for management decisions.
- Current programs for monitoring water quality are not adequate and should be significantly expanded to document conditions at key upstream sources and sub-drainages. An "early warning" monitoring system should be implemented, to assist in developing erosion control measures and to provide reliable forecasts of turbidity events.

Recommendations of the Panel

Recommended Long Term Strategies:

The Panel suggests the following goals for the management of the watersheds.

- Watershed management should strive to balance all resources to minimize both short and long term risks to drinking water quality.
- All watershed lands should be managed based on their:
 - biogeoclimatic classifications,
 - soil stability, and
 - potential impact on drinking water quality.
- Pro-active management strategies should be designed to increase the forest's stability, thus enhancing the forest's resistance to insects, disease, fire and erosion.

To assist in implementing these goals, the Panel recommends the following:

- (1) **Watershed Control:** Retain present stringent watershed control policies and security programs.
- (2) **Access Development:** Plan, construct and maintain a stable road system throughout the watersheds according to best management practices.
- (3) **Forest and Vegetation Cover:** Develop forest and vegetation management plans that will ensure a stable forest and landscape in order to meet the primary water supply objective. Where feasible, GVWD should develop a stable, multi-aged forest cover containing a mosaic of even-aged stands with a diversity of tree species. The focus should be on increasing resistance of the forest and lands to the effects of disease, insects, fire and erosion.

Suggested Policy Reviews:

- (1) **Amending Indenture and Administrative Structure:** Pursue negotiations with the Ministry of Forests to revise terms in the Amending Indenture and administrative structure in order to give the GVWD more flexibility

EXECUTIVE SUMMARY

Long range plans are needed.

Panel recommends ecological inventory of GVWD lands.

- in attaining its primary water supply objective.
- (2) **Funding of Watershed Programs:** Diversify funding sources for watershed management programs beyond the current total reliance on timber revenues. This will eliminate the potential dilemma faced by staff who may feel they need to harvest timber to balance the budget and to maintain the other watershed programs.
 - (3) **Periodic Review:** Establish an independent review panel to assess the watershed management program every five years to ensure that goals are being met.

Recommended Long Term Planning:

- (1) **Long Term Vegetation and Land Management Plan:** Develop a long range (200-year) vegetation cover management program for all watershed lands. A study to develop this plan should clearly define how management programs will ensure a stable forest and landscape on all watershed lands to meet the primary water supply objective. Subjects to be included are:
 - Cumulative effects of natural processes and human impacts,
 - Analysis of vegetation composition projected over a 200-year time horizon,
 - Resource protection to include resistance to fire, insects and disease,
 - Silvicultural activities to enhance forest stability,
 - Old growth management strategy,
 - Riparian zone management strategy,
 - Erosion and sediment control plan,
 - Implementation of "best management" practices,
 - Refinement of monitoring programs.
- (2) **Long Term Road Plan:** The Panel recommends that GVWD develop a long term road and trail plan to facilitate water quality monitoring and surveillance, fire control and stand tending. The plan should lay out the ultimate road network based on multiple criteria to protect resources, recognizing that roads would be built gradually over the next two decades.

Recommended Short Term Operations and Monitoring Initiatives:

- (1) **Ecological Review:** Conduct a comprehensive ecological inventory of the entire watershed area, including an evaluation of forest stand health and stability as well as site specific soil stability. This type of data is needed to develop the long term vegetation management plan referred to above.
- (2) **Water Quality Monitoring:** Establish a comprehensive water quality monitoring program to document the conditions of major streams and sub-drainages to focus erosion control efforts and provide an early warning system for turbidity events.
- (3) **Erosion Control Projects:** Modify current sediment and erosion

EXECUTIVE SUMMARY

*Three steps for
implementing
the Panel's
recommendations.*

control programs from a reactive mode to a pro-active approach. This will enable GVWD to reduce erosion further and to upgrade areas that present recurrent stability problems.

- (4) Ongoing Research: Support research related to watershed management to develop better monitoring techniques and watershed practices.

Implementation Strategy:

Implementation requires the integration of planning efforts and field studies. Field studies, especially the comprehensive ecological inventory, should begin immediately because they will form the basis for long term studies. It is also advisable to initiate contact with the Ministry of Forests on issues related to the Amending Indenture and administration, since modifications of the agreement may require lengthy negotiations and procedural changes. The attached implementation schedule (ES-2) depicts how the field studies and planning efforts could fit together over the next five years.

To begin the implementation process, the GVWD should:

- (1) Adopt the recommended pro-active management strategy described herein, which the Panel believes will best preserve water quality while minimizing the risks associated with fire, erosion, and forest insects and disease.
- (2) Revise internal funding procedures for the watershed management program and pursue negotiations with the Ministry of Forests related to the administration to better reflect the water supply objective.
- (3) Initiate planning and the supporting field studies to provide definitive direction for the operations of the Watershed Management Division.













**Exhibit ES-2
 GVWD Watershed Management
 Proposed Implementation Plan**

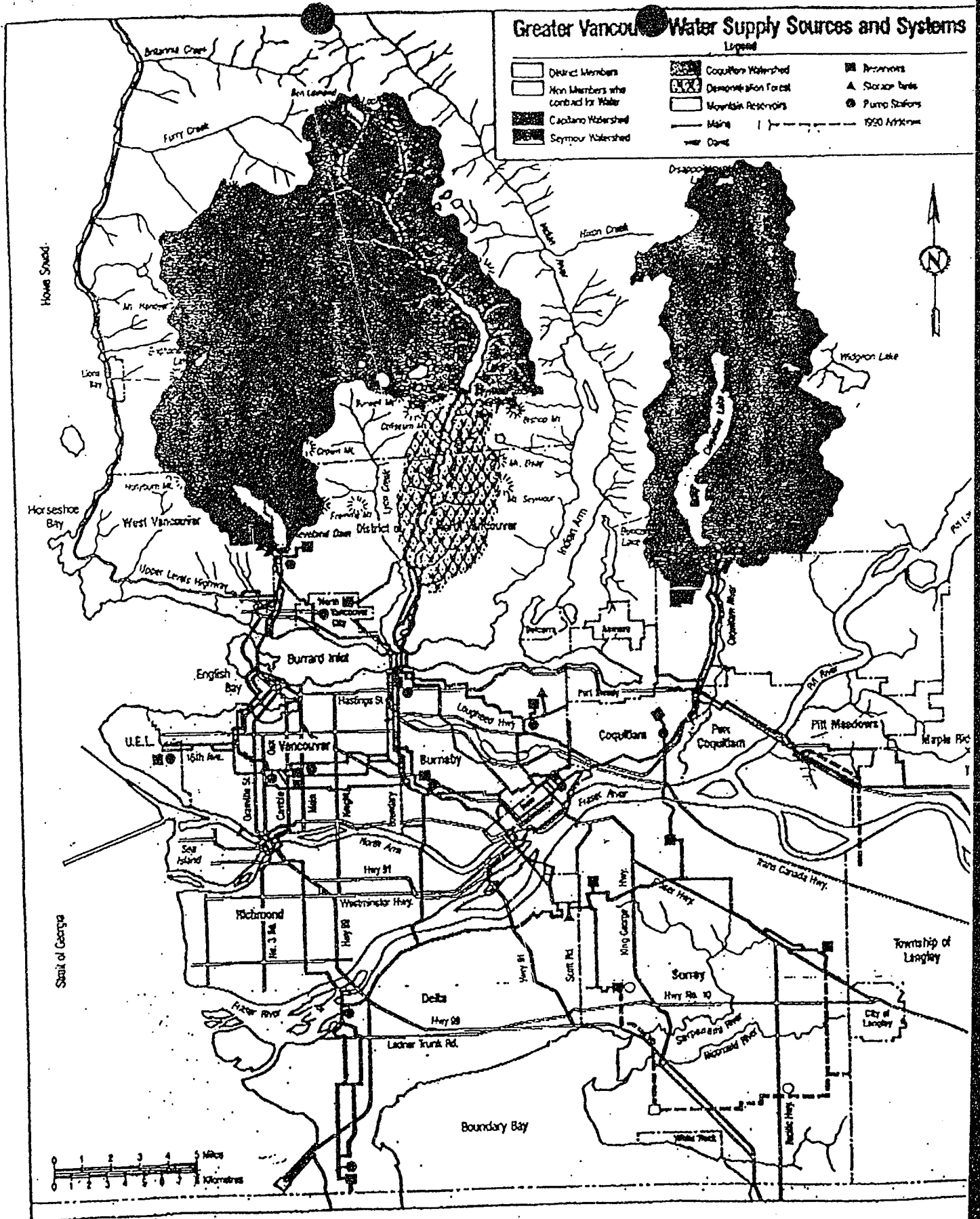
	1991	1992	1993	1994	1995
Long-Term Strategies					
• Watershed Control					
• Access Development					
• Vegetation and Land Management					
Policy and Planning					
Long Term Vegetation and Land Management Plan		Develop			
Long Term Road Plan		Develop			
Amending Indenture and License Issues			Ongoing Negotiations		
Accounting and Funding Issues					
Annual Watershed Reports		*	*	*	*
Independent Review					
Operations and Monitoring					
Ecological Review					
Water Quality Monitoring					
Erosion Control Program					
Watershed Research					
Access Development					
Harvesting and Silvicultural Programs					

← Update 5-Year Working Plan

Greater Vancouver Water Supply Sources and Systems

Legend

-  District Members
-  Non Members who contract for Water
-  Capilano Watershed
-  Seymour Watershed
-  Coquitlam Watershed
-  Deschamps Forest
-  Mountain Reservoirs
-  Main
-  1950 A.M.R.M.
-  Reservoirs
-  Storage Tanks
-  Pump Stations



APPENDIX BTECHNICAL WATERSHED REVIEW PANEL

The Watershed Panel was composed of eight technical specialists who met nineteen times during the course of the two year study to present findings and review results presented by other members. Three additional technical specialists also reviewed parts of the Panel's findings. The specialists were selected based on their experience and background in conducting reviews of similar watershed cases or because of their specific knowledge of the GVWD resources. The background and qualifications of these individuals are described below.

Gregory Kirmeyer, P.E., Project Manager and Water Quality Specialist, Economic and Engineering Services, Inc. Mr. Kirmeyer managed this study. He has a Master's Degree in Environmental Engineering and has 20 years of experience in the fields of water quality and water resources. He has specialized in drinking water quality from unfiltered municipal water sources similar to GVWD's. Mr. Kirmeyer has been instrumental in developing watershed management plans for Seattle Water Department, Tacoma Water Division, Bremerton Water Utility and the City of Everett.

Bill Carr, Ph.D., C.P.E.S.C., Forest Soils Specialist, Terrasol. Dr. Carr has a Doctorate of Philosophy Degree in Forestry and has 12 years of forestry related experience. He has specialized in forest soils and erosion control and has worked extensively throughout British Columbia. Dr. Carr helped to develop the soil erosion guidelines and procedures manual currently used by the Ministry of Forestry.

Peter Sanders, R.P.F., Silviculture Specialist, Jensen Consulting. Mr. Sanders holds a Master's Degree in Forestry and has over 30 years of experience in the fields of forestry and silviculture. He currently heads silviculture operations at the U.B.C. Research Forest in Maple Ridge and has extensive knowledge of the GVWD watershed resources. Mr. Sanders has conducted several research studies within the GVWD watersheds and has documented silvicultural prescriptions for the watersheds in the past.

Doug Golding, Ph.D., R.P.F., Forest Hydrology Specialist, U.B.C. Faculty of Forestry. Dr. Golding has a Doctorate of Philosophy Degree in Forestry and is currently an Associate Professor with the University of British Columbia Faculty of Forestry. He has 37 years of experience in the fields of forestry and forest hydrology. Dr. Golding has conducted extensive research on the impacts of timber harvesting on forest hydrology, including over ten years of work within the GVWD watersheds.

Dale Seip, Ph.D., Wildlife Specialist, B.C. Forest Service. Dr. Seip holds a Ph.D. in Forestry and has 10 years of experience in studying forestry/wildlife interactions. He currently is a wildlife habitat ecologist with the B.C. Forest Service and an adjunct professor of Forestry at U.B.C. Dr. Seip has studied the effects of forest management practices on wildlife species including mountain sheep, caribou and moose. He currently is studying wildlife diversity in coastal forests, including study areas in the GVWD watersheds.

Jean Pierre Savard, Ph.D. Wildlife Specialist, Canadian Wildlife Service. Dr. Savard has a Doctorate of Philosophy degree in Zoology and has over 14 years of experience in the fields of ornithology and ecology. He is currently a research scientist for the Canadian Wildlife Service and carries out research on forest and grassland ecosystems. Current research include the comparison of bird populations of old growth and second growth forests and a study of the breeding distribution of Marbled Murrelet and Long-billed Curlew.

Ian Whyte, Fisheries Specialist, ECL Envirowest Consultants. Mr. Whyte has a Bachelor's Degree in Science and has 10 years of experience in aquatic resources management. He has performed numerous fisheries investigations throughout the Pacific Northwest, and recently co-authored a manual on fish habitat enhancement techniques for the Department of Fisheries and Oceans.

Lee Odell, E.I.T., Water Quality Specialist, Economic and Engineering Services, Inc. Mr. Odell has a Master's Degree in Environmental Engineering and has 6 years of experience in water quality and water treatment. He has supervised operations at a water treatment plant and has conducted numerous water treatment studies including studies on disinfection and disinfection by-products.

Other Reviewers

J.P. (Hamish) Kimmins. Department of Forest Science, Faculty of Forestry, University of British Columbia.

Karel Klinka, Ph.D. RFP Department of Forest Sciences, Faculty of Forestry, University of British Columbia.

Robert Laird, M.Sc., P.Ag. Consultant in Resource Management - Science.

THE CORPORATION OF THE
CITY OF PORT COQUITLAM

MEMORANDUM

TO: Environmental Protection Committee DATE: April 30, 1991

FROM: Kip Gaudry, P. Eng.,
Deputy City Engineer

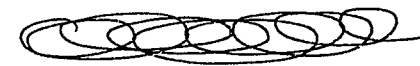
SUBJECT: **RECYCLING PROGRAM - LETTER OF OBJECTION**

RECOMMENDATION:

That Mr. Richard Schroeter of Poor Richard's Distributing Corporation be invited to one of the next EPC meetings to discuss his objection to the proposed Port Coquitlam Recycling Program.

BACKGROUND & COMMENTS:

Mr. Schroeter wrote to Mayor and Council March 26, 1991 objecting to the proposed Recycling Program in Port Coquitlam. Some of the facts he states in his letter are incorrect in particular as they pertain to industrial sites however, I feel it may be worth while for Committee to talk to this gentleman and provide him with all the correct facts and answer any questions he may have.



C.F. (Kip) Gaudry, P. Eng.
Deputy City Engineer

CFG:ck



Office of the Mayor — THE CITY OF PORT COQUITLAM

2580 Shaughnessy Street,
Port Coquitlam, B.C. V3C 2A8

Fax: 464-3524
Phone: 941-5411

April 3, 1991

Mr. Richard Schroeder
Poor Richard's Distributing Corp.
2820 Huntington Place
Port Coquitlam, British Columbia
V3C 4T3

Dear Mr. Schroeder:

Thank you for your letter of March 26, 1991 regarding proposed recycling sites for Industrial Sites.

I have referred your letter to the Environmental Protection Committee. The Chairman is Alderman J.J. Keryluk. I am sure you will hear from the committee in due course.

Yours sincerely,

A handwritten signature in cursive script, appearing to read "L.M. Traboulay".

Mayor L.M. Traboulay

cc: Alderman J.J. Keryluk
Alderman R.N. Talbot
Mr. Kip Gaudry, Dep. City Engineer

POOR RICHARD'S

Distributing Corp.

March 26th, 1991

Mayor and Council,
City of Port Coquitlam,
2272 McAllister Avenue
Port Coquitlam, B.C.
V3C 2A8



Re: Proposed Recycling Service
for Port Coquitlam Industrial Sites

Dear Sirs:

A neighbor of ours has made me aware that there is a proposed Recycling Program under discussion, that would see boxes or bins collected from Industrial Sites such as ours. We own a small multi-tenant type warehouse, at the site of the old Huntington Mill.

We would like to voice our objection to this idea, based on the following reasons:

- 1/ It is not practical. Industrial users are already directing recoverable waste through private firms that either pay for the salvage, or haul it at no charge to the business;
- 2/ Household waste, such as bottles, papers, cans, etc., is not usually present at Industrial sites, as it is at households;
- 3/ Our business would not use this service. We, like other businesses, have already made our own arrangements to remove re-cyclables;
- 4/ We don't like having a service that we don't want, forced upon us through automatic assessment.

I only heard of this proposal by accident. I hope it is not too late to have my opinion considered.

Sincerely,

Richard Schroeder

A handwritten signature in black ink, appearing to read "Richard Schroeder".

P.S. ... My compliments to the City's Garbage Truck operation. They do a great job, and you can set your watch by their pick-up times.

RS/jml



Igor Zahynacz
File: Council Minutes

MINUTES OF A MEETING OF COUNCIL HELD ON WEDNESDAY, MAY 23, 1991 AT 5:00 P.M. IN THE HERITAGE ROOM, 3RD FLOOR, CITY HALL

IN ATTENDANCE: His Worship Mayor Len Traboulay, Aldermen Gates, Gordon, Keryluk, Talbot, Thompson and Wright

STAFF: City Administrator B.R. Kirk, City Engineer I. Zahynacz and Deputy City Engineer, K. Gaudry

PURPOSE OF MEETING:

The purpose was to review the Government's proposal to dump industrial fill on George Treit lands located south of Dominion Avenue at Ottawa Street.

After lengthy discussion, it was moved:

"THAT the the City Administrator advise Mr. G. Treit that Council would be *very distressed* if he were to agree to the Ministry of Lands and Parks' proposal to dump industrial fill on his property located south of Dominion Avenue at Ottawa Street in the City of Port Coquitlam."

CARRIED UNANIMOUSLY

ADJOURNMENT:

There being no further business the meeting adjourned at 6:15 p.m.

PLEASE NOTE THAT THE CITY ADMINISTRATOR HAS CONTACTED MR. G. TREIT TO ADVISE HIM OF COUNCIL'S MEETING.

CITY OF PORT COQUITLAM		
ENGINEERING DEPARTMENT		
MAY 23 1991		
FILE # _____		
TO	PERSON	DATE



Province of
British Columbia

Ministry of
Crown Lands

Lower Mainland Region
Suite 401, 4603 Kingsway
Burnaby
British Columbia
V5H 4M4
Telephone: (604) 660-5500
Rapidcom: 660-5538

City of Port Coquitlam
City Hall
2580 Shaughnessy
Port Coquitlam
V3C 2A8

May 15, 1991

Attention: Mr. Brian Kirk
City Administrator

Dear Brian;

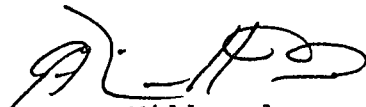
Further to our phone conversation, this is to advise that the Province will be dumping industrial fill on George Treit Lands located off Dominion Avenue.

Approximately 40,000 tonnes of material are being transported to the site of which 5,000 to 7,000 tonnes will be bio-remediated. Testing will be done on the soils subject to bio-remediation and a certificate issued by the Ministry of Environment stating that the material is acceptable for industrial or commercial use. Please note there is no special waste contained in the soils.

The Province is preparing a press release for the media and your office will receive a copy prior to its release.

Thank you for keeping council informed on this matter and if you have any further questions please do not hesitate to call.

Yours truly,


George Millward
Agent for the Ministry
of Lands and Parks

GM/ks

cc: Mr. R. H. Roberts
Ministry of Lands and Parks
Lower Mainland Region

MAYOR
COPIES: *ALDERMEN*
E. ZAHNACZ
K. GAUGRY

R.A. FREEMAN
A. GRIGGIE
C. FELIP

CITY OF PORT COQUITLAM		
ENGINEERING DEPT.		
MAY 17 1991		
FILE # _____		
TO	FROM	DATE

Province of British Columbia
Ministry of Crown Lands

**ANALYTICAL RESULTS AND SELECTION
OF REMEDIAL OPTIONS FOR
LOTS 201 AND 202
WESTWOOD PLATEAU
COQUITLAM, BRITISH COLUMBIA**

FINAL REPORT



KLOHN LEONOFF
CONSULTING ENGINEERS

PB 5242 03

NOVEMBER 1990

DRAFT**MINISTRY OF LANDS and PARKS
1991:011**

May 17/91

REMEDIATION OF CONTAMINATED WESTWOOD SOILS PROCEEDS

Victoria — Plans for the remediation of contaminated soils on the Westwood Plateau in Coquitlam were announced today by Lands and Parks Minister Dave Parker.

The contaminated material has been stored at a site described as lots 201 and 202 on the Westwood Plateau, at the intersection of Pathan Avenue and Pipeline Road in Coquitlam, since it was dumped in the mid-1980s. At that time the property was owned by the Province, but was subsequently sold for residential development to Wesbild Enterprises of Vancouver in May 1989. As a condition of the sale the Province agreed to remediate any soils on the site believed to be contaminated. Contamination is common when the soils have originated from industrial properties.

Since the sale of the property the province has undertaken a series of studies to determine the type and quantities of contaminated material, and to determine an environmentally safe and acceptable plan for remediating the site.

The Westwood site consists of a gravel pit and three waste piles. Studies determined that one of the waste piles contained some contaminated materials. The Ministry of Environment classifies waste soils in four categories. Level A material is clean soil with no detectable limits of contamination, Level A to B material is acceptable for residential/recreational development, Level B to C material is acceptable for commercial/industrial development and materials above level C require remedial measures to bring the material within acceptable limits. These contaminant concentration limits address both human health and environmental impacts. The Ministry also categorizes materials which are particularly hazardous as 'special waste'.

(MORE)

- 2 -

A comprehensive study of the site by Kiohn Leonoff, an independent consultant working in conjunction with the Ministry of Environment, determined that one of the waste piles contained soil materials that ranged from Level A to above Level C, and that there were no special wastes on the site.

Approximately 75 per cent of the 100,000 cubic metre pile was concluded to be free of contaminants. Materials measuring between Level B to C are estimated at 10 - 15,000 cubic metres, and materials measuring above Level C are estimated at between 5 - 10,000 cubic metres. Uncontaminated materials will remain on the Westwood site.

"Before the end of May we will begin moving, by truck, approximately 35,000 cubic metres of contaminated soils from the Westwood site to a vacant 13.5 hectare site located in an industrial reserve at the intersection of Dominion Avenue and Ottawa Street in Port Coquitlam," said Parker.

The movement of materials will take approximately three weeks. Contaminated material will be spread over a small controlled and secure area of the receiving site, and will undergo bio-remediation, an enhanced natural process, that will over a short time bring the material within acceptable levels for industrial and commercial development.

The Port Coquitlam site is part of a larger 110-hectare site that has been set aside by the District of Port Coquitlam in its Official Community Plan as an industrial reserve. The location of this material on the Port Coquitlam site poses no threat to surrounding residents or activities. The remediation site will be secured at all times and accessible only to individuals trained in the handling of contaminated materials. The principal contaminant identified in the studies are Polycyclic Aromatic Hydrocarbons (PAHs), with the principal elements being coal tar products and naphthalene. These contaminants are common in industrial site waste and none have been detected in concentrations that would represent any serious immediate danger.

"During the remediation process both sites and the transport of materials will be closely monitored by Kiohn Leonoff, Consulting Engineers on behalf of the Province," said Parker.

(MORE)

- 3 -

" We are moving materials at this time to accommodate the needs of the District of Coquitlam which is hosting the B.C. Summer Games. The District can be assured that the movement of materials will be complete well before the commencement of the games," said Parker. "I also want the residents of Coquitlam and Port Coquitlam to know that all reasonable precautions will be taken to ensure that contaminated materials will be contained and handled in a safe and secure manner during this process."

- 30 -

For information contact:

Dick Roberts
Regional Director, Lower Mainland
Lands Operations Division
Ministry of Lands and Parks
Ph: 650-5500

John / Ren

- ① I spoke to this fellow 4pm Friday May 17/91
& he advised that no hauling would ~~not~~ take
place this week end.
- ② Attached is the front page of a 200 page
report I received on this material. I'll
review it over the week end &
respond on it on Tuesday.

Kip



Fisheries
and Oceans

Pêches
et Océans

Al Gust

610 Derwent Way
Annacis Island
New Westminster, B.C.
Canada V3L 5B3

24 April 1991

Your file *Votre référence*

Our file *Notre référence*

Doug Neden, P.Eng.
Water Quality Engineer
Greater Vancouver Regional District
4330 Kingsway
Burnaby, B.C.
V5H 4G8

Dear Mr. Neden

Re: PROPOSED CHLORAMINATION OF MUNICIPAL DRINKING WATER

EARP REVIEW

The purpose of this letter is to inform you that the Department of Fisheries and Oceans (DFO) is initiating a review under the Environmental Assessment Review Process (EARP) as outlined in the 1984 Environmental Assessment and Review Process Guidelines Order (attached). Originally, the EARP was intended to be applied for federal projects. However, as a result of several fairly recent court decisions, our department must now review all projects which have a potential impact on the fisheries resource. The principle legislative tool for this is the *Fisheries Act*. Section 36 of this act prohibits the release of a deleterious substance. On at least two recent occasions in Surrey, fish kills have resulted from the discharge of chloraminated drinking water. A lower court has established that chloraminated drinking water is a deleterious substance.

In addition to section 36 of the *Fisheries Act*, section 37 of this act empowers our department to request "plans and specifications" for any project that may have an impact on fisheries resources. This section allows our department to initiate project reviews. In this case, both of these sections make DFO the "lead initiating agency" with respect to the EARP guidelines order. Accordingly, this letter serves as our request for "plans and specifications" relating to the GVWD Drinking Water Improvement Plan. The submission being requested will serve as the "Initial Environmental Evaluation" (IEE).

To my knowledge, this is the first time such a project has undergone a review of this sort. We hope to be able to work cooperatively with your agency to carry out an efficient review of this project. I have attached a list of required information that should be addressed in your IEE. We would appreciate the opportunity to review the draft table of contents for this IEE so that we may comment on this prior to initiating the work. This

Canada

Doug Needen, GVRD

April 24, 1991

Drinking Water Improvement Plan

Page 2

request is made with the intention of preventing any unnecessary delays and/or costs.

It is unclear at this time whether the GVWD or its member municipalities should be the "proponent" for this project. I would appreciate clarification on this matter and confirmation that GVWD will be acting as the proponent for the Drinking Water Quality Improvement Plan.

I am the DFO contact for this review and will be glad to discuss any aspects of the review with you as well as review your draft IEE before it is made public. Please contact me at 666-8990 should you wish to discuss the project. Alain David with Environment Canada will be cooperating with DFO in the review of your submission. He can be reached at 666-2699.

Sincerely,



Lee Niki
Water Quality Biologist
Habitat Management Unit
Fraser River, N.B.C. & Y. Div.

cc. D. Paterson, DFO New West
A. David, Environmental Protection, North Vancouver
John Millen, Inland Waters, North Vancouver
GVRD Member Municipalities

attach.

INFORMATION REQUIREMENTS
FOR GVRD DRINKING WATER QUALITY IMPROVEMENT PLAN

The proponent should prepare an IEE containing the following information:

- A description of the intended project.
- The potential environmental impact of this project, particularly as it relates to the fisheries resource. This should consider not only acutely lethal but also sublethal impacts of this project on any life stage of fish and their food organisms.
- Any mitigation measures that could realistically be used to mitigate the adverse impacts of this project.
- A description of the water distribution system. This should include not only GVRD distribution pipes but also any water mains belonging to member municipalities. This description should consider the age of the pipes and the material from which they are constructed.
- A description of the problem and what means, other than chloramine, can be used to protect public health.
- Any additional information which is pertinent to this project.

Copies of this IEE should be made available to the public for their viewing. In order to facilitate this, a copy of the IEE should be deposited in all public libraries within the areas receiving GVRD water.

WATERSHED MANAGEMENT EVALUATION AND POLICY REVIEW

EXECUTIVE SUMMARY

JANUARY 1991

GREATER VANCOUVER WATER DISTRICT

PREPARED BY:

ECONOMIC AND ENGINEERING SERVICES, INC.

IN COOPERATION WITH:

TERRASOL
UNIVERSITY OF BRITISH COLUMBIA - FORESTRY DEPARTMENT
JENSAN CONSULTING
ENVIROWEST CONSULTANTS, LTD.
B.C. FOREST SERVICE
CANADIAN WILDLIFE SERVICE

Executive Summary

Introduction

The Greater Vancouver Water District (GVWD) began a comprehensive assessment of its watershed policies and management programs in March of 1989. Since the last independent review of watershed management was conducted in the mid-1960s and watershed management philosophies have changed in the past two decades, the GVWD appointed a panel of technical experts to review current practices and policies and prepare a report on its findings. A description of the Panel participants is contained in Appendix B.

The review included assessments of all aspects of the watershed program including administration, forest and vegetation cover management, access development, watershed control and security, wildlife, fisheries, education, recreation, and special uses such as rights of way. However, since watershed control; access development within the watersheds; and forest and vegetation cover management were the primary concerns, the majority of this summary report deals with these three issues. To facilitate review, a glossary of terms is provided at the end of the report.

The GVWD manages three watersheds — Capilano, Seymour and Coquitlam.

The GVWD is responsible for controlling activities in the Capilano, Seymour and Coquitlam watersheds for the purpose of supplying drinking water to the residents of the Lower Mainland. The Watershed Management Program is the primary protective barrier available to the GVWD to maintain high water quality at the sources and is considered an integral part of the water supply system. The system map at the end of this Executive Summary identifies the locations of the watersheds relative to the Greater Vancouver area.

Overview of the Current Watershed Management Program

Restrictive GVWD policies protect water quality.

The current watershed control program restricts access by the general public to the watershed catchments. Access is controlled by a security staff and is granted to personnel on official business who have received prior clearance. Strict sanitation requirements are enforced throughout the watersheds to protect water quality.

Road development to enable access into remote areas of the watersheds has been actively pursued since 1961. The primary purpose of constructing roads has been to provide access for fire fighting, watershed maintenance and timber harvesting.

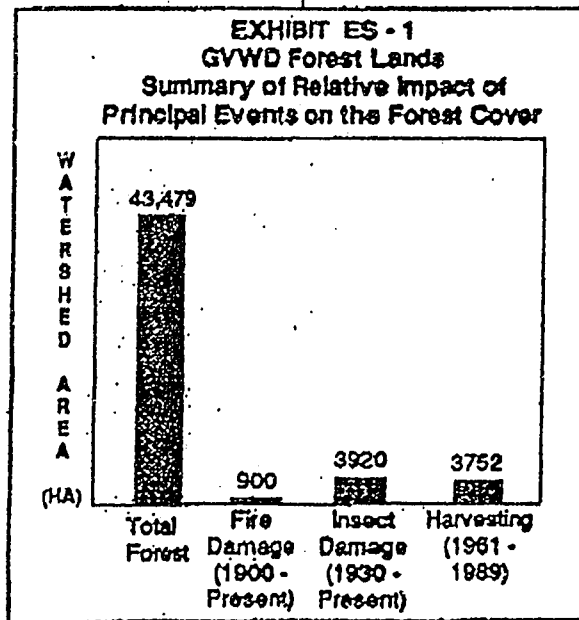
EXECUTIVE SUMMARY

The forest cover in the watersheds is considered to be generally mature or over-mature timber, that is, timber more subject to natural decline from insect attack, disease and fire than younger forests. The GVWD's ongoing program is aimed at developing a more diverse, multi-aged forest cover that is healthier and more resistant to this natural aging process. Two-thirds of the land base is currently in reserve, however timber from the remaining one-third of the watersheds is being harvested on a sustained yield basis. To date, approximately one-half of the harvesting has been conducted to salvage damaged or diseased timber. Revenue realized from the harvests is being re-invested in the watershed for improved road access, protection of unstable areas, and silvicultural activities, including reforestation and stand management.

Several processes have shaped the watersheds' landscapes.

Natural processes — including forest succession, erosion, and insect infestations — as well as catastrophic events such as fire have combined to shape the watersheds' landscapes. Although the GVWD secured control of activities in the watersheds in the 1920s, it did not begin active management of the forests until the early 1960s. In fact, the current forest management program is the direct result of several related developments at that time, including:

- A major infestation of the balsam wooly aphid that occurred in the late 1950s and early 1960s and damaged 2300 ha of forest;
- The recognition of the need to clear dead trees and snags from the watershed to reduce the risk of fire;
- A 1954 consulting firm's report recommending development of an active forest management plan; and
- Completion in 1967 of a legal agreement between the GVWD and the Ministry of Lands, Forests and Water Resources termed the "Amending Indenture."



The Amending Indenture required sustained yield management of the timber in the watersheds but at the same time insisted that water supply protection, not timber supply, be the highest priority of the watershed management program.

Findings of the Technical Panel

Review Procedures:

The Panel reviewed available information and made site inspections, but did not conduct extensive field investigations as part of this study as this was

EXECUTIVE SUMMARY

beyond the scope of this evaluation process. The Panel found that documentation relating to short term operations, such as timber harvesting and road building, was generally adequate. However, there was a lack of well defined information relating to long term strategies and planning. Consequently, the Panel found it necessary to obtain this information through interviews with staff and various consultant reports.

Current Strategies:

The Panel found that the GVWD's program in regard to control and security of the watersheds is excellent — one of the best in North America — and should be continued. Concerning access development, the Panel also found that the long term benefits afforded by road access to remote areas within the watersheds far outweigh the short term drawback of potential increased erosion. Watershed roads are required by the Amending Indenture and provide a major benefit by improving fire fighting capability.

Concerning management of forest and vegetation cover, there are only two basic strategies that the Panel considered viable in a municipal watershed — a "reactive" approach that responds to natural processes and disasters, or a "pro-active" approach that attempts to anticipate these processes and develops strategies to minimize these risks. One additional school of thought that was considered suggests a "hands off" approach that allows natural processes to proceed without human intervention. That approach would allow for the eventual decline of forest health, increasing the risk of a catastrophic event. A "hands off" approach is not considered a preferred option for municipal watersheds as it would eventually lead to a degradation of water quality.

History tells us "hands
off" management
approach invites
problems.

Both reactive and pro-active management approaches would require harvesting of some timber. At a minimum, diseased, insect-infested and fire-damaged trees would need to be removed and seedlings replanted. After weighing the benefits and drawbacks of the two strategies, the Panel unanimously determined that the long term benefits of a conservative pro-active approach outweigh the potential short term drawbacks. The basis for this finding lies in the historical problems encountered when the GVWD used the reactive approach between 1936 to 1961, and the realization that natural processes can be anticipated with some degree of certainty and that measures can be implemented to minimize risks accordingly.

The Panel's findings are summarized below:

Policies :

- The stipulations in the Amending Indenture in regard to the administrative structure and requirements for the allowable annual cuts (AAC) need clarification. Staff are faced with the potential dilemma of weighing water quality risks against timber harvest and the need to meet an AAC. Although it does not appear to have

EXECUTIVE SUMMARY

Panel finds that the administrative structure and funding procedures create a dilemma for staff.

happened to date, this decision-making process could possibly compromise water quality in the long run.

- Changes in the methods of funding the Watershed Management Program are needed so that watershed programs are not solely dependent on revenue from timber harvesting. This total dependency potentially weighs a risk to water quality against budgetary considerations and is not consistent with the spirit of the water supply objective. In addition, necessary road maintenance or erosion control projects, which need to occur in any event, could go unfunded because of a lower level of timber harvest or a downturn in timber markets.
- The GVWD needs to better define the long term goals of its mandate. Policies should be clearly outlined in terms of forest stand and vegetation management goals. The current management program focuses on only one-third of the land base, with no defined management goals for the remaining two-thirds that are held in reserve.

Planning:

- The Panel found that long-term vegetation management planning is not sufficiently developed and that GVWD does not have enough information to provide a basis for long term forest stability planning. Current planning horizons range from one to 20 years, while long range plans should consider several decades at a minimum and preferably 200 years for such forests.
- The Panel found that a long term road development plan is also needed. The GVWD should lay out the ultimate road network to provide access for the protection of forests and vegetation, land and water resources.
- The Panel also found that both the vegetation and road plans need to be based on a detailed ecological inventory of the watersheds.

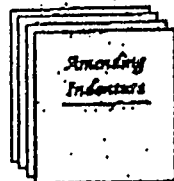
Current Operations and Monitoring:

- The Panel found that the GVWD's day-to-day forest programs are generally well managed, with staff employing appropriate techniques for the harvesting and reforestation of timber. The panel supported the GVWD's use of a unique index — the Aqua-Terra Classification System (ATCS) — to identify unstable slopes so that timber harvest and road building operations can be confined to stable terrain.
- The Panel found that timber harvesting in the watershed — including the current patch clear-cut system — does not appear to create a water quality problem. Most of the water quality problems result from natural causes such as mass soil movements (slides) or debris torrents accompanying heavy rains.
- The Panel found that the roads in the watershed were of a high quality, and construction procedures were consistent with general good practice.

EXECUTIVE SUMMARY

Panel recommends a pro-active strategy and better long term planning.

Future harvesting should be based on forest cover goals.



Amending Indenture needs revision.

However, formal sediment control plans for construction and maintenance should be developed.

- Current programs for monitoring the condition and health of forest and vegetation cover are not adequate and should be significantly expanded. Monitoring currently consists of periodic spot checks, which do not form an adequate basis for management decisions.
- Current programs for monitoring water quality are not adequate and should be significantly expanded to document conditions at key upstream sources and sub-drainages. An "early warning" monitoring system should be implemented, to assist in developing erosion control measures and to provide reliable forecasts of turbidity events.

Recommendations of the Panel

Recommended Long Term Strategies:

The Panel suggests the following goals for the management of the watersheds.

- Watershed management should strive to balance all resources to minimize both short and long term risks to drinking water quality.
- All watershed lands should be managed based on their:
 - biogeoclimatic classifications,
 - soil stability, and
 - potential impact on drinking water quality.
- Pro-active management strategies should be designed to increase the forest's stability, thus enhancing the forest's resistance to insects, disease, fire and erosion.

To assist in implementing these goals, the Panel recommends the following:

- (1) **Watershed Control:** Retain present stringent watershed control policies and security programs.
- (2) **Access Development:** Plan, construct and maintain a stable road system throughout the watersheds according to best management practices.
- (3) **Forest and Vegetation Cover:** Develop forest and vegetation management plans that will ensure a stable forest and landscape in order to meet the primary water supply objective. Where feasible, GVWD should develop a stable, multi-aged forest cover containing a mosaic of even-aged stands with a diversity of tree species. The focus should be on increasing resistance of the forest and lands to the effects of disease, insects, fire and erosion.

Suggested Policy Reviews:

- (1) **Amending Indenture and Administrative Structure:** Pursue negotiations with the Ministry of Forests to revise terms in the Amending Indenture and administrative structure in order to give the GVWD more flexibility

EXECUTIVE SUMMARY

Long range plans are needed.

Panel recommends ecological inventory of GVWD lands.

in attaining its primary water supply objective.

- (2) **Funding of Watershed Programs:** Diversify funding sources for watershed management programs beyond the current total reliance on timber revenues. This will eliminate the potential dilemma faced by staff who may feel they need to harvest timber to balance the budget and to maintain the other watershed programs.
- (3) **Periodic Review:** Establish an independent review panel to assess the watershed management program every five years to ensure that goals are being met.

Recommended Long Term Planning:

- (1) **Long Term Vegetation and Land Management Plan:** Develop a long range (200-year) vegetation cover management program for all watershed lands. A study to develop this plan should clearly define how management programs will ensure a stable forest and landscape on all watershed lands to meet the primary water supply objective. Subjects to be included are:
 - Cumulative effects of natural processes and human impacts,
 - Analysis of vegetation composition projected over a 200-year time horizon,
 - Resource protection to include resistance to fire, insects and disease,
 - Silvicultural activities to enhance forest stability,
 - Old growth management strategy,
 - Riparian zone management strategy,
 - Erosion and sediment control plan,
 - Implementation of "best management" practices,
 - Refinement of monitoring programs.
- (2) **Long Term Road Plan:** The Panel recommends that GVWD develop a long term road and trail plan to facilitate water quality monitoring and surveillance, fire control and stand tending. The plan should lay out the ultimate road network based on multiple criteria to protect resources, recognizing that roads would be built gradually over the next two decades.

Recommended Short Term Operations and Monitoring Initiatives:

- (1) **Ecological Review:** Conduct a comprehensive ecological inventory of the entire watershed area, including an evaluation of forest stand health and stability as well as site specific soil stability. This type of data is needed to develop the long term vegetation management plan referred to above.
- (2) **Water Quality Monitoring:** Establish a comprehensive water quality monitoring program to document the conditions of major streams and sub-drainages to focus erosion control efforts and provide an early warning system for turbidity events.
- (3) **Erosion Control Projects:** Modify current sediment and erosion

EXECUTIVE SUMMARY

*Three steps for
implementing
the Panel's
recommendations.*

control programs from a reactive mode to a pro-active approach. This will enable GVWD to reduce erosion further and to upgrade areas that present recurrent stability problems.

- (4) Ongoing Research: Support research related to watershed management to develop better monitoring techniques and watershed practices.

Implementation Strategy:

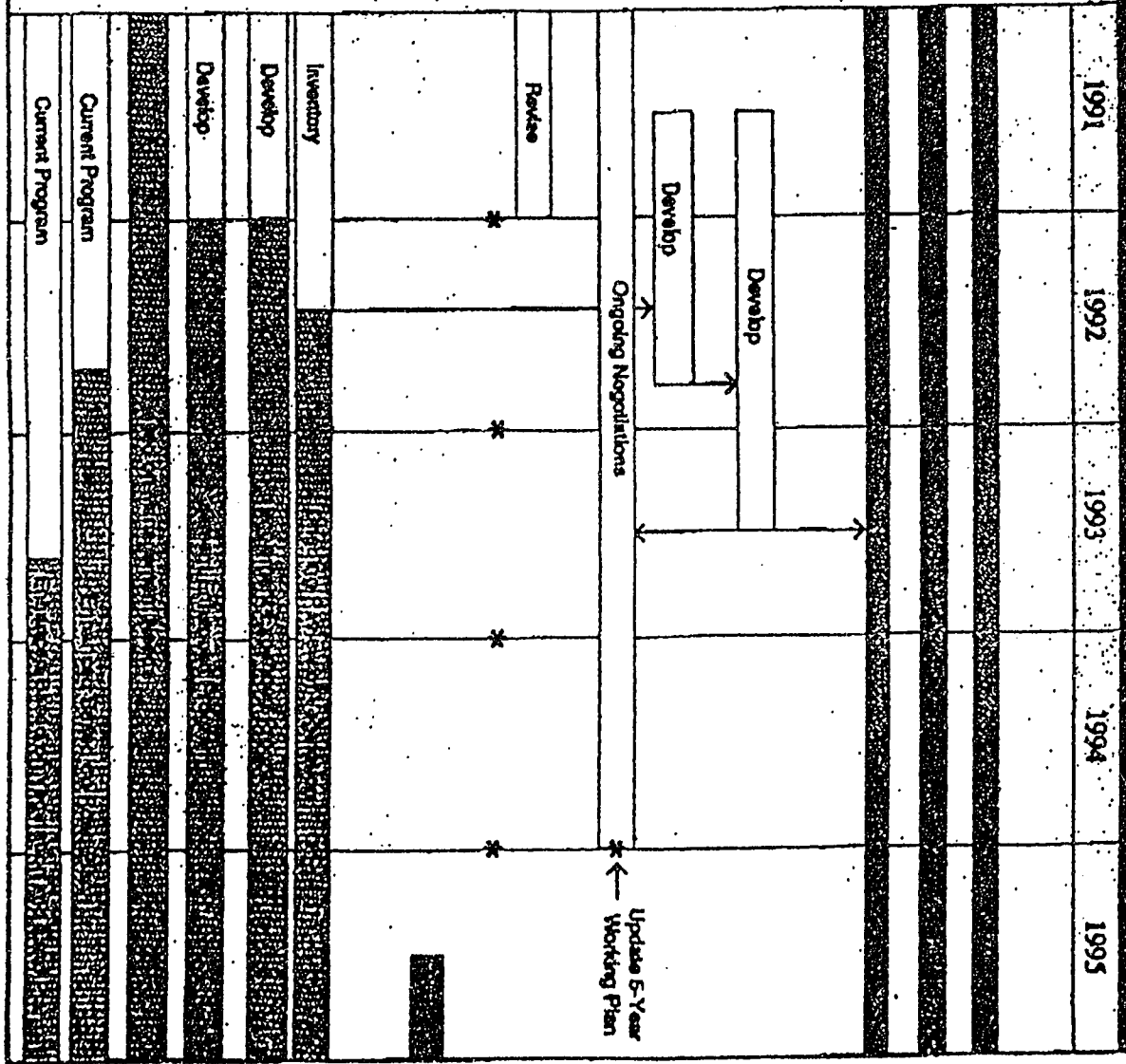
Implementation requires the integration of planning efforts and field studies. Field studies, especially the comprehensive ecological inventory, should begin immediately because they will form the basis for long term studies. It is also advisable to initiate contact with the Ministry of Forests on issues related to the Amending Indenture and administration, since modifications of the agreement may require lengthy negotiations and procedural changes. The attached implementation schedule (ES-2) depicts how the field studies and planning efforts could fit together over the next five years.

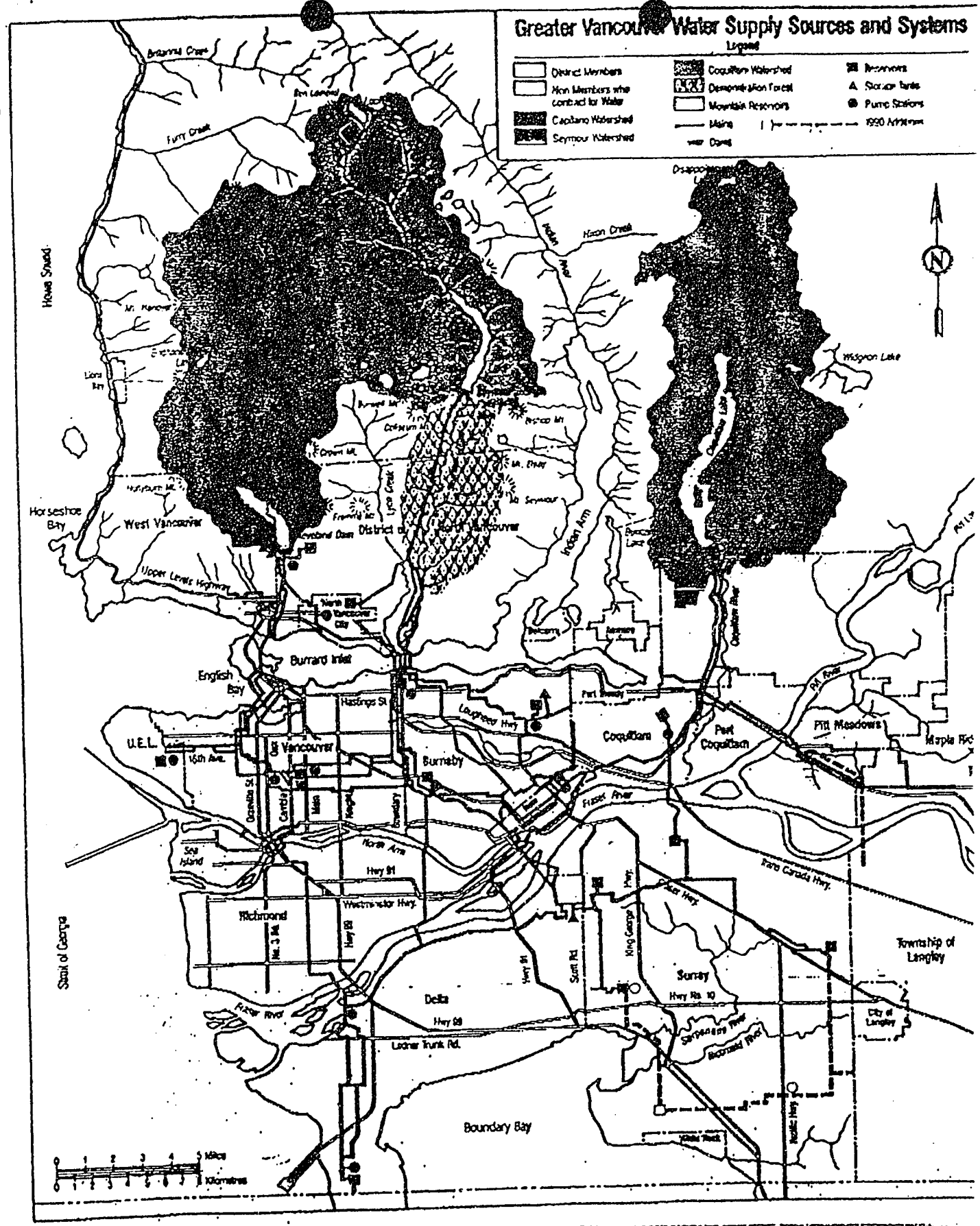
To begin the implementation process, the GVWD should:

- (1) Adopt the recommended pro-active management strategy described herein, which the Panel believes will best preserve water quality while minimizing the risks associated with fire, erosion, and forest insects and disease.
- (2) Revise internal funding procedures for the watershed management program and pursue negotiations with the Ministry of Forests related to the administration to better reflect the water supply objective.
- (3) Initiate planning and the supporting field studies to provide definitive direction for the operations of the Watershed Management Division.

**Exhibit ES-2
 GWWD Watershed Management
 Proposed Implementation Plan**

	1991	1992	1993	1994	1995
Long-Term Strategies					
• Watershed Control					
• Access Development					
• Vegetation and Land Management					
Policy and Planning					
Long Term Vegetation and Land Management Plan					
Long Term Road Plan					
Amending Indenture and License Issues					
Accounting and Funding Issues					
Annual Watershed Reports					
Independent Review					
Operations and Monitoring					
Ecological Review					
Water Quality Monitoring					
Erosion Control Program					
Watershed Research					
Access Development					
Harvesting and Silvicultural Programs					





APPENDIX B

TECHNICAL WATERSHED REVIEW PANEL

The Watershed Panel was composed of eight technical specialists who met nineteen times during the course of the two year study to present findings and review results presented by other members. Three additional technical specialists also reviewed parts of the Panel's findings. The specialists were selected based on their experience and background in conducting reviews of similar watershed cases or because of their specific knowledge of the GVWD resources. The background and qualifications of these individuals are described below.

Gregory Kirmeyer, P.E., Project Manager and Water Quality Specialist, Economic and Engineering Services, Inc. Mr. Kirmeyer managed this study. He has a Master's Degree in Environmental Engineering and has 20 years of experience in the fields of water quality and water resources. He has specialized in drinking water quality from unfiltered municipal water sources similar to GVWD's. Mr. Kirmeyer has been instrumental in developing watershed management plans for Seattle Water Department, Tacoma Water Division, Bremerton Water Utility and the City of Everett.

Bill Carr, Ph.D., C.P.E.S.C., Forest Soils Specialist, Terrasol. Dr. Carr has a Doctorate of Philosophy Degree in Forestry and has 12 years of forestry related experience. He has specialized in forest soils and erosion control and has worked extensively throughout British Columbia. Dr. Carr helped to develop the soil erosion guidelines and procedures manual currently used by the Ministry of Forestry.

Peter Sanders, R.P.F., Silviculture Specialist, Jensen Consulting. Mr. Sanders holds a Master's Degree in Forestry and has over 30 years of experience in the fields of forestry and silviculture. He currently heads silviculture operations at the U.B.C. Research Forest in Maple Ridge and has extensive knowledge of the GVWD watershed resources. Mr. Sanders has conducted several research studies within the GVWD watersheds and has documented silvicultural prescriptions for the watersheds in the past.

Doug Golding, Ph.D., R.P.F., Forest Hydrology Specialist, U.B.C. Faculty of Forestry. Dr. Golding has a Doctorate of Philosophy Degree in Forestry and is currently an Associate Professor with the University of British Columbia Faculty of Forestry. He has 37 years of experience in the fields of forestry and forest hydrology. Dr. Golding has conducted extensive research on the impacts of timber harvesting on forest hydrology, including over ten years of work within the GVWD watersheds.

Dale Seip, Ph.D., Wildlife Specialist, B.C. Forest Service. Dr. Seip holds a Ph.D. in Forestry and has 10 years of experience in studying forestry/wildlife interactions. He currently is a wildlife habitat ecologist with the B.C. Forest Service and an adjunct professor of Forestry at U.B.C. Dr. Seip has studied the effects of forest management practices on wildlife species including mountain sheep, caribou and moose. He currently is studying wildlife diversity in coastal forests, including study areas in the GVWD watersheds.

Jean Pierre Savard, Ph.D., Wildlife Specialist, Canadian Wildlife Service. Dr. Savard has a Doctorate of Philosophy degree in Zoology and has over 14 years of experience in the fields of ornithology and ecology. He is currently a research scientist for the Canadian Wildlife Service and carries out research on forest and grassland ecosystems. Current research include the comparison of bird populations of old growth and second growth forests and a study of the breeding distribution of Marbled Murrelet and Long-billed Curlew.

Ian Whyte, Fisheries Specialist, ECL Envirowest Consultants. Mr. Whyte has a Bachelor's Degree in Science and has 10 years of experience in aquatic resources management. He has performed numerous fisheries investigations throughout the Pacific Northwest, and recently co-authored a manual on fish habitat enhancement techniques for the Department of Fisheries and Oceans.

Lee Odell, F.I.T., Water Quality Specialist, Economic and Engineering Services, Inc. Mr. Odell has a Master's Degree in Environmental Engineering and has 6 years of experience in water quality and water treatment. He has supervised operations at a water treatment plant and has conducted numerous water treatment studies including studies on disinfection and disinfection by-products.

Other Reviewers

J.P. (Harrish) Kimmins. Department of Forest Science, Faculty of Forestry, University of British Columbia.

Karel Klínka, Ph.D. RFP Department of Forest Sciences, Faculty of Forestry, University of British Columbia.

Robert Laird, M.Sc., P.Ag. Consultant in Resource Management - Science.

THE CORPORATION OF THE
CITY OF PORT COQUITLAM

MEMORANDUM

TO: Kip Gaudry, P.Eng.
Deputy Engineer

DATE: May 23, 1991

FROM: Danielle Pagé
Administration

RE: Watershed Management (Correspondence from G. Lawson)

His Worship Mayor Traboulay has asked that the attached letter concerning watershed management be referred to the Environmental Protection Committee, for reply.

Please provide the Administration Department with a copy.

Danielle Pagé

Att.

CITY OF PORT COQUITLAM		
ENGINEERING DEPT.		
MAY 24 1991		
FILE # _____		
TO	FROM	DATE
<i>XG</i>	<i>IZ</i>	<i>Meup?</i>

May 3, 1991

City of Port Coquitlam
City Hall, 2580 Shaughnessy Street
PORT COQUITLAM, B.C.
V3C 2A8

Attention: Mayor Leonard M. Traboulay

Dear Mayor Traboulay

RE: Timber Harvesting on the Greater Vancouver
Water Districts Lands.

I am writing this letter to express my opinion on the fact that timber is being harvested from lands that supply water to the Greater Vancouver Regional District. Lately there has been a large amount of negative media coverage of this timber harvesting. Some preservationist groups, especially the Western Canada Wilderness Committee, are advocating a halt to the timber harvesting. I do not believe that there is any justification for this.

I have been fortunate enough to have, twice, toured the Seymour Watershed to see the forest harvesting and road construction practices first hand. On both trips I have been very favourably impressed with what I saw.

As a Registered Professional Forester who, over the past 15 years, has worked for a number of forest companies throughout B.C. I think I can safely say that I have seen the entire spectrum of forestry practices, from good to bad. The practices in Seymour Watershed are exemplary. The forest management practices are, in my opinion, carried out with a clear understanding that the first and foremost goal of these lands is producing high quality drinking water.

The crux of the argument is whether harvesting is impairing or improving the quality of the drinking water produced. A panel of independent consultants in the draft Watershed Management Evaluation and Policy Review report produced in 1988 concluded the harvesting practices have not had a major impact on water quality and furthermore, a pro-activity level of management will provide the lowest overall risk to water quality.

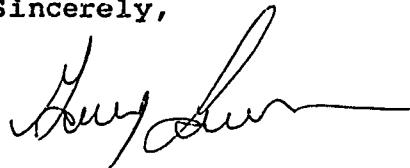
Timber Harvesting GVRD Lands /...2

It is my opinion, that the call to stop timber harvesting on these lands is coming from a few special interest groups who are attempting to further their own political agendas.

After all the controversy about this timber harvesting and its effects on the water quality, I was very interested to see, printed on the front page of the Province newspaper, that Vancouver had won a contest for having high quality drinking water. I was amused when I read the Western Canadian Wilderness Committees attempts to downplay this.

I hope you will support the continuation of the sound forest management practices that are being carried out by the GVRD.

Sincerely,



Gary Lawson, R.P.F.
GL:gh

P.O. Box 306
Sandspit, B.C.
VOT 1T0



OUR FILE

THE CORPORATION OF THE CITY OF PORT COQUITLAM

2580 SHAUGHNESSY STREET
PORT COQUITLAM, B.C.
V3C 2A8

TELEPHONE: 941-5411
FAX: 464-3524

May 29, 1991

Charlotte Sproule

Dear Ms. Sproule:

RE: WATERSHED MANAGEMENT

The Environmental Protection Committee of the City of Port Coquitlam would like to thank you for your recent correspondence and information on the proposed Watershed Management Plan of the Greater Vancouver Water District. The Committee was most pleased to receive the technical information that you and other letter-writers provided.

The information and opinions provided will be used with all other available information to make the appropriate decision for the future Watershed Management.

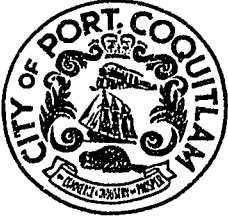
Yours truly,

A handwritten signature in black ink, appearing to read "C.F. Gaudry".

C.F. (Kip) Gaudry, P. Eng.,
Deputy City Engineer

CFG:ck

cc: Mayor Traboulay
Bryan Kirk, City Administrator
Alderman Keryluk
Alderman Talbot



OUR FILE

THE CORPORATION OF THE CITY OF PORT COQUITLAM

2580 SHAUGHNESSY STREET
PORT COQUITLAM, B.C.
V3C 2A8

TELEPHONE: 941-5411
FAX: 464-3524

May 29, 1991

Dwight Yochim

Dear Sir:

RE: WATERSHED MANAGEMENT

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Yours truly,

A handwritten signature in black ink, appearing to read "C.F. (Kip) Gaudry".

C.F. (Kip) Gaudry, P. Eng.,
Deputy City Engineer

CFG:ck

cc: Mayor Traboulay
Bryan Kirk, City Administrator
Alderman Keryluk
Alderman Talbot



OUR FILE

THE CORPORATION OF THE CITY OF PORT COQUITLAM

2580 SHAUGHNESSY STREET
PORT COQUITLAM, B.C.
V3C 2A8

TELEPHONE: 941-5411
FAX: 464-3524

May 29, 1991

David Sproule

Dear Sir:

RE: WATERSHED MANAGEMENT

The Environmental Protection Committee of the City of Port Coquitlam would like to thank you for your recent correspondence and information on the proposed Watershed Management Plan of the Greater Vancouver Water District. The Committee was most pleased to receive the technical information that you and other letter-writers provided.

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Yours truly,

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C.F. (Kip) Gaudry, P. Eng.,
Deputy City Engineer

CFG:ck

cc: Mayor Traboulay
Bryan Kirk, City Administrator
Alderman Keryluk
Alderman Talbot



OUR FILE

THE CORPORATION OF THE CITY OF PORT COQUITLAM

2580 SHAUGHNESSY STREET
PORT COQUITLAM, B.C.
V3C 2A8

TELEPHONE: 941-5411
FAX: 464-3524

May 29, 1991

Lisa Wong

Dear Sir:

RE: WATERSHED MANAGEMENT

The Environmental Protection Committee of the City of Port Coquitlam would like to thank you for your recent correspondence and information on the proposed Watershed Management Plan of the Greater Vancouver Water District. The Committee was most pleased to receive the technical information that you and other letter-writers provided.

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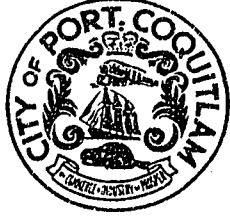
Yours truly,

A handwritten signature in black ink, appearing to read "C.F. Gaudry".

C.F. (Kip) Gaudry, P. Eng.,
Deputy City Engineer

CFG:ck

cc: Mayor Traboulay
Bryan Kirk, City Administrator
Alderman Keryluk
Alderman Talbot



OUR FILE

THE CORPORATION OF THE CITY OF PORT COQUITLAM

2580 SHAUGHNESSY STREET
PORT COQUITLAM, B.C.
V3C 2A8

TELEPHONE: 941-5411
FAX: 464-3524

June 21, 1991

MR. GARY LAWSON
P.O. Box 306
Sandspit, BC
V0T 1T0

Dear Sir:

RE: Watershed Management

The Environmental Protection Committee of the City of Port Coquitlam would like to thank you for your recent correspondence and information on the proposed Watershed Management Plan of the Greater Vancouver Water District. The Committee was most pleased to receive the technical information that you and other letter-writers provided.

The information and opinions provided will be used with all other available information to make the appropriate decision for the future Watershed Management.

Yours truly,

A handwritten signature in black ink, appearing to read "C.F. Gaudry".

C.F. (Kip) Gaudry, P. Eng.
Deputy City Engineer

CFG:gc

cc: Mayor Trahoulay
Bryan Kir, City Administrator
Alderman Keryluk
Alderman Talbot



OUR FILE

THE CORPORATION OF THE CITY OF PORT COQUITLAM

2580 SHAUGHNESSY STREET
PORT COQUITLAM, B.C.
V3C 2A8

TELEPHONE: 941-5411
FAX: 464-3524

June 21, 1991

MR. MARK BEECROFT
P.O. Box 11
Sandspit, BC
V0T 1T0

Dear Sir:

RE: Watershed Management

The Environmental Protection Committee of the City of Port Coquitlam would like to thank you for your recent correspondence and information on the proposed Watershed Management Plan of the Greater Vancouver Water District. The Committee was most pleased to receive the technical information that you and other letter-writers provided.

The information and opinions provided will be used with all other available information to make the appropriate decision for the future Watershed Management.

Yours truly,

A handwritten signature in black ink, appearing to be "C.F. (Kip) Gaudry".

C.F. (Kip) Gaudry, P. Eng.
Deputy City Engineer

CFG:gc

cc: Mayor Traboulay
Bryan Kir, City Administrator
Alderman Keryluk
Alderman Talbot

THE CORPORATION OF THE
CITY OF PORT COQUITLAM

M E M O R A N D U M

TO: Kip Gaudry, P.Eng.
Deputy Engineer

DATE: May 23, 1991

FROM: Danielle Pagé
Administration

RE: Watershed Management (Correspondence from R.M. Beecroft)

His Worship Mayor Traboulay has asked that the attached letter concerning watershed management be referred to the Environmental Protection Committee, for reply.

Please provide the Administration Department with a copy.

Danielle Pagé

Att.

CITY OF PORT COQUITLAM		
ENGINEERING DEPT.		
MAY 24 1991		
FILE # _____		
TO	FROM	DATE

May 08, 1991

City of Port Coquitlam
City Hall, 2580 Shaughnessy Street
PORT COQUITLAM, B.C.
V3C 2A8

Attention: Mayor Leonard M. Traboulay

Dear: Mayor Traboulay

RE: Watershed Management Program for the G.V.W.D.

In November 1989, I attended a "Integrated Resource Planning" seminar and was given the opportunity to witness the forest management practices employed in the Seymour Watershed.

Ron Van Ord (of the G.V.R.D.), presented an overview of road construction methods and restrictions utilized within the watershed. These construction techniques (including drainage structure design, construction and location) are "environmentally speaking" the safest and most up to date in the forest industry.

As you may be aware, road construction is restricted to the dry weather periods. As well, the contingency plan for possible oil or fuel spills or any adverse environmental incident is well prepared and diligently employed.

Forest harvest planning recognizes that only a relatively small area of operable timber will be harvested over an extended rotation length of the stand. Furthermore, cutblock opening size is generally small, and the clearcuts are well distributed through the watershed. The forest harvesting practices utilize a number of different yarding systems best designed to minimize soil and site disturbance.

Immediate reforestation follows forest harvesting. The second growth stands are well established, healthy and are rapidly approaching hydrologic maturity. Forest harvesting and regeneration have produced a mosaic of age classes and forest cover types within the watershed. There are a number of silvicultural advantages of a more diverse, multi-aged forest stand. The resultant forest will be more resistant to major insect infestations, forest fires or simply, the effects of natural decline within an over mature forest stand.

More importantly, the primary objective of forest management practices in the Greater Vancouver watershed is to maintain the highest level of water quality possible. I believe this objective has been, and will continue to be achieved through diligent and careful road construction methods, proper forest planning and harvesting practices and most importantly through ecologically sound reforestation practices and tending of the second growth stands.

The G.V.W.D. Watershed Management Program has demonstrated a fine performance record and I ask for your support in maintaining the high level of water quality for the residents of Vancouver.

Sincerely,

A handwritten signature in cursive script, appearing to read "R. Mark Beecroft".

R. Mark Beecroft, R.P.F.
P.O. Box #11
Sandspit, B.C.
V0T 1T0

THE CORPORATION OF THE CITY OF PORT COQUITLAM

ENVIRONMENTAL PROTECTION COMMITTEE

MINUTES

A meeting of the Environmental Protection Committee was held in the Third Floor Meeting room, 2580 Shaughnessy Street, Port Coquitlam, on Tuesday, July 31, 1990 at 4:50 p.m.

In attendance were:

Alderman M. Wright, Chairman
Alderman J. Keryluk
D.G. Riecken, Deputy Engineer

ITEM I: CONFIRMATION OF MINUTES

That the Minutes of the Environmental Protection Committee Meeting held on Wednesday, July 4, 1990 be considered, read, and adopted.

Carried

ITEM II: SOIL DEPOSIT BYLAW

The Committee reviewed a summary of a survey which had been carried out with other municipalities in the Greater Vancouver Area with respect to fees charged, royalties levied, security deposits taken, etc. After some discussion the Committee directed that the following revisions be made to the draft bylaw prior to submitting the bylaw to Council In Committee for approval:

Clause 4 should be changed to exempt a volume less than 50 cubic metres from having to obtain a permit.

Clause 7 should be incorporated into clause 6 as a requirement for every permit, and the following sections renumbered as required.

Clause 8 should make reference to the levels of contamination (A, B, C, etc.) of the Pacific Place Standards as adopted by the Ministry of Environment so that the applicant is responsible to prove that the soil being deposited meets or exceeds the appropriate standard thereof.

Clause 12 (f) should be revised to place the word "or" between slumping and settling, and to delete the words "or other deposits"

Clause 14 (1) should be revised to reflect a fee of \$0.50 per cubic metre for quantities in excess of 100 cubic metres with no ceiling on the amount.

Clause 14 (2) should reflect a security deposit for any quantity over 100 cubic metres of \$1,000 plus \$1,000 for every hectare or portion thereof in excess of 1 hectare with no ceiling.

Cont'd /2...

ENVIRONMENTAL PROTECTION COMMITTEE MINUTES Cont'd...

ITEM III: SAVE GEORGIA STRAIT ALLIANCE

The Committee reviewed a request from the Save the Georgia Strait Alliance requesting endorsement of their activities, donations, and participation in a Nanaimo to Sechelt Marathon to be held in late August, 1990.

The Committee recommended that Council be requested to pass a resolution endorsing the projects sponsored by the Alliance, and that Council members be advised of the Marathon should they wish to participate therein. It was noted that City policy precluded donating funds to the organization.

ITEM IV: NATURAL GAS EXPLORATION

The Committee voted to receive correspondence from the Commission on Fraser Valley Petroleum Exploration relating to natural gas exploration and storage in the Fraser Valley, for information.

ITEM V: OTHER BUSINESS

There were no other items of business discussed.

The Meeting Adjourned at 5:30 p.m.


D.G. Riecken, P. Eng.,
Deputy City Engineer

Alderman M.R. Wright,
Committee Chairman

DGR:gc

Note: Minutes not read and adopted by the Committee until certified correct by the Committee Chairman's signature.

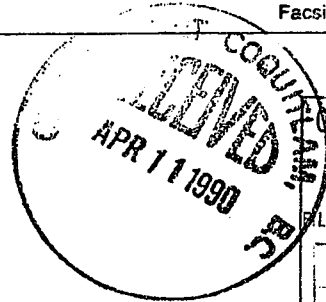
cc Mayor and Aldermen
City Administrator



Province of
British Columbia

Ministry of
Environment
and Parks

Lower Mainland Region
334 - 152A Street
Surrey
British Columbia
V3R 7P8
Telephone: (604) 584-8822
Facsimile: 660-8926



50 78
CITY OF PORT COQUITLAM
(Vancouver)
ENGINEERING DEPT.
APR 12 1990

FILE # _____

TO	FROM	DATE

April 6, 1990

Mr. Nat Bosa
Bosa Development Corporation
#201 - 3701 E. Hastings Street
Burnaby, B.C.

Dear Mr. Bosa:

Re: Landfilling of Contaminated Soils from the Station Site

Concerns expressed by the City of Port Coquitlam regarding landfilling of contaminated soils from the Station site on your Port Coquitlam property at 1451 Kingsway Avenue has prompted my staff to obtain samples of the material deposited. Samples were taken from the side of the fill since your contractor had already covered most of the material previously deposited with clean sand.

The investigation was necessitated by your failure to comply with the conditions of L. Hubbard's letter of December 22, 1989; firstly, to provide qualified field supervision to ensure the quality of the material was better than Level C of the Pacific Place Standards (PSS) and secondly, to notify Waste Management of the location of fill deposition.

I must emphasize the importance of adequate field supervision during excavation activities. As outlined in Mr. Hubbard's letter, the acceptability of the proposed remediation scheme was contingent upon field observation, segregation, sampling and analyses during soil excavation. From the content of the supporting information you provided to the Ministry, it was our understanding that your consultants would indeed be commissioned to perform these services. I trust that during the future phases of the Lafarge/Station site development project, this important aspect of site remediation will be addressed to our satisfaction.

The analytical data of the 2 samples my staff managed to obtain have just been received. The tests results show contaminants at concentrations between Level B and Level C of the Pacific Place Standards which would be acceptable for deposition at an industrial

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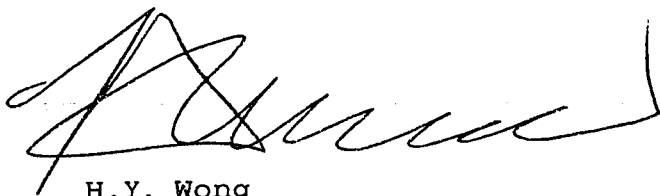
Bosa Development Corporation
April 6, 1990

Page 2

fill site. Accordingly, subject to a written confirmation of the appointment of qualified personnel to carry out the monitoring program outlined in the December 19, 1989 Proposal for Soils Removal and Groundwater Disposition prepared by Keystone Environmental Resources Ltd., we do not object if you resume landfilling activities at the Port Coquitlam site. Local bylaws, if any, must be observed.

My staff will continue to perform periodic inspections to monitor the remediation activities.

Yours truly,



H.Y. Wong
Regional Waste Manager
Lower Mainland Region

cc: L. Hubbard, Director of Waste Management
Dr. J. Wiens, Head, Contaminated Site Unit, Victoria
Dr. S. Wynn, Assistant Deputy Minister, Enforcement
Mr. Ron Freeman, City of Port Coquitlam
Keystone Environmental Services

LO/



Province of
British Columbia



Ministry of
Environment

Waste Management
Greater Mainland Region
15326 - 103A Avenue
Surrey
British Columbia
V3R 7A2
Telephone: (604) 584-8822
Fax: (604) 584-9751

File: 50.78
(Port Coquitlam)

CITY OF PORT COQUITLAM		
ENGINEERING DEPT.		
AUG 13 1990		
FILE # _____		
TO	FROM	DATE

August 8, 1990

Corporation of the City of Port Coquitlam
2580 Shaughnessy Street
Port Coquitlam, B.C.
V3C 2A8

Attention: Mr. D.G. Riecken, P.Eng., Deputy City Engineer

Re: Standards for Landfilling Contaminated Soils

Dear Mr. Riecken:

I am responding to your letter of August 1, 1990 on behalf of our Regional Waste Manager, Mr. H.Y. Wong. For your information, I have enclosed a copy of the B.C. Standards for Managing Contamination at the Pacific Place Site (Pacific Place Standards or PPS) plus a copy of the draft Criteria for Managing Contaminated Sites in British Columbia (B.C. Standards). The latter document, is expected to be released within the next few months and will supersede the Pacific Place Standards for management of contaminated sites within the Province. It is, in essence, very similar to the Pacific Place standards, both in terms of content and format.

Either documents specify the following remediation standards:

Level B: Remediation criterion for residential, recreational and agricultural land use.

Level C: Remediation criterion for exclusive commercial or industrial land use.

It is very difficult, if not impossible, to advise with respect to the parameters for which soil samples should be analyzed. Generally speaking, the potential for presence and distribution of certain contaminants largely depends on the activities that have taken place on the site where the soil originates. Of course, every case will be site specific and contaminant type will vary from site to site.

.../2

City of Port Coquitlam
August 8, 1990

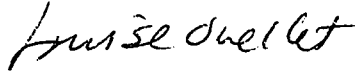
Page 2

If the site of origin has been investigated for contamination, there would be little uncertainty as to what type of contaminants could potentially be present in the excavated material. It would then be reasonable to test the material to be deposited for only a few relevant parameters. However if no investigation or historical review of the site have been performed, then there is potential for a variety of contaminants to be present. The B.C. Standards specifies remediation criteria for over 70 different contaminants and if one desires a 100% assurance that compliance with all criteria has been met, then, each of the contaminants would have to be tested for. As you may appreciate, sampling costs could become quite extensive and I would question whether such an approach would be considered reasonable.

At this stage, the Ministry would prefer not to provide any suggestions on preferred wording for the proposed bylaw. However, we would be pleased to provide comments and advice on the draft version of the bylaw.

I hope this information will be of some use to the Corporation. Please do not hesitate to contact me if you would like to discuss this issue further.

Yours truly,



Louise Ouellet, P. Eng.
Head, Special Waste Section
Waste Management Branch
Lower Mainland Region

**CRITERIA FOR MANAGING CONTAMINATED SITES
IN BRITISH COLUMBIA**

Ministry of Environment
Waste Management Program
810 Blanshard Street
Victoria, B.C.
V8V 1X5

Draft 6

November 21, 1989

[WARD]::BCCRITDOC

1.0 Introduction

This document presents Ministry of Environment criteria for contaminated sites in British Columbia. These criteria are intended to be used to develop site-specific objectives for contaminants in soil, water, sediments, and air, where chemical contaminants from spills and industrial discharges have caused contamination and pose risks to human health and the environment.

After a careful review of criteria for contaminated sites, presented in the Ministry's background paper entitled "Developing Criteria and Objectives for Managing Contaminated Sites in British Columbia", the Ministry has chosen the most comprehensive criteria currently available in Canada. The standards apply mainly to contaminated soils and groundwater, and were derived from criteria from the Canadian Council of Ministers of the Environment, the Province of Quebec, the Ontario Ministry of the Environment, Canadian guidelines for drinking water quality, and the Province's Special Waste Regulation and Pollution Control Objectives under the Waste Management Act. The Ministry has also consulted with public health and environmental experts in establishing these criteria.

To a large extent, they are based on an evolving body of knowledge relating to chemistry, toxicology, and other environmentally-related disciplines. They will be reviewed on a regular basis, and will be adjusted as new human health and environmental information becomes available.

2.0 Criteria for Contaminants

2.1 Definitions

In order to protect human health and the environment from substances at contaminated sites, benchmarks are needed so regulatory agencies can assess the extent of the contaminant associated risks and the adequacy of any remedial measures that are proposed and carried out. These benchmarks can take a number of forms, including criteria, objectives, and standards. While the purpose of this paper is to describe provincial criteria for contaminated sites, it is also important that all these terms and their application be made clear. The following definitions are used in this paper:

Criteria: The concentrations of chemicals in soil, water, biota, sediment, or air, applicable province-wide, which must not be exceeded to prevent specified detrimental effects from occurring, under specified environmental conditions. Criteria may also be formulated in terms of levels of risk which should not be exceeded.

Objectives: Criteria adopted to protect the most sensitive use of soil, water, biota, sediment or air at a specific site, with an adequate degree of safety, taking local circumstances into account. Objectives may also be formulated in terms of levels of risk.

Standards: Objectives adopted in legal form, such as in a regulation, statute, contract or other legally binding document.

The main difference between criteria and objectives is that the latter are site-specific, and take into account local conditions. Standards simply put objectives in a legally enforceable form.

The criteria in this document may be used in several different ways: as investigation criteria, as remediation criteria, as de minimus criteria and as risk management criteria. The following explains these four terms:

investigation criteria: contaminant concentrations which when exceeded require detailed investigation to assess the extent of contamination and nature of any hazards at a site.

remediation criteria: contaminant concentrations which when exceeded require action to reduce the exposure of humans or other receptors to contaminants.

de minimus criteria: contaminant concentrations which when not exceeded do not require action to reduce exposure to contaminants.

risk management criteria: levels of risk set to protect the public from unacceptable health impacts.

While investigation criteria relate solely to site characterization, remediation criteria, relate to the need for site remediation, which could take the form of site cleanup, contaminant containment, change in land use or other form of mitigation. After a site cleanup, remediation criteria can also be used to verify that the residual contaminant levels are acceptable. The de minimus criteria are used in the situation where remediation criteria cannot be quickly developed because major site-specific issues such as environmental loadings and impacts of off-site contaminants need to be determined. Risk management criteria to date, have been developed for the protection of human health, but not for environmental protection. Figure 1 shows conceptually how these criteria are applied in the management of contaminated sites.

2.2 Information Requirements

In determining objectives for contamination at a specific site, the types and levels of contaminants, the particular environmental media that are contaminated and the intended land use must be known. Ministry of Environment staff should be consulted about provincial requirements for site characterization at the outset of any site investigation, and should be provided information about current and intended land use.

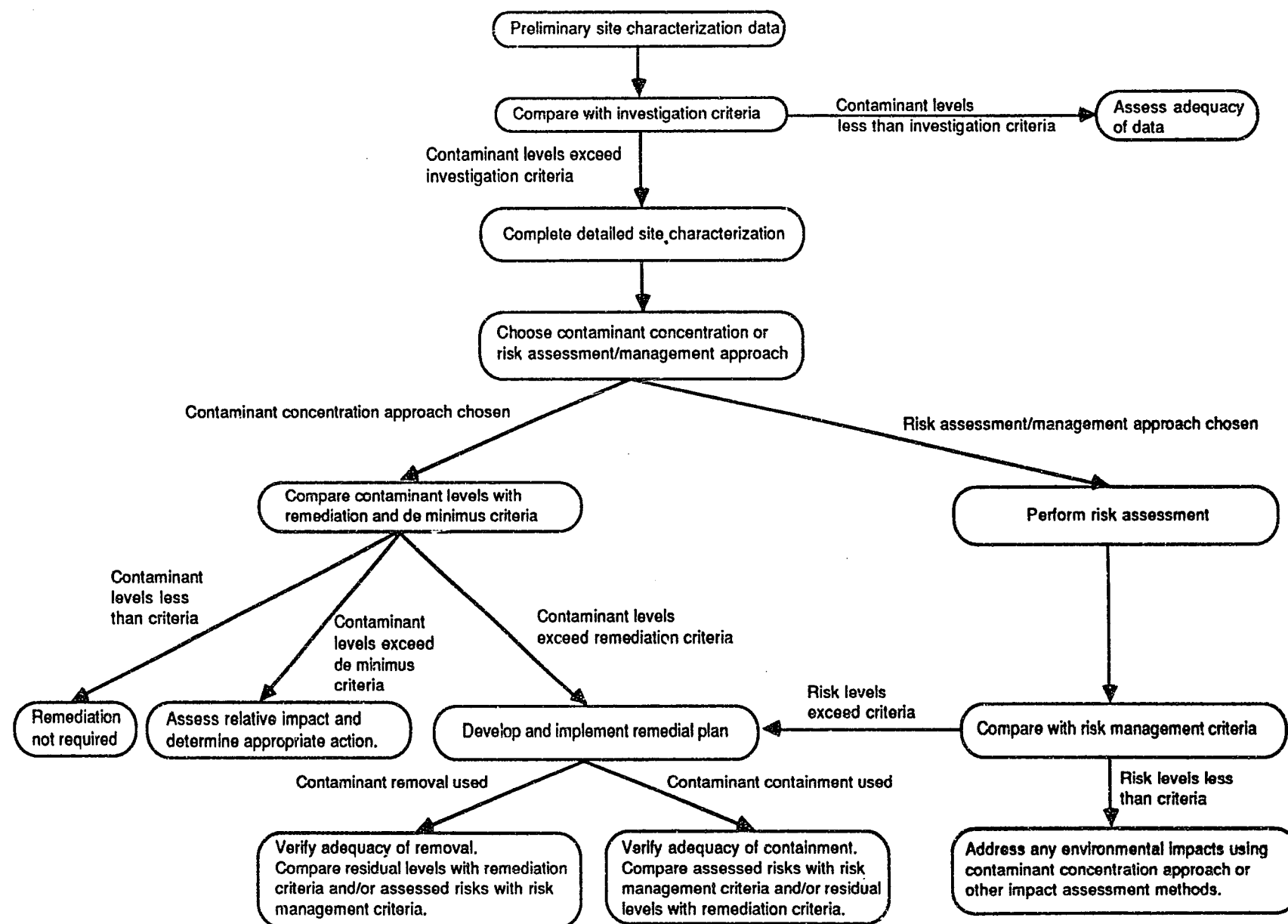
2.3 Types and Application of Criteria

The Ministry has developed two types of criteria and corresponding approaches for managing contaminated sites in British Columbia. The first approach involves numerical contaminant concentration criteria which can be used to determine when detailed investigation, and/or site remediation is needed, and when site remediation is properly completed. The second approach involves site specific risk assessment followed by risk management, where potential human health risks posed by contaminants are derived and are compared to levels of risk that are considered publically acceptable.

The contaminant concentration approach is applicable in situations where contaminants can be removed to levels less than the applicable concentration criteria, and addresses both human health and environmental impacts.

The risk assessment approach may be used in situations where there are potential human health impacts, and exposure to contaminants is reduced to acceptable levels by either containment or contaminant removal. In contrast to the contaminant concentration approach, it can be applied where all contaminants cannot be removed due, for example, to physical or financial constraints. In its present form, risk assessment has been sufficiently developed so that it can only be used to address public health issues associated with contaminated sites. Thus, if risk assessment is used to manage a contaminated site, the contaminant concentration approach is required to address potential environmental effects.

FIGURE .. CONCEPTUAL DECISION-MAKING PROCES FOR USING CRITERIA FOR CONTAMINATED SITES^{1,2}



1. This process does not include application or use of criteria for special wastes.

2. Consultation with Ministry of Environment at various stages of the process is necessary.

PCB soil contamination represents an exception to this general approach. It is Ministry policy that containment of PCBs exceeding provincial criteria will not be allowed, and that contaminant removal will be required. The contaminant concentration approach must be used for these contaminants.

Finally, in setting contaminant concentration objectives for contaminated sites a number of site specific factors should be taken into account. These include proximity of soil contaminants to the water table, the depth of soil contamination, degree of land use, and impact on the environment in general.

2.4 Criteria for Soils

2.4.1 Contaminant Concentration Approach

Investigation and Remediation Criteria

Table 1 contains three soil levels, A, B and C, which are used as investigation and remediation criteria as explained below:

Level A: This level represents approximate achievable analytical detection limits for organic compounds in soil, and natural background levels of metals and inorganics. For soils with constituents at or less than this level, the soils are considered uncontaminated. For residential, recreational and agricultural land use level A is the investigation criterion.

For soils containing contaminants at concentrations greater than level A, but less than level B, the soil is considered slightly contaminated, but remediation is not required.

Level B: This level is an intermediate value, approximately 5 to 10 times above level A. For residential, recreational and agricultural land use this level is the remediation criterion, while for exclusive commercial or industrial land use it is the investigation criterion.

For soils containing contaminants with concentrations exceeding level B, but less than level C, the soil is considered contaminated, and requires remediation to levels less than level B, if the land is used for residential, recreational or agricultural purposes. Remediation will not be required if the land is used exclusively for commercial or industrial activities.

Level C: At this level, contamination of soil is significant. For exclusive commercial or industrial land use, level C is the remediation criterion. For soils containing contaminants exceeding this level, all uses of the land will be restricted pending the application of appropriate remedial measures.

Restoration of PCB Contamination

In the case of soils contaminated with PCBs, the contamination will always be remedied by cleanup to concentrations less than level B or level C in Table 1, as is required for the land use identified.

2.4.2 Risk Assessment and Risk Management Approach

Where the risk assessment and risk management approach is chosen, exposures to contaminants on a site must be reduced so that the maximum acceptable additional lifetime cancer risk to residents for carcinogenic contaminants will not exceed seven in one million and one in one million should be sought. The seven in one million lifetime cancer risk criterion is the same as that used by Health and Welfare Canada to protect the public from any unacceptable risk related to the intake of radionuclides in drinking water. The one in one million risk criterion is commonly regarded as a "de minimus" risk level, below which agencies normally do not take regulatory action to control the risks. For noncarcinogenic substances, exposures must be reduced so that the predicted chronic daily intake of contaminants under residential land use, will be less than the chronic acceptable daily intake established by the Ministry.

2.5 Criteria for Groundwater

Hazardous substances may be present in ground and surface waters at contaminated sites. It is important that these water resources be protected especially when they are used for public water supply, aquatic and wildlife habitat, livestock watering, irrigation, and recreation.

Investigation and de minimus criteria for water-based contaminants are shown in Table 1 and are explained below:

Level A: Level A represents the approximate achievable analytical detection limits or natural background levels of metals and inorganic and organic compounds. For water with constituents at or less than this concentration, the water is considered uncontaminated. Level A for water is the investigation criterion.

For water containing contaminants at concentrations greater than level A, but less than level B_{DW} or B_{DS}, the water is considered slightly contaminated, and detailed investigation is necessary, but remediation is not required.

Level B_{DW}: If the water is intended for human consumption, then the criteria for level B_{DW} are to be used as remediation criteria. For water containing constituents with concentrations less than level B_{DW} no remediation will be required, if the water is used solely as drinking water.

For water containing contaminants with concentrations exceeding level B_{DW}, remediation will be required if the water is intended for human consumption.

Level B_{DS}: Level B_{DS} is the de minimus criterion for water-based discharges to protect aquatic life. For discharges containing constituents with concentrations less than level B_{DS}, no remediation will be required if the receiving water is solely habitat for aquatic life. Contaminant concentrations exceeding level B_{DS} require further work to assess the relative impact of these substances and to determine appropriate action.

When a criterion for a non-carcinogenic substance is not contained in Table 1, then the 96 hour LC50 concentration for the most sensitive salmonid species will be used as the criteria. An additional safety factor will be applied for persistent and/or bioaccumulative substances, as determined by the Ministry.

2.6 Criteria for Air

Volatile chemical compounds may contaminate soils and groundwater, evaporate, and pose a health risk through air exposure. Air criteria may be formulated in levels corresponding to various human health risks, or in terms of acceptable ambient air concentrations of chemicals. The risk assessment criteria are those provided in section 2.4.2, while criteria for contaminant concentrations in air will be provided by the Ministry on a chemical by chemical basis.

2.7 Background Levels of Contaminants

In the event that British Columbia background levels of contaminants found at a site exceed the criteria described in sections 2.4 to 2.6, the criteria will be set at background concentrations when contaminant concentrations are used as criteria. When risk management criteria are used, risk levels from background concentrations will be used. Contaminated media shall not be used as a reference for background levels.

3.0 Special Waste Criteria

Where special waste contaminants from a site are handled or treated on that site, the Special Waste Regulations under the Provincial Waste Management Act will apply to the facilities in which the waste is managed.

4.0 Development of Criteria Not Described Previously

Table 1 contains criteria for over 100 potential soil and water contaminants. While these may be expected to be sufficient to address contamination at most sites, it is possible that other contaminants are discovered for which criteria will have to be developed. The paper "Developing Criteria and Objectives for Contaminated Sites in British Columbia" describes how this will be done if it becomes necessary.

5.0 Choice of Hazard Indicator Compounds

The hazard indicator compounds used for a contaminated site will be those for which numerical criteria appear in Table 1. Where other hazard indicator compounds are required, they will be established by the Ministry.

TABLE 1: CRITERIA FOR CONTAMINATED SOIL AND WATER

		Soil			Surface Water and Groundwater		
		mg/kg (ppm) of dry matter			µg/L (ppb) of water		
		A	B	C	A	B _{DW}	B _{DS} ¹
1. HEAVY METALS							
arsenic	(As)	5	30	50	5	50	50
barium	(Ba)	200	500	2000	50	1000	1000
cadmium	(Cd)	1.0	5	20	1	5	5
chromium	(Cr)	20	250	800	15	50	50
cobalt	(Co)	15	50	300	10		50
copper	(Cu)	30	100	500	25	1000	100
lead	(Pb)	50	500	1000	10	50	50
mercury	(Hg)	0.1	2	10	0.1	1	1
molybdenum	(Mo)	4	10	40	5		500
nickel	(Ni)	20	100	500	10		500
selenium	(Se)	2	3	10	1	10	10
silver	(Ag)	2	20	40	5	50	50
tin	(Sn)	5	50	300	10		500
zinc	(Zn)	80	500	1500	50	5000	200
2. OTHER INORGANICS							
bromide (free)	(Br)	20	50	300			
cyanide (free)	(CN free)	1	10	100	40	200	
cyanide (total)	(CN total)	5	50	500	40		100
fluoride (free)	(F free)	200	400	2000			
sulfur (total)	(S total)	500	1000	2000			
3. MONOCYCLIC AROMATIC HYDROCARBONS (MAHs)							
benzene		0.1	0.5	5	0.5		0.5
ethylbenzene		0.1	5	50	0.5		
toluene		0.1	3	30	0.5		
chlorobenzene		0.1	1	10	0.1		
1,2-dichlorobenzene		0.1	1	10	0.2		
1,3-dichlorobenzene		0.1	1	10	0.2		
1,4-dichlorobenzene		0.1	1	10	0.2		
xylene		0.1	5	50	0.5		
styrene		0.1	5	50	0.5		
4. PHENOLIC COMPOUNDS							
nonchlorinated phenols (each) ²		0.1	1	10	0.1	2	
chlorophenols (each) ³		0.1	0.5	5	1.0		
chlorophenols (total)		0.1	1.0	10	1.0	5	

	Soil			Surface Water and Groundwater		
	mg/kg (ppm) of dry matter			µg/L (ppb) of water		
	A	B	C	A	B _{DW}	B _{DS} ¹
5 . POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)						
benzo[a]anthracene ⁴	0.1	1	10	0.01	0.1	0.01
1,2-benzanthracene 7,2-dimethyl	0.1	1	10	0.1		
dibenzo[a,h]anthracene ⁴	0.1	1	10	0.01	0.1	0.01
chrysene	0.1	1	10	0.1		
3-methylcholanthrene	0.1	1	10	0.1		
benzo[b]fluoranthene ⁴	0.1	1	10	0.01	0.1	0.01
benzo[j]fluoranthene	0.1	1	10	0.1		
benzo[k]fluoranthene ⁴	0.1	1	10	0.01	0.1	0.01
benzo[g,h,i]perylene	0.1	1	10	0.1		
benzo[c]phenanthrene	0.1	1	10	0.1		
pyrene ⁴	0.1	10	100	0.2	2	
benzo[a]pyrene ⁴	0.1	1	10	0.01	0.1	0.01
dibenzo[a,h]pyrene	0.1	1	10	0.1		
dibenzo[a,i]pyrene	0.1	1	10	0.1		
dibenzo[a,l]pyrene	0.1	1	10	0.01	0.1	
indeno[1,2,3-cd]pyrene ⁴	0.1	1	10	0.1		0.01
acenaphthene	0.1	10	100	0.5		
acenaphtylene	0.1	10	100	0.5		
anthracene	0.1	10	100	0.2		
fluoranthene	0.1	10	100	0.1		
fluorene	0.1	10	100	0.1		
naphthalene ⁴	0.1	5	50	0.2	2	
phenanthrene ⁴	0.1	5	50	0.2	2	
PAHs (total)	1	20	200	0.2		
6 . CHLORINATED HYDROCARBONS						
aliphatic						
(each) ⁵	0.3	5	50	0.1		
(total) ⁵	0.3	7	70	0.1		
chlorobenzene ⁶						
(each)	0.1	2	10	0.3		
(total)	0.1	4	20	0.3		
hexachlorobenzene	0.1	2	10	0.1		
polychlorinated biphenyls ⁷	0.1	5	50	0.1		3

	Soil			Surfacewater and Groundwater ⁸		
	mg/kg (ppm) of dry matter			µg/L (ppb) of water		
	A	B	C	A	B _{DW}	B _{DS} ¹
7. PESTICIDES						
a) <u>Organochlorinated</u>						
aldrin				0.05	0.7	
dieldrin				0.05	0.7	
chlordan (total isomers)				0.05	7	
DDT				0.05	30	
endrin				0.05	0.2	
heptachlor epoxide				0.05	3	
lindane				0.05	4	
methoxychlor				0.05	100	
b) <u>Carbamates</u>						
carbaryl				0.05	70	
carbofuran				0.05		
c) <u>chlorphenoxycarboxylic</u>						
2,4-D				0.05	100	
2,4,5-TP				0.05	10	
d) <u>Organophosphates</u>						
diazinon				0.05	14	
fenitrothion				0.05		
parathion				0.05	35	
methyl parathion				0.05	7	
e) <u>Bipyridyl compounds</u>						
diquat				0.05		
paraquat				0.05		
f) <u>Trichloroacetates</u>						
pichloram				0.05		
pesticides (total)	0.1	2	20	0.05	100	
8. GROSS PARAMETERS⁸						
mineral oil and grease	100	1000	5000	100		
light aliphatic hydrocarbons	100	150	800	1000		

FOOTNOTES

1. To be used as de minimus criteria only.
2. Non-chlorinated phenolic compounds, which include:

2,4- dimethylphenol	4-nitrophenol
2,4-dinitrophenol	phenol
2-methyl-4,6-dinitrophenol	cresol (ortho, meta, and para)
2-nitrophenol	
3. Chlorophenols, which include:

orthochlorophenol	2,3,6-trichlorophenol
metachlorophenol	2,4,5-trichlorophenol
parachlorophenol	2,3,5-trichlorophenol
2,6-dichlorophenol	2,3,4-trichlorophenol
2,5-dichlorophenol	3,4,5-trichlorophenol
2,4-dichlorophenol	2,3,5,6-tetrachlorophenol
3,5-dichlorophenol	2,3,4,5-tetrachlorophenol
2,3-dichlorophenol	2,3,4,6-tetrachlorophenol
2,4-dichlorophenol	pentachlorophenol
2,4,6-trichlorophenol	
4. If a site is contaminated with coal tars, these are the criteria that apply.
5. Volatile chlorinated aliphatic hydrocarbons, which include:

chloroform	1,2-dichloropropene (cis and trans)
1,1-dichloroethane	1,1,2,2-tetrachloroethane
1,2-dichloroethane	tetrachloroethene
1,1-dichloroethene	carbon tetrachloride
1,2-dichloroethene	1,1,1-trichloroethane
dichloromethane	1,1,2-trichloroethane
1,2-dichloropropane	trichloroethene
6. Chlorobenzenes, which include:

trichlorobenzenes (all isomers)	pentachlorobenzene
tetrachlorobenzenes (all isomers)	
7. Polychlorinated biphenyls, which include:

Arochlors 1242, 1248, 1254 and 1260
8. To be used as investigation criteria only.

**BRITISH COLUMBIA STANDARDS FOR MANAGING
CONTAMINATION AT THE PACIFIC PLACE SITE**

**Ministry of Environment
Waste Management Program
810 Blanshard Street
Victoria, B.C.
V8V 1X5**

May 2, 1990

1.0 Introduction

This document presents Ministry of Environment standards and policies that have been established to manage contamination at the Pacific Place site. They are based on, and are a subset of criteria for contaminated sites described in the document "Criteria for Managing Contaminated Sites in British Columbia".

After a careful review of standards for contaminated sites, the Ministry has chosen those that are the most comprehensive now available in Canada. The standards apply mainly to contaminated soils and groundwater, and were derived from criteria from the Canadian Council of Resource and Environment Ministers, the Province of Quebec, the Ontario Ministry of the Environment, Canadian guidelines for drinking water quality, and the Province's Special Waste Regulation and Pollution Control Objectives under the Waste Management Act. The Ministry has also consulted with public health and environmental experts in establishing these standards. While these standards are intended to prevail throughout the remediation period for the Pacific Place site, they may be adjusted as new human health and environmental information becomes available.

2.0 Standards for Contaminants

2.1 Information Requirements

In determining standards for addressing contamination at a specific site, the types and levels of contaminants, the particular environmental media that are contaminated and the intended land use must be known. At the Pacific Place site, a thorough investigation of the types and concentrations of contaminants has been completed, and the media impacted, the exposure pathways, and the potential receptors have been identified. The property is intended for mixed residential, commercial, park, and recreational use.

2.2 Types and Application of Standards

The Ministry has developed two types of standards for managing contaminated sites in British Columbia. The first type involves numerical contaminant concentration standards which can be used to determine when detailed investigation, and/or site remediation is needed, and when site remediation is properly completed. The second type involves site specific risk assessment and risk management, where potential human health risks posed by contaminants are derived and are compared to numerical standards corresponding to levels of risk that are considered publicly acceptable.

The contaminant concentration approach is applicable to situations where contaminants can be removed to levels less than the applicable numerical remediation standards, and it addresses both human health and environmental impacts.

The risk assessment approach may be used in situations where there are potential human health impacts, and exposure to contaminants is reduced to acceptable levels by either containment or contaminant removal. In contrast to the contaminant concentration approach, it can be applied where all contaminants cannot be removed due, for example, to physical or financial constraints. In its present form, risk assessment has been sufficiently developed so that it can only be used to address public health issues associated with contaminated sites. Thus, if risk assessment is used to manage a contaminated site, the contaminant concentration approach is also required to address potential environmental effects.

2.3 Standards for Soils

2.3.1 Contaminant Concentration Approach

Table 1 contains a list of numerical investigation and remediation standards for contaminants that may be contained in soils on this site. Investigation standards are contaminant concentrations which when exceeded require detailed investigation to assess the extent of contamination and nature of any hazards. Remediation standards are contaminant concentrations which when exceeded require action to reduce exposure of humans or other receptors to contaminants. This action could include cleanup, containment, creation of barriers, change in land use, or other form of mitigation.

Investigation and Remediation Standards

Table 1 contains three soil levels, A, B and C, which are used as investigation and remediation standards as explained below:

Level A: This level represents approximate achievable analytical detection limits for organic compounds in soil, and natural background levels of metals and inorganics. For soils with constituents at or less than this level, the soils are considered uncontaminated. For residential land use level A is the investigation standard.

For soils containing contaminants at concentrations greater than level A, but less than level B, the soil is considered slightly contaminated, but remediation is not required.

Level B: This level is an intermediate value, approximately 5 to 10 times above level A. For residential and recreational land use this level is the remediation standard, while for exclusive commercial or industrial land use it is the investigation standard.

For soils containing contaminants with concentrations exceeding level B, but less than level C, the soil is considered contaminated, and requires remediation to levels less than level B, if the land is used for residential or recreational purposes. Remediation will not be required if the land is used exclusively for commercial or industrial activities.

Level C: At this level, contamination of soil is significant. For exclusive commercial or industrial land use, level C is the remediation standard. For soils containing contaminants exceeding this level, all uses of the land will be restricted pending the application of appropriate remedial measures, which will reduce contaminant concentrations to levels less than level C.

Restoration of PCB Contamination

In the case of soils contaminated with PCBs, the contamination will always be remedied by cleanup to concentrations less than level B or level C in Table 1, as is required for the land use identified.

2.3.2 Risk Assessment and Risk Management Approach

Where the risk assessment and risk management approach is chosen, exposures to contaminants on the site must be reduced so that the maximum acceptable additional lifetime cancer risk to residents for carcinogenic contaminants will not exceed seven in one million and one in one million should be sought. The seven in one million lifetime cancer risk is the same as that used by Health and Welfare Canada to protect the public from any unacceptable risk related to the intake of radioactive, contaminated drinking water. The one in one million risk level is commonly regarded as a "de minimus" risk level, below which agencies normally do not take regulatory action to control the risks. For noncarcinogenic substances, exposures must be reduced so that the predicted chronic daily intake of contaminants under residential land use, will be less than the chronic acceptable daily intake established by the Ministry.

2.4 Standards for Groundwater

Contaminants in groundwater at the Pacific Place site can impact on humans or the environment. Since the groundwater will not be used for human consumption, the protection of False Creek aquatic resources is a priority. Under Ministry policy, discharges to receiving waters which are acutely toxic are not allowed, and this policy will apply to groundwater at the Pacific Place site.

Investigation and de minimus standards for groundwater contaminants are also shown in Table 1 and are explained below:

Level A: Level A represents the approximate achievable analytical detection limits or natural background levels of metals and inorganic and organic compounds. For water with constituents at or less than this concentration, the water is considered uncontaminated. Level A for water is the investigation standard.

For water containing contaminants at concentrations greater than level A, but less than level B, the water is considered slightly contaminated, and detailed investigation is necessary, but remediation is not required.

Level B: Level B is the de minimus standard for water. For water containing constituents with concentrations less than level B, no remediation will be required. Contaminant concentrations exceeding level B require further work to assess the relative impact of these substances and to determine appropriate action.

When a standard for a non-carcinogenic substance is not contained in Table 1, then the 96 hour LC50 concentration for the most sensitive salmonid species will be used as the standard, with an additional safety factor of 5 applied for persistent and/or bioaccumulative substances.

2.5 Standards for Air

It is not anticipated that air quality standards will be needed for contaminants at the Pacific Place site. The paper "Criteria for Managing Contaminated Sites in British Columbia" describes how air standards will be established, if it becomes necessary.

2.6 Background Levels of Contaminants

In the event that natural Lower Mainland background levels of contaminants found at the Pacific Place project exceed the standards described in sections 2.3 through 2.5, the standards will be set at background levels. False Creek water shall not be used as a reference for background levels.

3.0 Special Waste Standards

Where special waste contaminants from the Pacific Place Project are handled or treated on site, the Special Waste Regulations under the Provincial Waste Management Act will apply to the facilities in which the waste is managed.

4.0 Development of Standards Not Described Previously

Table 1 contains standards for approximately 100 potential soil contaminants. While these may be expected to be sufficient to address contamination at most Pacific Place parcels, it is possible that other contaminants may be discovered for which standards will have to be developed. The paper "Criteria for Managing Contaminated Sites in British Columbia" describes how this will be done should it become necessary.

5.0 Choice of Hazard Indicator Compounds

The hazard indicator compounds used for the Pacific Place project will be those for which numerical standards appear in Table 1. Where other hazard indicator compounds are required, they will be established by the Ministry in consultation with other government agencies.

**TABLE 1: INVESTIGATION AND REMEDIATION STANDARDS
FOR PACIFIC PLACE SOIL AND GROUNDWATER**

		Soil mg/kg (ppm) of dry matter			Groundwater µg/L (ppb) of water	
		A	B	C	A	B ⁹
1. HEAVY METALS						
arsenic	(As)	5	30	50	10	50
barium	(Ba)	500	1000	2000	50	1000
cadmium	(Cd)	1.0	5	20	1	5
chromium	(Cr)	20	250	800	10	50
cobalt	(Co)	15	50	300	10	50
copper	(Cu)	30	100	500	10	100
lead	(Pb)	50	500	1000	10	50
mercury	(Hg)	0.1	2	10	0.1	1.0
molybdenum	(Mo)	4	10	40	10	500
nickel	(Ni)	20	100	500	50	500
selenium	(Se)	2	3	10	1	10
silver	(Ag)	2	20	40	1	50
tin	(Sn)	5	50	300	1	500
zinc	(Zn)	80	500	1500	10	200
2. OTHER INORGANICS						
bromide (free)	(Br)	20	50	300		
cyanide (free)	(CN free)	1	10	100		
cyanide (total)	(CN total)	5	50	500	5	100
fluoride (free)	(F free)	200	400	2000		
sulfur (total)	(S total)	500	1000	2000		
3. MONOCYCLIC AROMATIC HYDROCARBONS (MAHs)						
benzene ⁸		0.1	0.5	5	0.5	0.5
ethylbenzene		0.1	5	50		
toluene		0.1	3	30		
chlorobenzene		0.1	1	10		
1,2-dichlorobenzene		0.1	1	10		
1,3-dichlorobenzene		0.1	1	10		
1,4-dichlorobenzene		0.1	1	10		
xylene		0.1	5	50		
styrene		0.1	5	50		
4. PHENOLIC COMPOUNDS						
nonchlorinated phenols (each) ¹		0.1	1	10		
chlorophenols (each) ²		0.1	0.5	5		
chlorophenols (total)		0.1	1.0	10		

	Soil			Groundwater	
	mg/kg (ppm) of dry matter			µg/L (ppb) of water	
	A	B	C	A	B ⁹
5. POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)					
benzo[a]anthracene ^{3,6}	0.1	1	10	0.01	0.01
1,2-benzanthracene 7,2-dimethyl	0.1	1	10		
dibenzo[a,h]anthracene ^{3,8}	0.1	1	10	0.01	0.01
chrysene	0.1	1	10		
3-methylcholanthrene	0.1	1	10		
benzo[b]fluoranthene ^{3,8}	0.1	1	10	0.01	0.01
benzo[j]fluoranthene	0.1	1	10		
benzo[k]fluoranthene ^{3,8}	0.1	1	10	0.01	0.01
benzo[g,h,i]perylene	0.1	1	10		
benzo[c]phenanthrene	0.1	1	10		
pyrene ³	0.1	10	100		
benzo[a]pyrene ^{3,8}	0.1	1	10	0.01	0.01
dibenzo[a,h]pyrene	0.1	1	10		
dibenzo[a,i]pyrene	0.1	1	10		
dibenzo[a,l]pyrene	0.1	1	10		
indeno[1,2,3-cd]pyrene ^{3,8}	0.1	1	10	0.01	0.01
acenaphthene	0.1	10	100		
acenaphthylene	0.1	10	100		
anthracene	0.1	10	100		
fluoranthene	0.1	10	100		
fluorene	0.1	10	100		
naphthalene ³	0.1	5	50		
phenanthrene ³	0.1	5	50		
PAHs (total)	1	20	200		
6. CHLORINATED HYDROCARBONS					
aliphatic					
(each) ⁴	0.3	5	50		
(total) ⁴	0.3	7	70		
chlorobenzene ⁵					
(each)	0.1	2	10		
(total)	0.1	4	20		
hexachlorobenzene	0.1	2	10		
polychlorinated biphenyls ⁶	0.1	5	50	0.4	3
7. PESTICIDES					
pesticides (total)	0.1	2	20		
8. GROSS PARAMETERS⁷					
mineral oil and grease	100	1000	5000		
light aliphatic hydrocarbons	100	150	800		

FOOTNOTES

1. Non-chlorinated phenolic compounds, which include:

2,4-dimethylphenol	4-nitrophenol
2,4-dinitrophenol	phenol
2-methyl-4,6-dinitrophenol	cresol (ortho, meta, and para)
2-nitrophenol	

2. Chlorophenols, which include:

ortho-chlorophenol	2,3,6-trichlorophenol
meta-chlorophenol	2,4,5-trichlorophenol
para-chlorophenol	2,3,5-trichlorophenol
2,6-dichlorophenol	2,3,4-trichlorophenol
2,5-dichlorophenol	3,4,5-trichlorophenol
2,4-dichlorophenol	2,3,5,6-tetrachlorophenol
3,5-dichlorophenol	2,3,4,5-tetrachlorophenol
2,3-dichlorophenol	2,3,4,6-tetrachlorophenol
2,4-dichlorophenol	pentachlorophenol
2,4,6-trichlorophenol	

3. If a site is contaminated with coal tars, these are the standards that apply.

4. Volatile chlorinated aliphatic hydrocarbons, which include:

chloroform	1,2-dichloropropene (cis and trans)
1,1-dichloroethane	1,1,2,2-tetrachloroethane
1,2-dichloroethane	tetrachloroethene
1,1-dichloroethene	carbon tetrachloride
1,2-dichloroethene	1,1,1-trichloroethane
dichloromethane	1,1,2-trichloroethane
1,2-dichloropropane	trichloroethene

5. Chlorobenzenes, which include:

trichlorobenzenes (all isomers)	pentachlorobenzene
tetrachlorobenzenes (all isomers)	

6. Polychlorinated biphenyls, which include:

Arochlors 1242, 1248, 1254 and 1260

7. To be used as investigation standards only.
8. Organic compounds regarded as carcinogens.
9. To be used as de minimus standards only.

THE CORPORATION OF THE
CITY OF PORT COQUITLAM

MEMORANDUM

TO: Environmental Protection Committee DATE: July 31, 1990

FROM: D.G. Riecken
Deputy City Engineer

SUBJECT: Soil Deposit Bylaw

When the draft bylaw was last reviewed by the Committee there were questions raised with respect to what threshold quantity should be established below which a permit would not be required, what were reasonable permit fees and royalties, and what were other municipalities doing in this regard.

Engineering have contacted several municipalities in the Greater Vancouver area to determine how soil deposits are regulated. The following table summarizes the results of this enquiry.

Municipality	Permit Fee	Royalty	Threshold Volume	Security Deposit
Burnaby	\$2.50	none	nothing specific	none
Coquitlam	\$50.00	none	nothing specific	none
Maple Ridge	\$200.00	none	nothing specific	not specified
Surrey	\$100.00 + \$50/Ha	\$0.50/cu m	1000 cu m	\$10,000
Port Moody	\$50.00	none	5 cu m	\$10,000
POCO Proposed	\$50.00	\$1.00 / cu m to \$10,000 max	???	\$ 1,000 + \$25,000/Ha

Most of the municipalities contacted did not require permits where soil removal or deposit was covered under a building permit. The City of Vancouver requires the applicant to get approval from the Ministry of Environment for sites suspected to be contaminated. Richmond prohibits deposit of wood waste and requires that the applicant have a permit under the Waste Management Act for placement of construction debris including contaminated soil.

Cont'd /2...

In reviewing the above information it would appear that the proposed permit fee is in line with that charged by others, that the royalty may be higher for smaller operations but with a \$10,000 limit could be less for bigger operations, and that our security deposit would be higher than most for anything other than fairly small filling operations.

I would suggest that the royalty be reduced to \$0.50 per cubic metre with no ceiling, and that the security deposit be reduced to \$1,000 plus \$10,000 per hectare to a maximum of \$50,000. In order to minimize the number of permits which we will have to process we should give some thought to exempting properties of, say, 0.5 Hectares or less, and setting a minimum threshold quantity of, say, 100 cubic metres, below which no permits would be required. The draft of the bylaw would have to be revised to reflect these changes.

It would probably be best if the Committee were to agree on what changes should be made, and a revised draft prepared for review by the Committee prior to submission to Council for approval.


D.G. Riecken, P. Eng.
Deputy City Engineer

LIDSTONE, YOUNG, ANDERSON
BARRISTERS & SOLICITORS

501 - 1803 Douglas Street
Victoria, B.C.
V6T 5C3
Telephone: (604) 383-2063
Telecopier: (604) 689-3444

1414 - 808 Nelson Street
Box 12147, Nelson Square
Vancouver, B.C. V6Z 2H2
Telephone: (604) 689-7400
Telecopier: (604) 689-3444

BY TELECOPIER

May 11, 1990

Mr. Ron Freeman
Clerk/Deputy Administrator
City of Port Coquitlam
2580 Shaughnessy Street
Port Coquitlam, B.C.
V3C 2A8

Dear Ron:

Re: Soil Deposit Regulation Bylaw
Your File No. L0990RF
Our File No. 19-S-229

As requested, we have reviewed draft "Soil Deposit Regulation Bylaw, 1990, No. _____". This letter sets out our comments on the draft bylaw and our recommendations for changes to the draft bylaw.

Authority for the bylaw is found in Section 930.1 of the Municipal Act, R.S.B.C. 1979, c. 290, as re-enacted in 1989. Council is empowered to regulate or prohibit the removal of soil and the deposit of soil or other material within the Municipality and the draft bylaw is a partial exercise of those powers.

Soil removal bylaws have been controversial and there have been numerous challenges by gravel operators to the validity of charges levied under such bylaws. Section 930.1 was enacted after the Supreme Court of Canada struck down the Maple Ridge bylaw in Kirkpatrick v. Maple Ridge (1986) 34 M.P.L.R. 128.

Following are our comments and recommendations, in the order the topics appear in the draft bylaw:

1. Section 1 is superfluous and may be deleted, particularly in view of the wording of Section 4.
2. A severability clause such as Section 2 normally appears at or near the end of a bylaw. A shorter clause to the same effect would be:

"If any section or lesser provision of this bylaw is held invalid, the validity of the remaining provisions of this bylaw shall not be affected."

3. We recommend that the following definition be included near the beginning of the bylaw:

"'Soil' includes sand, gravel, rock, other substances of which land is composed, and includes other materials contained in a mixture with soil."

4. For clarity, Section 6 should refer to "the land in which the soil is to be deposited". Section 7(d) should also refer to the land "on which the soil is to be deposited".

5. Sections 8 through 10, 12 and 13 delegate discretion to the City Engineer to require that applicants provide title certificates, consents, soil analysis, contour plans and architectural or engineered designs. Most if not all of those delegations are invalid. In Kirkpatrick v. Maple Ridge (1983) 49 B.C.L.R. 134, the B.C. Court of Appeal struck down a portion of a Maple Ridge bylaw which required the municipal engineer's approval for soil removal in certain cases. The Court held that "the engineer is given an unlimited discretion to permit whatever he sees fit for whatever reason he sees fit" and held that the approval power must be struck down.

As a general rule, an administrative power may be delegated but only if it is confined by objective standards which apply to all persons equally: Barthropp v. West Vancouver (1979) B.C.L.R. 202 (B.C.S.C.). Accordingly, the bylaw should be revised to provide the circumstances in which the engineer may require additional information, or the reference to requests by the City engineer should be deleted altogether.

6. In any event, the consent requirements in Section 9 are invalid. A municipality may not require the consent of neighbouring owners as a condition precedent to activities on land: Re Kiely (1887) 13 O.R. 451 (Ont. S.C.).
7. Section 10 should be redrawn as a general prohibition against depositing soil which is contaminated. For that purpose, contamination should be defined as the presence of any elements in the soil which pose a risk to the health of persons or animals.
8. Section 11 has no legal effect and should be deleted.
9. Council may wish to consider whether the flat fee of \$50.00 in Section 14 is appropriate for very large deposits of soil. Such deposits are likely to result in wear and tear on highways and Section 930.1(4)(b) of the Municipal Act empowers a permit fee to vary with the quantity of soil or material deposited.

10. There is no express authority for the letter of credit requirement in Section 14(2). If challenged, that provision may be set aside.
11. Section 930.1(4)(a) of the Municipal Act authorizes a soil deposit permit system, but does not authorize the refusal of a permit for matters not regulated by the soil deposit bylaw. A Council is not permitted to redelegate to itself the power to make arbitrary decisions on matters which are to be regulated by bylaw. In that regard, some of the provisions of Section 17 are so broad as to be virtually meaningless and the result is that the validity of a Council decision to refuse a permit could not be tested for compliance with the bylaw. Notably, paragraphs (d) through (j), (r) and (s) are within that category and are likely invalid.
12. In Section 18, the phrase "or his appointee" should be deleted and the phrase "and City employees acting under the direction of the City Engineer" substituted.
13. There is no express authority for the taking of "corrective measures" and the recovery of costs from the permit holders as provided for in Section 20. Such measures might be justified as incidental to the regulatory power.
14. The phrase "at any time, in its opinion" should be deleted from Section 21(1).
15. The penalties under Section 23 may be increased, as Council is not limited to a maximum fine of \$2,000.00 by Section 294 of the Municipal Act.

In addition to the foregoing comments and recommendations, there are a number of provisions we recommend for inclusion in a soil deposit regulation bylaw. Rather than enumerate those provisions, we enclose a revised version of the proposed bylaw, reflecting our comments in this letter and our further recommendations for inclusions.

Sincerely,

LIDSTONE, YOUNG, ANDERSON

Grant Anderson

Grant Anderson

Enc.

GA/2059

cc: Mr. Bryan Kirk, Administrator

DRAFT

THE CORPORATION OF THE CITY OF PORT COQUITLAM

BYLAW NO. _____

A Bylaw to Regulate and Prohibit the Deposit
of Soil and Other Material on Land in the City.

The Municipal Council of the Corporation of the City of
Port Coquitlam, in open meeting assembled, enacts as follows:

Definitions

1. In this bylaw:

"Contaminated soil" means soil which contains any element
which creates a risk to the health of persons or animals;

"Deposit" in relation to soil means to bring soil on to a
parcel from land other than that parcel;

"Soil" includes, sand, gravel, rock and other substances of
which land is composed, and includes other materials contained
in a mixture with soil on any land within the City of Port
Coquitlam.

Prohibitions

2. No person shall cause or permit the deposit of soil on any
land within the City of Port Coquitlam except in accordance
with this bylaw.

3. No person shall cause or permit the deposit of contaminated
soil.

Permits

4. Any person who proposes to deposit in excess of two cubic
metres of soil on a parcel of land shall first obtain a permit
under this bylaw.

5. Every application for a permit to deposit soil shall be made
by the owner of the land on which the soil is to be deposited,
or by a person authorized in writing by the owner of the land.

6. An application for a permit to deposit soil shall include:

(a) the legal description and street address of the land from
which the soil is proposed to be taken;

(b) the legal description and street address of the land
whnch the soil is proposed to be deposited;

- (c) the name and address of the person applying for the permit;
 - (d) the name and address of the registered owner of the land on which the soil is to be deposited;
 - (e) the exact location where the deposit is proposed, defined by reference to buildings, structures, improvements and parcel boundaries;
 - (f) the composition and quantity of soil which is proposed to be deposited;
 - (g) the method proposed for deposit of the soil;
 - (h) the dates proposed for commencement and completion of the deposit;
 - (i) the proposed access to and from the land for vehicles carrying soil;
 - (j) measures proposed to prevent personal injury or property damage resulting from the deposit;
 - (k) measures proposed to control erosion, drainage and soil stability;
 - (l) measures proposed to stabilize, landscape and restore the land and soil after the deposit is completed;
 - (m) the location of any affected watercourse, waterworks, ditch, drain, sewer, catch basin, culvert, manhole, right-of-way, public utility or public works and the measures proposed to protect them;
 - (n) the proposed routes to be taken by vehicles transporting soil to the land; and
 - (o) measures proposed to minimize or prevent tracking of soil onto City streets.
7. Where the amount of soil to be deposited exceeds 50 cubic metres, the application shall include a current state of title certificate for the land upon which the deposit is proposed.
8. Where the amount of soil is to be deposited exceeds 100 cubic metres, the application shall include a chemical analysis prepared and certified by a qualified technician, confirming that the soil to be deposited is not contaminated.

9. Where the amount of soil to be deposited exceeds 300 cubic metres, the application shall include a survey plan with a one metre contour interval or a grid of spot elevations no more than 5 metres apart, prepared by a British Columbia Land Surveyor and showing:
- (a) the proposed deposit and the form of the land surface before and after the deposit;
 - (b) the existing improvements, structures and buildings on the land;
 - (c) the methods of draining the land before, during and after the proposed deposit; and
 - (d) the location of all services and utilities on or under the land.
10. (1) Where the amount of soil to be deposited exceeds 300 cubic metres and the location of the proposed deposit may be subject to flooding, landslip or subsidence, an applicant for a permit shall obtain the services of a Professional Engineer or Landscape Architect:
- (a) to design plans for
 - (i) accomplishing the proposed deposit,
 - (ii) stabilizing, landscaping, and restoring the land and soil after the deposit, and
 - (iii) protecting any stream or drainage system that will be affected by the proposed deposit.
 - (b) to inspect the applicant's implementation of the designs under paragraph (a).
- (2) The City Engineer may refer the designs and any written recommendations to the Director of Community Planning, Chief Building Inspector or consultants for advice.
11. The City Engineer shall report to Council on each application for a permit. The issuance of the permit shall be considered by Council and shall be authorized, refused or otherwise dealt with by resolution of Council.
12. The Council may refuse to issue a permit if the deposit of soil:
- (a) may foul or obstruct the flow of any watercourse, ditch, drain or sewer;
 - (b) may adversely affect the stability of the land;

- (c) may endanger the health, safety, convenience or welfare of the public;
 - (d) may result in an excessive cost to the City to provide public utilities or other public works or services;
 - (e) may endanger improvements, structures, buildings or their supports;
 - (f) may endanger the stability of the soil by allowing it to become susceptible to erosion, slippage, landslides, slumping, ^{or} settling, or other deposits; ??
 - (g) may disturb, damage, destroy, obstruct, impede or divert the drainage of any area; or
 - (h) may injuriously affect the established amenities of adjacent properties.
13. (1) Every permit shall incorporate the information set out in the application as approved and shall be valid for a period of 6 months from the date of issuance.
- (2) A permit issued under this bylaw shall not be assigned.

Permit Fees and Security

14. (1) The fee for a permit under this Part shall be \$50.00, plus \$1.00 for each cubic metre of soil to be deposited in excess of 100 cubic metres, to a maximum of \$10,000.00.
- (2) Every applicant for a permit to deposit in excess of 100 cubic metres of soil shall deposit with the City a Letter of Credit valid for the duration of the permit in the amount of \$1,000.00 and an additional \$10,000.00 per acre for every hectare or portion in excess of one hectare proposed to be covered by soil. The Letter of Credit shall be irrevocable and unconditional and shall be security for costs or damages incurred by the City as a result of any breach of this bylaw or damage to a highway or City property.

Administration and Enforcement

15. This bylaw shall be administered by the City Engineer.
16. The City Engineer, the Chief Bylaw Enforcement Officer and all City employees under their direction may at all reasonable hours enter upon any land or premises in the City to determine if the provisions of this bylaw are being met.

17. In the event of notice being given of a breach of this bylaw or of the terms of a permit issued under this bylaw, in writing, by the Chief Bylaw Enforcement Officer or the City Engineer to the person committing the breach or the permit holder, no person shall deposit soil or construct structures on the soil until the breach is remedied.
18. Where a breach of this bylaw or of the terms of a permit cause an emergency, including deterioration or failure of a purification facility, blockage of a stream or drainage facility or potential danger to public health or safety, the City Engineer may issue an order of immediate correction of the breach. If the correction of the breach is not immediately commenced and actively pursued by the permit holder, the City may implement corrective measures, the cost of which shall be recovered from the security posted by the permit holder.
19. Where soil is deposited in contravention of this bylaw by or on behalf of an owner of land and the owner fails or neglects to remove the soil within 10 days of notice in writing to do so from the City Engineer, the City may by its employees or contractors enter the land and remove the soil at the expense of the owner.
20. The Council may suspend or revoke a permit under this bylaw if the permit holder violates any of the provisions of this bylaw or any of the terms of the permit. *

Penalty

21. Every person who violates any provision of this bylaw or fails to comply with any permit issued under this bylaw commits an offence punishable on summary conviction and shall be liable to a fine not exceeding \$10,000.00.

Severability

22. If any section or lesser provision of this bylaw is held invalid, the validity of the remaining provisions of this bylaw shall not be affected.

Citation

23. This Bylaw may be cited for all purposes as the "Soil Deposit Regulation Bylaw, 1990, No. _____".

READ A FIRST TIME by the Municipal Council this _____ day of _____, 1990.

READ A SECOND TIME by the Municipal Council this _____ day of _____, 1990.



CITY OF PORT COQUITLAN	
ENGINEERING DEPT.	
JUL 10 1990	
FILE #	

SAVE GEORGIA STRAIT ALLIANCE
2nd Floor, 479 4th Street, Courtenay, B.C. V9N 1G9

July 3, 1990

Dear Mr. Traboulay,

We are writing to you to ask for your help and support with a project that we hope will stop any further degradation of the Strait of Georgia environment.

The Save Georgia Strait Alliance is a newly-formed coalition determined to halt further pollution of Georgia Strait and begin its clean-up. We believe that the situation is urgent, and that immediate, united action is essential in order to stop the devastation.

We came together earlier this year because of our recognition that the Strait of Georgia is dying. For decades we have used the Strait as a catch basin for millions of gallons of municipal sewage and pollutants, pulp mill effluent, industrial wastes, chemicals, oil and other toxins. Shell fisheries are closed up and down the coast, lesions and tumours are appearing in our fish, and spring salmon and lingcod stocks are in danger of extinction. We continue to pour tons of organo-chlorines into the Strait daily and repeatedly court the possibility of a major spill from an oil tanker or radioactive contamination from a U.S. Navy nuclear vessel. As an inland sea with little tidal flushing action, Georgia Strait's ecosystem may soon be pushed beyond its limits by this ever-increasing toxic onslaught. Unfortunately, there does not appear to be enough political will or industrial response to stop the destruction of the Strait.

The Alliance is organizing a Save the Strait Marathon and Faire on August 25 - 26 and a State of the Strait Conference on February 23 - 24, 1991. The Marathon is a swim, paddle, or surf from Nanaimo to Sechart with an eco-fair on the Sechart Indian Band land. Through the participation of hundreds of people in the marathon, we hope to raise awareness of the environmental issues as well as raise money through pledges for the participating environmental organizations, the Alliance, and the Conference.

We hope that you will agree with us that we have an individual and collective responsibility to our children and future generations to stop the destruction, clean up the mess we have made, and begin the healing process.

c.c. ENVIRONMENTAL PROTECTION Cttee
D.G. RIECKEN



SAVE GEORGIA STRAIT ALLIANCE
2nd Floor, 479 4th Street, Courtenay, B.C. V9N 1G9

Save the Strait Marathon
August 25 - 26, 1990

Registration Form

The Marathon course is between Nanaimo and Sechelt, a distance of 16.1 mi/25.8 km. The starting point is Pipers Lagoon, just north of Nanaimo and the end point is the Sechelt Indian Band beach, right in Sechelt. The serious participants will want to catch the flood tide early in the morning.

The Marathon is meant to be a participatory event. Some of you may want to break the swim record set by Mike Powley in 1967 or set a kayak, canoe, sail board record. Some may want to make the crossing from one side to the other, while others may want to get a team together to share the work. If you cannot go the whole way and want to be part of a relay team, let us know and we may be able to line you up.

We will be providing escort boats of varying sizes on a ratio of 5 kayaks to one escort. There will be a system for emergency response as well as first aid and medical aid. Swimmers should line up their own personal escort, preferably a row boat. The Strait can get pretty rough, so be prepared.

Participant Information

Sex: Male _____ Female _____
Swimmer _____ Kayak _____ Canoe _____
Sail board _____ Row _____
Date of Birth: _____ / _____ / _____ Age: _____
Last Name _____
First Name _____ Initial _____
Address _____
City _____ State _____ Postal _____
Province _____ Code _____
Phone (Eve) _____ (Day) _____
Occupation _____

Name _____
(as you would like it to appear in public)
If applicable, Team Name: _____
(Submit individual forms together)
Approximately how many hours a week do you train? _____
What is your approximate number of kilometres per week: _____
How far do you expect to go?
All the way _____ Half way _____ Part way _____
1 - 5 km _____ 5 - 10 km _____
Estimated time for above distance: _____
Special Medical Alert _____

(over)



J. Kecken

THE CORPORATION OF THE
CITY OF PORT COQUITLAM

MEMORANDUM

TO: Environmental Protection Committee DATE: July 13, 1990
FROM: Mayor Traboulay
RE: Natural Gas Exploration and Storage Public Meetings

Attached please find a letter from the Commission on Fraser Valley Petroleum Exploration and a schedule of public meetings.

Traboulay

/dp
Att.



Province of
British Columbia

Commission on
Fraser Valley
Petroleum Exploration

Box 105, 20611 Fraser Highway
Langley
British Columbia
V3A 4G4
Telephone: (604) 533-0667
Facsimile: (604) 533-5451

June 29, 1990

Mayor Leonard Traboulay
City of Port Coquitlam
2580 Shaughnessy
Port Coquitlam, B.C. V3C 2A8

Dear Mr. Traboulay:

The current round of public hearings on natural gas exploration and storage in the Fraser Valley is nearing completion. A number of major issues have been identified. The most frequently mentioned have been groundwater contamination due to drilling and gas storage, earthquake hazards, and the presence or absence of hydrogen sulphide gas.

Commencing on August 27, 1990 there will be two weeks of technical hearing's in the Fraser Valley. The technical hearing's will be held at two different venues:


1. From Aug 27 to Aug 31 at the Town & Country Inn, Junction Hwy 17 and 99 Delta.
2. From Sept 4 to Sept 8 at The Langley Conference Centre, 20381 - 66th Ave., Langley.

The technical hearing's will primarily consist of reviewing information from expert witnesses.

Anyone with suggestions on this phase of the Commission's work is asked to contact the Commission.

Your attention is brought to an additional public meeting, shown on the enclosed schedule, to be held at Aldergrove on July 11, 1990 and which will conclude Stage two of our Commission's timetable being the identification of issues.

Yours sincerely,


David Anderson
Commissioner

encl 1 . . .

DA/kes



Province of
British Columbia

Commission on
Fraser Valley
Petroleum Exploration

No. 105, 20611 Fraser Highway
Langley
British Columbia
V3A 4G4
Telephone: (604) 533-0667
Facsimile: (604) 533-5451

NOTICE OF PUBLIC MEETINGS

JUNE - 1990

- Mon 18 - Public Meeting: Abbotsford/Clearbrook
Venue: Ag. Rec. Building
Central Fraser Valley Exhibition Park
Trethewey & Maclure St
Clearbrook
- Tues 19 - Public Meeting: Cloverdale/Surrey
Venue: Community Centre - Board Room
Cloverdale Fairgrounds
6050 - 176St
Cloverdale
- Mon 25 - Public Meeting: Langley
Venue: The Langley Conference Centre
20381 - 66th Ave
Langley
- Tues 26 - Public Meeting: Tsawwassen/Delta
Venue: Town & Country Inn
Junction Hwy 17 & 99
Delta

JULY - 1990

- Tues 3 - Public Meeting: Maple Ridge
Venue: The Old Library Auditorium
11963 Haney Place
Maple Ridge
- Wed 4 - Public Meeting: White Rock
Venue: The Upper Town Centre Hall
15150 Russell Ave
White Rock
- Mon 9 - Public Meeting: Chilliwack
Venue: Best Western Rainbow Country Inn
43971 Industrial Way
Chilliwack
- Tues 10 - Public Meeting: Mission
Venue: The Mission Leisure Centre
7621 Taulbut St
Mission
- Wed 11 - Public Meeting: Aldergrove
Venue: Kinsmen Community Centre
26770 29th Avenue
Aldergrove

* All meetings are scheduled for 7:30 p.m.

COMMISSION ON FRASER VALLEY PETROLEUM EXPLORATION
TERMS OF REFERENCE

1. The Commissioner shall inquire into and report, prior to September 30, 1990 on all matters concerning exploration for and development of petroleum, natural gas or natural gas storage in the Fraser Valley, and the areas if any, that should be excluded from petroleum or natural gas exploration, development or storage by virtue of risk, land-use conflict or other factors and the conditions that should govern these exclusions.
2. Without limiting the generality of the foregoing, but as an aid to the Inquiry, the Commissioner is directed to enquire into, investigate, review and report on:
 - (a) the geological, environmental, land-use and socio-economic characteristics of the Fraser Valley;
 - (b) the proposed exploration program, together with subsequent exploration for and development of petroleum, natural gas or natural gas storage which might reasonably be expected from a discovery;
 - (c) exploration, development and natural gas storage experience in other jurisdictions and areas of a similar nature;
 - (d) possible risks to public health and safety, property and amenity values including potential groundwater contamination, noise and well control problems;
 - (e) potential environmental and socio-economic impacts, including disturbance of land, wildlife and the natural environment;
 - (f) existing regulations, practices and guidelines applicable to exploration, development or natural gas storage in the Fraser Valley;
 - (g) the potential benefits of exploration or development to the Provincial economy, utilities, businesses and residents;
 - (h) methods of avoiding, reducing or mitigating risk and impacts to acceptable levels, and of increasing the benefits to residents, the region and the Province, including suggested changes to regulatory practice necessary to ensure safe, prudent and environmentally acceptable activity, and the Commissioner should specifically review:
 - (i) regulations applicable to natural gas storage;
 - (ii) provisions of existing drilling liability deposits and other means of covering liability;
 - (iii) the existing "minimum distance" and spacing regulations.
3. In this order, "Fraser Valley" means the area commencing at a point on the west coast of the Sechelt Peninsula at latitude 49°30'N, then east to longitude 121°30'W, then south to the Canada-United States of America boundary, then west along said boundary to the Strait of Georgia at longitude 123°07'30"W, then follow coast in general northwest direction to the point of commencement, excluding all marine areas below the high water mark.

COMMISSION ON FRASER VALLEY PETROLEUM EXPLORATION
645 Fort Street, Suite 413
Victoria, B.C.
V8W 1G2
Phone: (604) 356-9742
Fax: (604) 356-9747

105-20611 Fraser HWY
Langley, B.C.
V3A 4G4
Phone: (604) 533-0667
Fax: (604) 533-5451



Province of
British Columbia

Commission on
Fraser Valley
Petroleum Exploration

No. 105, 20611 Fraser Highway
Langley
British Columbia
V3A 4G4
Telephone: (604) 533-0667
Facsimile: (604) 533-5451

CITY OF PORT COQUITLAM		
ENGINEERING DEPT.		
JUL 13 1990		
FILE #		
TO	FROM	DATE

July 9, 1990

Mayor Leonard Traboulay
City of Port Coquitlam
2580 Shaughnessy
Port Coquitlam, B.C. V3C 2A8

Dear Mr. Traboulay:

The Commission has created a research library holding a variety of materials on gas drilling and underground storage. Textbooks, scientific journal articles and videotapes are available for browsing or loan. The library is open during regular business hours.

Enclosed is the current holdings list; the materials have been catalogued into four general areas to facilitate searching for specific topics and documents. The holdings list will be updated periodically as new material is made available to the Commission.

Please feel free to drop in and look over this material. Any suggestions for additions to this library would be welcome.

Sincerely,

David Anderson
D. Anderson
Commissioner

enclosures

DA/kes

LIBRARY LISTING

I. GENERAL - GEOLOGY AND DRILLING

1. **Oil and Gas Exploration in Washington 1900-1982 (with Addendum);** State of Washington, Department of Natural Resources, 1983.
2. **Newspaper clippings on gas well blowouts and storage safety issues** (compiled by Friends of the Fraser Valley)
3. **A report on the Williamsburg, Michigan, Gas Eruptions;** Department of Natural Resources, State of Michigan, 1973
4. **Sour gas study of the Calgary region;** Calgary Regional Planning Commission, 1985
5. **A guide to sour gas development and land use planning in the Calgary region;** Calgary Regional Planning Commission, 1987
6. **Hydrology of Vancouver and Fraser Lowland field guidebook;** E.C. Halstead, 1977
7. **Evaluation of the Hydrocarbon Potential of the Georgia Depression;** P. Gordy, 1988
8. **Dynamic Oil Limited/Conoco Canada Ltd. Natural Gas Drilling Program in the Fraser Valley Environmental Report,** 1990
9. **Drilling and Production Procedural Handbook,** Ministry of Energy, Mines and Petroleum Resources
10. **Conoco Canada Ltd. Emergency Response Plan for Alberta Well "Conoco Garrington" LSD 06-36-31-01 W5M**

II. UNDERGROUND STORAGE

1. **Jackson Prairie Gas Storage Gas Project, Chehalis, Washington;** F.H. Wurden and D.M. Ford, 1977; Washington Geologic Newsletter
2. **Underground Storage of Natural Gas Offers many benefits to the Public;** Association of Washington Gas Utilities; late 1950's
3. **Newspaper clippings on gas well blowouts and storage safety issues** (compiled by Friends of the Fraser Valley). *Filed under I.2 (General - Geology and Drilling)*
4. **Monitoring Gas Storage Reservoirs;** D.L. Katz; Pre-print Society of Petroleum Engineers; year unknown
5. **A Report on the Williamsburg, Michigan, Gas Eruptions;** Department of natural Resources, State of Michigan, 1973. *Filed under I.3 (General - Geology and Drilling)*

* (not available at Commission office; reader must go to library indicated)

20. **Underground Storage of Natural Gas; M.R. Tek, 1987, 665-742 T266; B.C. Ministry of Energy, Mines and Petroleum Resources Library. *Filed on shelf below binders***
21. **South Surrey Proposal for Underground Storage of Natural Gas; Thurber Consultants, 1978**
- *22. **Detection, Prevention and Remediation of Leaks from Underground Storage Tanks; Environment Canada, 1989; TP692.5 D47; U. Vic. McPherson Library**
- *23. **Petroleum Storage for National Security; U.S. National Petroleum Council, 1975; TP692.5 N38; U.Vic. McPherson Library**
24. **Gas storage - Should you develop it? Proceedings of conference sponsored by GAS Inc.; Chatham, Ontario, Oct 16-18, 1989**
25. **Petroleum Storage Principles; A. Marks, Marks Research Consultants, 1983; pp. 155-183 TP 692.5 M28 1983; U.B.C. Main Library**
26. **Various Tracers Identify Injected Storage Gas; R. Anderson and J. Vogh, Oil and Gas Journal March 13, 1989, p. 52**
27. **Identified Models for Gas Storage Dynamics; G. Chierici et al, Society of Petroleum Engineers Journal, April 1981, p. 151**
28. **Overview on Underground Storage of Natural Gas; K.L. Katz and M.R. Tek; Journal of Petroleum Technology, June 1981, p. 943**

III. GENERAL POLICY AND LEGISLATION

1. **British Columbia Natural Gas Removal Policy - A Policy Paper; Ministry of Energy, Mines and Petroleum Resources, 1990**
2. **Underground Natural Gas Storage Act, Washington State**
3. **National Energy Board
National Energy Board Act**
4. **National Energy Board
National Energy Board Act; Onshore Pipeline Regulations**
5. **National Energy Board
Rule of Practice and Procedure of the National Energy Board, 1987**
6. **National Energy Board
Guidelines on filing environmental information pertaining to gas projects**
7. **National Energy Board, Environment Branch
Environmental Issues List**
8. **National Energy Board
Memo, Environmental Hearings**

• (not available at Commission office; reader must go to library indicated)

25. **Gas Utility Supply Planning: Risk Management and Regulatory Oversight;** T.P. Lyon and B. Schlesinger; the Energy Journal, v.9, no. 3, p. 153, 1988
26. **On Aspects of Oil and Gas Trade;** A. Plourde, The Energy Journal, v. 9, no. 4, 107, 1988
27. **The Demand for National Gas: A Survey of Price and Income Elasticities;** M.A. Al-Salawi; The Energy Journal, v.10, no. 1, p. 77, 1989
28. **Competitive Speculative Storage and the Cost of Refining Product Supply;** M.N. Lowry; The Energy Journal, 1989, v.10, no. 2, p. 1987
29. **British Columbia Petroleum and Natural Gas Act and regulations created under the Act.**
30. **Commission of Inquiry on British Columbia's Requirements, Supply and Surplus of Natural Gas and Natural Gas Liquids, 1982, G.W. Govier, Commissioner**
 - a) Summary Report
 - b) Technical Report*Filed beside binder*
31. **A Guide for Ontario Natural Gas Buyers, by Ontario Ministry of Energy**
32. **Natural Gas Storage in Ontario, 1986, Ontario Ministry of Energy**
33. **Report on the Coquitlam Watershed Pipeline Inquiry; D.L. Mackay, July 1989**

IV. ENVIRONMENT

1. **Surface Lane Use Designation and Sensitivity / Subsurface Resource Exploration Opportunity Analyses and Summary;** Ministry of Land Use Committee, Ministry of Energy, Mines and Petroleum Resources, B.C., March 1983
2. **Greater Vancouver Agricultural Overview;** Greater Vancouver Regional District, March 1990
3. **Newspaper clippings on gas well blowouts and storage safety issues (compiled by Friends of the Fraser Valley).** *Filed under I.2 (General - Geology and Drilling)*
4. **A report on the Williamsburg, Michigan, Gas Eruptions;** Department of Natural Resources, State of Michigan, 1973. *Filed under I.3 (General - Geology and Drilling)*
5. **Environmental and Other Insurance Aspects of Underground Storage Projects;** C.A. Muller, E. M. de Saventem and R.M. Aickin, Subsurface Space, Rockstore 80, v. 1, p. 83, proceedings of the International Symposium, Stockholm, Sweden; M. Bergman, editor
6. **Underground Storage and Environmental Protection;** G. Fontan; Subsurface Space, Rockstore 80, v. 1, p. 273, proceedings of the International Symposium, Stockholm, Sweden; M. Bergman, editor

* (not available at Commission office; reader must go to library indicated)



THE CORPORATION OF THE CITY OF PORT COQUITLAM

2580 SHAUGHNESSY STREET
PORT COQUITLAM, B.C.
V3C 2A8

TELEPHONE: 941-5411
FAX: 464-3524

OUR FILE EPC

August 1, 1990

Ministry of Environment and Parks
10334 - 152A Street
Surrey, B.C.
V3R 7P8

Attention: H.Y. Wong, Regional Waste Manager

Dear Sir:

RE: Standards For Landfilling of Contaminated Soils

The Environmental Protection Committee of Council is in the process of drafting a bylaw to regulate the deposit of soil on properties within the City, and would like to incorporate a provision to require the applicant to provide some proof that the soil being deposited meets the quality regulations established by the Pacific Place Standards or other standards as your Ministry might require, be met.

Would you please provide us with information on what standards are applicable to different land use designations (eg. Level A, B, C, etc.) and what parameters would have to be analysed to ensure that these standards are being adhered to. Also, if you have any suggestions as to how we might best word our Bylaw to adequately address this issue we would be appreciative.

Thank you for your assistance in this matter.

Yours truly,

A handwritten signature in dark ink, appearing to be "DGR".

D.G. Riecken, P. Eng.
Deputy City Engineer

DGR:gc

c.c. City Engineer

THE CORPORATION OF THE
CITY OF PORT COQUITLAM

MEMORANDUM

TO: Environmental Protection Committee DATE: July 31, 1990

FROM: D.G. Riecken
Deputy City Engineer

SUBJECT: Soil Deposit Bylaw

When the draft bylaw was last reviewed by the Committee there were questions raised with respect to what threshold quantity should be established below which a permit would not be required, what were reasonable permit fees and royalties, and what were other municipalities doing in this regard.

Engineering have contacted several municipalities in the Greater Vancouver area to determine how soil deposits are regulated. The following table summarizes the results of this enquiry.

Municipality	Permit Fee	Royalty	Threshold Volume	Security Deposit
Burnaby	\$2.50	none	nothing specific	none
Coquitlam	\$50.00	none	nothing specific	none
Maple Ridge	\$200.00	none	nothing specific	not specified
Surrey	\$100.00 + \$50/Ha	\$0.50/cu m	1000 cu m	\$10,000
Port Moody	\$50.00	none	5 cu m	\$10,000
POCO Proposed	\$50.00	\$1.00 / cu m to \$10,000 max	???	\$ 1,000 + \$25,000/Ha

Most of the municipalities contacted did not require permits where soil removal or deposit was covered under a building permit. The City of Vancouver requires the applicant to get approval from the Ministry of Environment for sites suspected to be contaminated. Richmond prohibits deposit of wood waste and requires that the applicant have a permit under the Waste Management Act for placement of construction debris including contaminated soil.

Cont'd /2...

In reviewing the above information it would appear that the proposed permit fee is in line with that charged by others, that the royalty may be higher for smaller operations but with a \$10,000 limit could be less for bigger operations, and that our security deposit would be higher than most for anything other than fairly small filling operations.

I would suggest that the royalty be reduced to \$0.50 per cubic metre with no ceiling, and that the security deposit be reduced to \$1,000 plus \$10,000 per hectare to a maximum of \$50,000. In order to minimize the number of permits which we will have to process we should give some thought to exempting properties of, say, 0.5 Hectares or less, and setting a minimum threshold quantity of, say, 100 cubic metres, below which no permits would be required. The draft of the bylaw would have to be revised to reflect these changes.

It would probably be best if the Committee were to agree on what changes should be made, and a revised draft prepared for review by the Committee prior to submission to Council for approval.

D.G. Riecken, P. Eng.
Deputy City Engineer

Igor's suggestion \$5000/Ha -no ceiling
Threshold 50 cu m

LIDSTONE, YOUNG, ANDERSON
BARRISTERS & SOLICITORS

501 - 1803 Douglas Street
Victoria, B.C.
V8T 5C3
Telephone: (604) 383-2063
Telecopier: (604) 689-3444

1414 - 808 Nelson Street
Box 12147, Nelson Square
Vancouver, B.C. V6Z 2H2
Telephone: (604) 689-7400
Telecopier: (604) 689-3444

BY TELECOPIER

May 11, 1990

Mr. Ron Freeman
Clerk/Deputy Administrator
City of Port Coquitlam
2580 Shaughnessy Street
Port Coquitlam, B.C.
V3C 2A8

Dear Ron:

Re: Soil Deposit Regulation Bylaw
Your File No. L0990RF
Our File No. 19-S-229

As requested, we have reviewed draft "Soil Deposit Regulation Bylaw, 1990, No. _____". This letter sets out our comments on the draft bylaw and our recommendations for changes to the draft bylaw.

Authority for the bylaw is found in Section 930.1 of the Municipal Act, R.S.B.C. 1979, c. 290, as re-enacted in 1989. Council is empowered to regulate or prohibit the removal of soil and the deposit of soil or other material within the Municipality and the draft bylaw is a partial exercise of those powers.

Soil removal bylaws have been controversial and there have been numerous challenges by gravel operators to the validity of charges levied under such bylaws. Section 930.1 was enacted after the Supreme Court of Canada struck down the Maple Ridge bylaw in Kirkpatrick v. Maple Ridge (1986) 34 M.P.L.R. 128.

Following are our comments and recommendations, in the order the topics appear in the draft bylaw:

1. Section 1 is superfluous and may be deleted, particularly in view of the wording of Section 4.
2. A severability clause such as Section 2 normally appears at or near the end of a bylaw. A shorter clause to the same effect would be:

"If any section or lesser provision of this bylaw is held invalid, the validity of the remaining provisions of this bylaw shall not be affected."

3. We recommend that the following definition be included near the beginning of the bylaw:

"'Soil' includes sand, gravel, rock, other substances of which land is composed, and includes other materials contained in a mixture with soil."

4. For clarity, Section 6 should refer to "the land in which the soil is to be deposited". Section 7(d) should also refer to the land "on which the soil is to be deposited".

5. Sections 8 through 10, 12 and 13 delegate discretion to the City Engineer to require that applicants provide title certificates, consents, soil analysis, contour plans and architectural or engineered designs. Most if not all of those delegations are invalid. In Kirkpatrick v. Maple Ridge (1983) 49 B.C.L.R. 134, the B.C. Court of Appeal struck down a portion of a Maple Ridge bylaw which required the municipal engineer's approval for soil removal in certain cases. The Court held that "the engineer is given an unlimited discretion to permit whatever he sees fit for whatever reason he sees fit" and held that the approval power must be struck down.

As a general rule, an administrative power may be delegated but only if it is confined by objective standards which apply to all persons equally: Barthropp v. West Vancouver (1979) B.C.L.R. 202 (B.C.S.C.). Accordingly, the bylaw should be revised to provide the circumstances in which the engineer may require additional information, or the reference to requests by the City engineer should be deleted altogether.

6. In any event, the consent requirements in Section 9 are invalid. A municipality may not require the consent of neighbouring owners as a condition precedent to activities on land: Re Kiely (1887) 13 O.R. 451 (Ont. S.C.).
7. Section 10 should be redrawn as a general prohibition against depositing soil which is contaminated. For that purpose, contamination should be defined as the presence of any elements in the soil which pose a risk to the health of persons or animals.
8. Section 11 has no legal effect and should be deleted.
9. Council may wish to consider whether the flat fee of \$50.00 in Section 14 is appropriate for very large deposits of soil. Such deposits are likely to result in wear and tear on highways and Section 930.1(4)(b) of the Municipal Act empowers a permit fee to vary with the quantity of soil or material deposited.

10. There is no express authority for the letter of credit requirement in Section 14(2). If challenged, that provision may be set aside.
11. Section 930.1(4)(a) of the Municipal Act authorizes a soil deposit permit system, but does not authorize the refusal of a permit for matters not regulated by the soil deposit bylaw. A Council is not permitted to redelegate to itself the power to make arbitrary decisions on matters which are to be regulated by bylaw. In that regard, some of the provisions of Section 17 are so broad as to be virtually meaningless and the result is that the validity of a Council decision to refuse a permit could not be tested for compliance with the bylaw. Notably, paragraphs (d) through (j), (r) and (s) are within that category and are likely invalid.
12. In Section 18, the phrase "or his appointee" should be deleted and the phrase "and City employees acting under the direction of the City Engineer" substituted.
13. There is no express authority for the taking of "corrective measures" and the recovery of costs from the permit holders as provided for in Section 20. Such measures might be justified as incidental to the regulatory power.
14. The phrase "at any time, in its opinion" should be deleted from Section 21(1).
15. The penalties under Section 23 may be increased, as Council is not limited to a maximum fine of \$2,000.00 by Section 294 of the Municipal Act.

In addition to the foregoing comments and recommendations, there are a number of provisions we recommend for inclusion in a soil deposit regulation bylaw. Rather than enumerate those provisions, we enclose a revised version of the proposed bylaw, reflecting our comments in this letter and our further recommendations for inclusions.

Sincerely,

LIDSTONE, YOUNG, ANDERSON

Grant Anderson

Grant Anderson

Enc.

GA/2069

cc: Mr. Bryan Kirk, Administrator

DRAFT

THE CORPORATION OF THE CITY OF PORT COQUITLAM

BYLAW NO. _____

A Bylaw to Regulate and Prohibit the Deposit
of Soil and Other Material on Land in the City.

The Municipal Council of the Corporation of the City of
Port Coquitlam, in open meeting assembled, enacts as follows:

Definitions

1. In this bylaw:

"Contaminated soil" means soil which contains any element
which creates a risk to the health of persons or animals;

"Deposit" in relation to soil means to bring soil on to a
parcel from land other than that parcel;

"Soil" includes, sand, gravel, rock and other substances of
which land is composed, and includes other materials contained
in a mixture with soil on any land within the City of Port
Coquitlam.

Prohibitions

2. No person shall cause or permit the deposit of soil on any
land within the City of Port Coquitlam except in accordance
with this bylaw.
3. No person shall cause or permit the deposit of contaminated
soil.

Permits

4. Any person who proposes to deposit in excess of two cubic
metres of soil on a parcel of land shall first obtain a permit
under this bylaw.
5. Every application for a permit to deposit soil shall be made
by the owner of the land on which the soil is to be deposited,
or by a person authorized in writing by the owner of the land.
6. An application for a permit to deposit soil shall include:
 - (a) the legal description and street address of the land from
which the soil is proposed to be taken;
 - (b) the legal description and street address of the land
which the soil is proposed to be deposited;

- (c) the name and address of the person applying for the permit;
 - (d) the name and address of the registered owner of the land on which the soil is to be deposited;
 - (e) the exact location where the deposit is proposed, defined by reference to buildings, structures, improvements and parcel boundaries;
 - (f) the composition and quantity of soil which is proposed to be deposited;
 - (g) the method proposed for deposit of the soil;
 - (h) the dates proposed for commencement and completion of the deposit;
 - (i) the proposed access to and from the land for vehicles carrying soil;
 - (j) measures proposed to prevent personal injury or property damage resulting from the deposit;
 - (k) measures proposed to control erosion, drainage and soil stability;
 - (l) measures proposed to stabilize, landscape and restore the land and soil after the deposit is completed;
 - (m) the location of any affected watercourse, waterworks, ditch, drain, sewer, catch basin, culvert, manhole, right-of-way, public utility or public works and the measures proposed to protect them;
 - (n) the proposed routes to be taken by vehicles transporting soil to the land; and
 - (o) measures proposed to minimize or prevent tracking of soil onto City streets.
8. (p) Where the amount of soil to be deposited exceeds 50 cubic metres, the application shall include a current state of title certificate for the land upon which the deposit is proposed.
8. Where the amount of soil is to be deposited exceeds 100 cubic metres, the application shall include a chemical analysis prepared and certified by a qualified technician, confirming that the soil to be deposited is not contaminated.

9. Where the amount of soil to be deposited exceeds 300 cubic metres, the application shall include a survey plan with a one metre contour interval or a grid of spot elevations no more than 5 metres apart, prepared by a British Columbia Land Surveyor and showing:
 - (a) the proposed deposit and the form of the land surface before and after the deposit;
 - (b) the existing improvements, structures and buildings on the land;
 - (c) the methods of draining the land before, during and after the proposed deposit; and
 - (d) the location of all services and utilities on or under the land.
10. (1) Where the amount of soil to be deposited exceeds 300 cubic metres and the location of the proposed deposit may be subject to flooding, landslip or subsidence, an applicant for a permit shall obtain the services of a Professional Engineer or Landscape Architect:
 - (a) to design plans for
 - (i) accomplishing the proposed deposit,
 - (ii) stabilizing, landscaping, and restoring the land and soil after the deposit, and
 - (iii) protecting any stream or drainage system that will be affected by the proposed deposit.
 - (b) to inspect the applicant's implementation of the designs under paragraph (a).
- (2) The City Engineer may refer the designs and any written recommendations to the Director of Community Planning, Chief Building Inspector or consultants for advice.
11. The City Engineer shall report to Council on each application for a permit. The issuance of the permit shall be considered by Council and shall be authorized, refused or otherwise dealt with by resolution of Council.
12. The Council may refuse to issue a permit if the deposit of soil:
 - (a) may foul or obstruct the flow of any watercourse, ditch, drain or sewer;
 - (b) may adversely affect the stability of the land;

- (c) may endanger the health, safety, convenience or welfare of the public;
 - (d) may result in an excessive cost to the City to provide public utilities or other public works or services;
 - (e) may endanger improvements, structures, buildings or their supports;
 - (f) may endanger the stability of the soil by allowing it to become susceptible to erosion, slippage, landslides, slumping, ^{or} settling, or other deposits; ??
 - (g) may disturb, damage, destroy, obstruct, impede or divert the drainage of any area; or
 - (h) may injuriously affect the established amenities of adjacent properties.
13. (1) Every permit shall incorporate the information set out in the application as approved and shall be valid for a period of 6 months from the date of issuance.
- (2) A permit issued under this bylaw shall not be assigned.

Permit Fees and Security

14. (1) The fee for a permit under this Part shall be \$50.00, plus \$1.00 for each cubic metre of soil to be deposited in excess of 100 cubic metres, to a maximum of \$10,000.00.
- (2) Every applicant for a permit to deposit in excess of 100 cubic metres of soil shall deposit with the City a Letter of Credit valid for the duration of the permit in the amount of \$1,000.00 and an additional \$20,000.00 per acre for every hectare or portion in excess of one hectare proposed to be covered by soil. The Letter of Credit shall be irrevocable and unconditional and shall be security for costs or damages incurred by the City as a result of any breach of this bylaw or damage to a highway or City property.

Administration and Enforcement

15. This bylaw shall be administered by the City Engineer.
16. The City Engineer, the Chief Bylaw Enforcement Officer and all City employees under their direction may at all reasonable hours enter upon any land or premises in the City to determine if the provisions of this bylaw are being met.



CITY OF PORT COQUITLAM	
ENGINEERING DEPT.	
JUL 16 1990	
FILE #	
SAVE GEORGIA STRAIT ALLIANCE	
2nd Floor, 479 4th Street, Courtenay, B.C. V9N 1G9	
TO	DATE

July 3, 1990

Dear Mr. Traboulay,

We are writing to you to ask for your help and support with a project that we hope will stop any further degradation of the Strait of Georgia environment.

The Save Georgia Strait Alliance is a newly-formed coalition determined to halt further pollution of Georgia Strait and begin its clean-up. We believe that the situation is urgent, and that immediate, united action is essential in order to stop the devastation.

We came together earlier this year because of our recognition that the Strait of Georgia is dying. For decades we have used the Strait as a catch basin for millions of gallons of municipal sewage and pollutants, pulp mill effluent, industrial wastes, chemicals, oil and other toxins. Shell fisheries are closed up and down the coast, lesions and tumours are appearing in our fish, and spring salmon and lingcod stocks are in danger of extinction. We continue to pour tons of organo-chlorines into the Strait daily and repeatedly court the possibility of a major spill from an oil tanker or radioactive contamination from a U.S. Navy nuclear vessel. As an inland sea with little tidal flushing action, Georgia Strait's ecosystem may soon be pushed beyond its limits by this ever-increasing toxic onslaught. Unfortunately, there does not appear to be enough political will or industrial response to stop the destruction of the Strait.

The Alliance is organizing a Save the Strait Marathon and Faire on August 25 - 26 and a State of the Strait Conference on February 23 - 24, 1991. The Marathon is a swim, paddle, or surf from Nanaimo to Sechelt with an eco-fair on the Sechelt Indian Band land. Through the participation of hundreds of people in the marathon, we hope to raise awareness of the environmental issues as well as raise money through pledges for the participating environmental organizations, the Alliance, and the Conference.

We hope that you will agree with us that we have an individual and collective responsibility to our children and future generations to stop the destruction, clean up the mess we have made, and begin the healing process.

c.c. ENVIRONMENTAL PROTECTION Ctee
D.G. RIECKEN

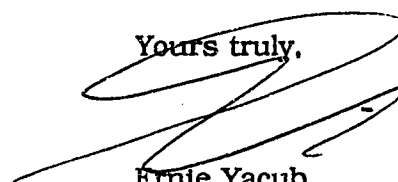
We need your help. Your endorsement of the projects would be most helpful. Please let us know soon so that we can include your indication of support in our correspondence and news releases.

Since we are organizing these events without corporate or government funding, we would appreciate a donation from your organization. We have asked this of many other community based groups, including unions, local governments, service organizations, and members of environmental groups.

We invite you to participate in the marathon. Your council may want to field a relay team or one of you may be interested in swimming or paddling the whole way. Or you may be able to help us by providing an escort boat. Enclosed is more information on the planned events and a registration form.

Should you require any more information please write or phone us.

Yours truly,

A handwritten signature in black ink, appearing to read 'Ernie Yacub', written over a horizontal line.

Ernie Yacub
Director, SGSA

Soil Regulations

Burnaby reported that there is \$2.50 charge for a permit and that there are no royalties levied on the soil transported. A permit is not required when a Building Permit has been taken out. For example there is no permit required when a retaining wall is being put up etc. Permits are not required for neither removal nor deposit this also falls under their Building Permit. They do not require a Security Deposit but they do require a geotechnical report.

Coquitlam reported that there is \$50.00 charge for a permit which is good for six months from date of permit. There are no royalties levied on the soil transported. Exemptions under the permit are things that are required to have building or excavating permit like landscaping, pre-loading for parking lots etc. Permits are required for deposit and removal. No security deposit is required.

Maple Ridge gave me number of Dewdney Alouette Services, (462-8294). The person said they deal more with Farm Land but answered my questions anyway. She said they have a \$200 Application that goes through the Agricultural Land Commission. They do not charge royalties. The amount under which a permit is not required is under the Soil Conservation Act of which she doesn't know. Both deposit and removal require a permit. If Agricultural Land Commission decides it is a big job they may have to have bonds.

Port Moody

See attached report.

Richmond

See attached Report.

Vancouver

See attached Report.

Surrey

Sending report through mail.

Vancouver's Position

The City of Vancouver's position at this time is that when any application is received for Rezoning, Subdivision or Development of a property, that application is reviewed by the Industrial Waste Control Branch of the Permits and Licenses Department. In some cases, where it is felt appropriate, historical reviews are carried out detailing the previous uses of these sites. From the information received, a decision is made whether an assessment of contamination will be required. Since at this time no Provincial legislation is in force but it is generally felt that the Province should be the lead agency, the developer is ordered to contact the Provincial Ministry of Environment for instructions as to the processes required. The City will not issue any permits on a contaminated site until a letter is received from the Ministry of Environment (M.O.E.) either clearing a site or approving of a remediation program.

THE CORPORATION OF THE TOWNSHIP OF RICHMOND

BY-LAW NO. 5528

Richmond Prohibition of Certain
Fill Materials By-law No. 5528

WHEREAS it is deemed expedient that the deposit of soil from or upon lands within the Municipality be regulated.

AND WHEREAS the Municipal Act provides that the Council may, by by-law, regulate or prohibit the deposit of soil, sand, gravel, rock or other material on land in the municipality or in any area of the municipality, and require the holding of a permit for the purpose and fix a fee for the permit, and different regulations and prohibitions may be made for different areas.

1. For the purpose of this By-law:

"Construction Material" means non-degradable construction or demolition waste such as masonry rubble, concrete rubble asphalt and contaminated soil.

"Deposit" means the act of moving soil and placing it within a parcel or upon other land on which such soil did not previously exist or stand.

"Wood Waste" means wood residue in mechanically shredded form and includes sawdust, hogfuel, bark, chips, slabs, shavings, trimmings, edgings or other such waste which is the result of any manufacturing process involved in the production of lumber or other wood products.

2. No person shall deposit or permit the deposit of wood waste upon any parcel of land within the Corporation, save and except that wood waste not exceeding 10.160 cm in depth which may be used for landscaping purposes only, provided a bona fide farmer may use wood waste for the purpose of constructing access routes on his land. Any person who uses wood waste for landscaping or farm use shall include adequate precautions to prevent any wood waste leachate from entering the municipal drainage system.

3. No person shall deposit or permit the deposit of Construction Material, as herein defined in this by-law, upon any parcel of land within the Municipality, unless he has first been granted a Waste Management Act Permit or Exemption, and such deposit shall be undertaken in full compliance with the terms of such permit.

BY-LAW NO. 5528

-2-

- 4. Every person who violates any of the provisions of this By-law or who suffers or permits any act or thing to be done in contravention of this By-law, or who neglects to do or refrains from doing any act or thing required to be done or who violates any of the provisions of this By-law, shall upon summary conviction therefore be liable to a fine not exceeding Two Thousand (\$2,000.00) Dollars or to a term of imprisonment not exceeding three (3) months, or to both fine and imprisonment.
- 5. This By-law may be cited for all purposes as "Richmond Prohibition of Certain Fill Materials By-law No. 5528".

READ A FIRST TIME ON:

APR - 9 1990

READ A SECOND TIME ON:

APR - 9 1990

READ A THIRD TIME ON:

APR - 9 1990

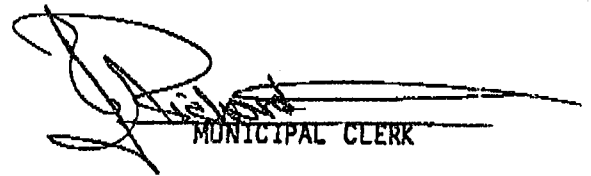
RECONSIDERED, FINALLY PASSED AND ADOPTED ON:



APR 23 1990

G.J. BLAIR
MAYOR

J. RICHARD McKENNA
MUNICIPAL CLERK

Certified a true and correct copy of By-law No. 5528 of The Corporation of the Township of Richmond.


MUNICIPAL CLERK

MUNICIPALITY OF RICHMOND
APPROVED for content by originating Dept.

APPROVED for legality by Solicitor

AMENDMENTS (if any) approved by
(Date)

CITY OF PORT MOODYBY-LAW NO. 785

A By-law to regulate the removal of soil from lands within the City of Port Moody.

WHEREAS under Section 868 of the "Municipal Act", being Chapter 255 of the Revised Statutes of British Columbia, 1960 and Amending Act, and other provisions of the said Act, the Council of the City of Port Moody may by By-law regulate or prohibit the removal of soil from any lands within the Municipality and require the holding of a permit for such purpose and fix a fee for such permit;

AND WHEREAS it is deemed expedient that the removal of soil in the Municipality be regulated;

NOW THEREFORE the Municipal Council of the City of Port Moody ENACTS AS FOLLOWS:

1. That in this By-law:-

"Municipality" shall mean the geographic area of the City of Port Moody or any part thereof.

"Corporation" shall mean the City of Port Moody.

"City Engineer" shall mean the Engineer for the City of Port Moody.

"Permit" shall mean the written authority granted by the "City Engineer" for the removal of soil from specified land within the Municipality upon the terms, conditions and plans and specifications applicable to the application for such removal.

"Soil" shall mean sand, gravel, rock, or, other substance of which land is composed.

"Council" shall mean the Municipal Council of the City of Port Moody.

2. No person, firm or corporation shall remove or cause to be removed from any lands within the Municipality any soil until a permit for such removal is first had and obtained from the City Engineer pursuant to the provisions of this By-law.
3. An application for such permit shall be made by the owner of the lands and premises or by such person, firm or corporation as may be designated in writing by the owner of the lands and premises upon which the said soil which is to be removed exists and same shall be made to the City Engineer and shall be accompanied by a fee of \$50.00 and the information and data of plans and specifications hereinafter required. Such permit shall be for a period not exceeding six (6) months provided that the expiry date shall coincide with the municipal licensing expiration date of January 15th or July 15th.
4. An application for a permit to remove soil pursuant to the provisions of this By-law shall provide:-
- (a) The purpose for which the soil is to be removed.
 - (b) Plans showing detail of development of the lands and premises to be excavated, prepared by a registered professional Engineer for the Province of British Columbia to a scale of 200 feet to the inch, or larger, and

showing the contour of the ground in its current state with vertical contour intervals of not more than five feet using the Greater Vancouver Sewerage and Drainage District Datum;

without limiting the generality of the foregoing the said plans shall contain or shall be accompanied by the statement of the following information:-

- (i) All pertinent topographic features, buildings, structures and tree cover.
 - (ii) The proposed slopes which will be maintained upon completion of the operation.
 - (iii) The methods proposed to control the erosion of the banks of the excavation or fill.
 - (iv) The proposed methods of drainage control for the excavation during the excavation.
 - (v) The proposed methods of access to the site during the excavation.
 - (vi) The proposed methods of fencing, enclosing, and clearing to assure that no hazard to human or animal life exists.
 - (vii) The proposed progressive stages of excavation in terms of annual development showing vertical contours specified above, grades and slopes on separate plans for each stage if required by the City Engineer.
 - (viii) The proposed contour of the ground in its final state upon completion of the operation with vertical contours as specified above and showing the method of access and positive methods of permanent drainage on a separate plan.
 - (ix) The proposed location of stockpiles indicating their extent and nature.
 - (x) The proposed location of machinery, buildings, scales and all other proposed structures and improvements.
 - (xi) Such further and other information as the City Engineer may require.
- (c) A good and sufficient covenant under seal by the applicant that the applicant shall cause the said soil to be removed in accordance with the plans and data contained in the application and performance bond acceptable to the City Engineer in the principal amount of Ten Thousand (\$10,000.00) Dollars to insure the removal of soil in accordance with the said permit.

5. Each and every permit issued pursuant to this By-law shall be subject to the following conditions, unless otherwise specifically provided for in writing thereon:

- (a) The excavation at all times shall be such that positive gravity drainage is assured. No excavation shall be made below the point at which it will drain to watercourse without written approval of City Engineer and only at times designated by him.
- (b) All damage to municipal drainage facilities, roads, or lanes, or other municipally owned property resulting from the excavation or the removal of soil therefrom shall be repaired. All drainage facilities shall be kept free of silt, clay, sand, rubble, debris, gravel and any other matter or thing originating from any excavation upon the lands and premises and causing obstruction to such drainage.
- (c) Stockpiles of soil shall be confined to the locations prescribed and same shall be maintained so that they do not

adversely effect or damage adjacent properties.

- (d) The operation by which the said soil is removed shall not encroach upon, undermine, or damage any property.
 - (e) No natural water course shall be altered or diverted.
6. All excavations and other hazards shall be fenced and suitable weather-proof signs shall be mounted and maintained on the fence at linear distances not to exceed one thousand (1,000) feet with wording to indicate the danger, the nature of the operation, the presence of the excavation and prohibiting the presence of the public.
 7. No soil removal operation shall operate nearer than 100 feet from adjacent road, allowances, provided however, that upon application, the Council may reduce the said distance according to prevailing circumstances.
 8. Any permit issued pursuant to this By-law shall be contingent upon the provisions of the "Air Pollution Control By-law" of the City of Port Moody being adhered to.
 9. All excavations which are proposed to be filled with overburden, etc., shall be so filled under the direction of the City Engineer, and with materials the standard of which is prescribed and determined by him.
 10. Nothing in this By-law shall be construed so as to apply to:
 - (a) Any florist, nurseryman, or horticulturist requiring soil for the purpose of supplying his pots, cold frames or other as it pertains to the trade on lands owned, or occupied by him, provided, however, that in such cases no soil shall be removed to a depth below the established grade of the street, or streets which abut the property unless a permit is had and obtained pursuant to the provisions herein contained.
 - (b) Any person engaged in the erection of buildings on lands and premises owned by such persons and where the removal of such soil is necessary for the construction of basements and foundations.
 - (c) The removal of soil for other than commercial purposes where the amount thereof does not exceed five cubic yards.
 11. Every person who violates, contravenes or commits any breach of the provisions of this By-law shall be guilty of an offence punishable on summary conviction and shall be liable to forfeit and pay a fine of \$1,000.00 and costs, or in default of payment thereof, imprisonment for a term not exceeding six months.
 12. The City Engineer shall have the right at all times to enter upon and inspect all lands and premises for which a permit has been issued pursuant to the provisions of this By-law, and in the event of notice of a breach in any of the provisions of this By-law or a permit issued pursuant thereto being given to the applicant for such permit by the City Engineer the said applicant shall forthwith cease and desist from removing any further soil from the said lands and premises until such breach is remedied.
 13. Any person who duly complies with the provisions of this By-law shall be entitled to a permit to remove soil.
 14. The "Port Moody Soil Removal By-law No. 625, 1954" is hereby repealed.
 15. This By-law may be cited for all purposes as "City of Port Moody Soil Removal By-law, 1962."

READ a first time this 16th day of April, 1962.

READ a second time this 16th day of April, 1962.

READ a third time this 16th day of April, 1962.

RECONSIDERED AND FINALLY PASSED AND ADOPTED and the Seal of the City of Port Moody affixed this 23rd day of April, 1962.

D.R. Petrie
Mayor

J. Schubert
City Clerk

THE CORPORATION OF THE DISTRICT OF SURREY

BY-LAW NO. 5880

As amended by By-laws No. 6932, 7139, 7247,
8349, 9113, 9663, 9748, 9855, 10127

A By-law to regulate the removal or depositing of
soil from lands within the Municipality, to
require the holding of a permit for such purpose,
and to fix a fee for such permit.

.....

WHEREAS the Council may, pursuant to Section 930 of the
Municipal Act, being Chapter 290 R.S.B.C. 1979, as amended,
regulate or prohibit:

Amended
by
By-law
No. 6932

(a) the removal of soil, sand, gravel, rock or other substance
of which land is composed from any lands,

(b) the deposit of soil, sand, gravel rock or other material on
any lands; and

WHEREAS it is deemed expedient that the removal or depositing of
soil from or upon lands within the Municipality be regulated;

NOW, THEREFORE, the Municipal Council of The Corporation of the
District of Surrey, in open meeting assembled, enacts as follows:

1. This By-law shall be cited for all purposes as "The Surrey
Soil Removal and Depositing Regulation By-law, 1979, No.
5880".

2. For the purposes of this By-law:

"Chief Inspector" means the Chief Inspector of The
Corporation of the District of Surrey,
as duly appointed by the Municipal
Council, and shall include his duly
appointed representative.

"Corporation" means The Corporation of the District of
Surrey.

"Depositing" means the act of moving, removing, taking or transporting soil and placing it upon a record lot on which it did not previously exist or stand.

"Other material" means:-

- a) Hog fuel, sawdust, shavings, edgings or other such waste which is the result of any manufacturing process involved in the production of lumber or other wood products, or
- b) Non-degradable construction or demolition waste such as masonry rubble or concrete rubble which can be readily compacted.

"Permit" means the written authority granted by the Chief Inspector pursuant to this By-law for the removal or depositing of soil from, or upon specified land within the Municipality.

"Removal" means gravel, sand, rock, silt, clay, peat, topsoil, and all other material of which land is composed, down to and including bedrock, and in the case of a soil depositing operation shall include "other material" as defined herein, but in the case of a soil removal operation shall not include topsoil (as defined under the SOIL CONSERVATION ACT, and any amendment thereto), which is located in an Agricultural Land Reserve.

3. (A) Notwithstanding anything contained in this By-law and subject to all of the requirements contained in this By-law, no soil or other material shall be removed from or deposited on any record lot in the A.L.R. or any record lot that is zoned for Agricultural use under Surrey Zoning By-law No. 5942 or amendments thereto, until such application has received the approval of the Municipal Council and the Agricultural Land Commission, who may impose such other requirements and restrictions as are deemed necessary to maintain and preserve the Agricultural capabilities of the record lot.

Inserted
by
By-law
No. 7247

(I) This By-law shall not be construed so as to apply to:

(a) the removal or depositing of such soil, as is necessary for the construction or installation of roads, utilities, dykes or services from or upon a dedicated public right-of-way or registered easement, or lands owned or controlled by a dyking authority or the Corporation.

(b) the depositing of soil where the total volume of soil deposited upon a record lot does not exceed one thousand (1000) cubic meters, or 1 meter in depth, whichever is the lesser.

Amended
B/L 10127
07/17/89

Except that no soil shall be deposited on any slope that exceeds one vertical to five horizontal (20 percent) nor within thirty (30) metres of the crest and toe of such slopes nor within fifty (50) metres of any watercourse unless a permit has been applied for and received.

Amended
by
By-law
8349

(c) the removal or depositing of such soil as is necessary for the construction of a building for which a valid building permit has been issued. Such amounts to be removed or deposited to be clearly indicated on the plans approved for the building permit.

(d) the soil which is removed from another property under a permit issued pursuant to this By-law and:

(i) becomes an ingredient or component part of processed or manufactured materials or products,

(ii) is stockpiled on the premises where such materials or product are processed or manufactured for inclusion in such materials

or products, provided a permit was obtained for the removal of such soil from such other property if previously removed from property within the Municipality or is soil from such other property located outside the boundary of the Municipality.

(e) the removal of that amount of poor soil approved by the Chief Inspector that is necessary for the development of a site for which a soil deposition permit has been issued.

(f) any material from a dredging operation that is deposited directly upon a site for landfill purposes for which a soil deposition permit has been issued.

(II) Sub-section (I) above shall not apply to soil depositing on land within the area outlined on Appendix I hereto.

4. Subject to Section 3 hereof, no person shall deposit, or cause to be deposited, or if the owner of land, permit to be deposited soil upon any parcel of land until a permit has been granted for such depositing pursuant to Section 7 hereto, and all such depositing shall conform in every respect to the regulations and requirements hereinafter set forth and shall be in accordance with the terms and conditions of the permit. The Municipality may require a copy of the said permit to be registered in the Land Registry Office as a covenant against the land from which soil is to be removed.

5. Subject to Section 3 hereof, no person shall remove or cause to be removed or, if the owner of land, permit to be removed, soil from any parcel of land until firstly a

by-law pursuant to Section 6 hereof has been adopted, and thereafter a permit has been granted for the removal pursuant to Section 7 hereof, and all such removal shall conform in every respect to the regulations and requirements hereinafter set forth and shall be in accordance with the terms and conditions of the permit and the said by-law. Where an application is to deposit soil on any land within the area outlined on Appendix "I" then such application shall, in addition to any other requirements of this By-law, provide the further information required by Schedule "H" hereto, and comply with the further requirements of the said Schedule "H".

6. The Council shall, by By-law, designate the lands within the Municipality from which the removal of soil shall be permitted provided, however, that:-

(a) no such by-law shall be finally adopted until the Council has held a Public Hearing thereon, and the provisions of Section 956 of the "Municipal Act" R.S.B.C. 1960, as amended, and shall apply, mutatis mutandis, to such Public Hearing.

(b) The Council shall not be obligated to designate any lands from which the removal of soil shall be permitted, and may in the By-law designating any such lands include therein restrictions covering the set-back distances from property lines within which the excavation of soil shall not be permitted, the depth and grade to which such excavation may be permitted, the drainage and other works which shall be provided, and such other restrictions and regulations as it may deem fit.

(c) The Public Hearing shall consider the whole site for which application has been made for designation for soil removal.

(d) Application for designation of lands for the purpose of soil removal shall be made on the form prescribed in Schedule "F" hereto, which said schedule is hereunto annexed and made part of this by-law, and such application shall be accompanied by a site plan which indicates the lands from which it is desired to remove soil and the extent of the proposed excavations.

7. All applications for permits shall be made in writing to the Chief Inspector in the form prescribed in Schedule "A" hereto, which said Schedule is hereunto annexed and made part of this By-law.
8. All permits shall be issued by the Chief Inspector and shall be in the form prescribed in Schedule "B" hereto, which said Schedule is hereunto annexed and made part of this by-law.
9. A permit for the removal of soil shall incorporate all restrictions and regulations included in the applicable designation by-law and the soil removal operation covered by the permit shall not exceed the limits set down in the designation by-law. A permit for removal of soil may, however, be issued from an area less than the whole area or site designated.
10. No permit shall be issued if the proposed removal or depositing of soil would:
 - (a) endanger or otherwise adversely affect any adjacent land, structure, road, or right-of-way, or
 - (b) foul, obstruct, impede or otherwise adversely affect any stream, creek, waterway, watercourse, groundwater aquifer, waterworks, ditch, drain, sewer or other

established drainage facility unless the applicant holds a permit to do so under the Water Act or Pollution Control Act 1967 and amendments thereto.

11. Every permit shall expire twelve (12) months after the date on which it was issued. Application for renewal of a permit or part thereof shall be made in the same manner as currently prevail for a new application at the time of the said application for renewal. There shall be no obligation upon the Municipality to renew any permit on expiry of such permit.

12. Fees, Removal Fee and Bond Payments

(a) A permit fee of \$100.00 shall be paid at the time of application for each designation of lands for soil removal. If Council rejects the application, the administration fee is non-refundable.

Amended
by B/L
9748
10/17/88

(b) The fee payable for depositing of soil shall be Fifty Dollars (\$50.00) per hectare or part thereof. This fee shall be refundable if the application to deposit soil is refused. Fees payable for the depositing of "Other Material" shall be as determined in the Surrey Other Materials By-law No. 3582.

(c) In addition to the permit fee paid upon application for designation of lands for soil removal, a removal fee of fifty cents (50c) will be levied for each cubic metre of soil removed. One-twelfth of the total amount payable shall be paid prior to the issuance of a soil removal permit. Thereafter royalty payment shall be made on or before the 15th of the month for the actual amount of soil removed for the preceding calendar month. When required the permit holder shall produce to the Chief Inspector the

Amended
B/L 9113
08/10/87
and
B/L 9748
10/17/88

necessary information to verify the volume of soil removed.

- (d) In the event that this payment is not made in full by the said 15th day of any calendar month for the preceding month, a penalty, in the amount of ten per centum (10%) of the amount payable, shall become due and payable, over and above the outstanding permit fee. Further, any and all permits held by the permit holder pursuant to this by-law may be revoked and become void, and upon such revocation the security deposit posted may be employed by the Corporation to complete any outstanding works thereunder or applied against any fees still outstanding for soil actually removed.
- (e) Upon expiry of the permit, the permit holder shall within a period of ten (10) days conduct a survey to determine the actual volume of soil removed. Such volumetric computation shall be certified under the seal and signature of a Professional Engineer registered with the Association of Professional Engineers of British Columbia, or a British Columbia Land Surveyor.
- (f) Notwithstanding the preceding requirements of this section, where the nature of the soil removal or depositing operation makes the above measurement technique impractical or unworkable, the Chief Inspector may allow such alternative measuring techniques as will provide for the accurate measurement of the volume of soil removed or deposited.
- (g) As security for the full and proper compliance with the provisions of the by-law and the performance of all terms and conditions expressed in the permit the

applicant shall provide a cash deposit or irrevocable letter of credit drawn upon a chartered bank, in a form acceptable to the Corporation and in the amount of TEN THOUSAND DOLLARS (\$10,000) for each hectare or part thereof of site from or upon which soil is to be removed or deposited, which security shall be maintained in full force and effect throughout the permit period plus a period of One Hundred & Twenty (120) days after expiry of the permit. If proper compliance with the provisions of the by-law is not met by Ninety (90) days after expiry of the permit, then all forms of security shall be cashed and held by the Municipality until such soil compliance is met.

13. (a) Construction

Any operation involving such removal or depositing of soil as is necessary for the construction of a bona-fide building project shall comply with the requirements set down in Schedule "C" hereto, which said Schedule is hereunto annexed and made part of this by-law;

(b) All other soil removal or depositing operations not covered by Clause 13 (a) above shall comply with the requirements set down in Schedule "D" hereto, which said Schedule is hereunto annexed and made part of this by-law;

(c) In addition to any other requirements set down in this section or elsewhere in this by-law, the depositing of all "other material" as defined herein shall comply with the requirements set down in Schedule "E" hereto, which said Schedule is hereunto annexed and made part of this by-law;

14. All damage to Municipal or privately owned drainage facilities, natural watercourses, roads, lanes or other Municipal or privately owned property or facilities, resulting from a soil removal or depositing operation shall be promptly and properly repaired to the complete satisfaction of the Corporation.

15. Dirt, mud, debris, etc., which as a result of a soil amended or soil depositing operation is deposited on public roads so as to cause hazard or nuisance shall be removed on a daily basis. Should the permit holder fail to perform the necessary cleaning work, the Municipality may direct others to perform this work, the cost of which shall be payable by the permit holder within fourteen (14) days of the receipt of a bill for such work from the Municipality. Should the permit holder not pay such bills within this period of time, then the permit may be revoked and all removal or depositing of soil shall forthwith cease until all such bills have been paid.

Amended
by
By-law
No.7139

16. All drainage facilities, natural watercourses, and ground water aquifers shall be kept free of silt, clay, sand, rubble, debris, gravel, and all other matter or thing originating from any removal or depositing of soil, from or upon the lands, which might cause obstruction to such drainage facilities, natural watercourses or groundwater aquifers.

17. Stockpiles of soil which are part of a soil removal or depositing operation shall be confined to the locations prescribed under the permit and shall be maintained so that they do not adversely affect or damage adjacent properties.

18. The operation by which soil is removed or deposited shall not encroach upon, undermine, damage or endanger any adjacent property or any setback area prescribed in the permit.

19. The permit holder or the owner of the land for which a permit has been issued, shall undertake and complete the works in accordance with the provisions of this by-law, and the terms and conditions of the permit. Amended by By-law No.7139

20. No person shall excavate, remove or deposit soil from or upon any parcel of land:-

- (a) beyond those boundaries set out and described in the permit.
- (b) in greater quantities than the volume shown on the permit.
- (c) other than the lands specifically set out and described in the permit.

21. Upon completion of soil removal or depositing operation the permit holder or the owner of the land for which a permit has been issued shall, prior to the expiry of the permit:

- (a) protect the boundaries of all adjacent lands, dedicated rights-of-way, and utility easements from erosion or collapse, and
- (b) complete all such works in accordance with accepted sound engineering principals, and to the satisfaction of the Corporation, and
- (c) submit to the Chief Inspector, plans, profiles, cross-sections, calculations and all other documentation necessary to show the finished topography of the lands from or upon which the soil has been removed or deposited and the actual quantity of soil which has been removed therefrom or deposited thereon.

22. A permit issued pursuant to this by-law or any interest in the said permit shall not be transferred or assigned. Where a permit holder sells, transfers, or otherwise disposes of the land in respect of which the permit was issued, or the soil removal or depositing business, or a majority interest therein, he shall forthwith cease to remove or deposit soil and the permit shall be deemed to have expired as so indicated in Section 11 of this by-law. Disposal of the lands by the permit holder shall in no way relieve him of any or all rectification provisions (see Schedule "D") of the permit. Additionally, the new owner shall comply with all rectification provisions.
23. For the duration of the permit, the permit shall be visibly displayed in a protected, accessible, conspicuous position upon the lands referred to therein and shall be made available to the Chief Inspector upon request.
24. The Chief Inspector shall have the right, at anytime he deems necessary, to enter upon and inspect any lands from which soil is to be, or is being, or has been removed or deposited. The permit holder shall maintain up-to-date records sufficient to allow the progress of the soil removal or depositing operation to be monitored for compliance with the provisions of this by-law and the terms and conditions of the permit, and such records shall be made available to the Chief Inspector upon request.
25. In the event of a breach of any of the provisions of this by-law or the permit, the Chief Inspector shall issue to:-
- Amended
by
By-law
No.7139
- (a) the person removing or depositing the soil, or
- (b) the owner of the lands from or upon which soil is being removed or deposited, or

(c) the applicant for a permit, or

(d) the holder of a permit, or

any or all of them a notice of such breach. Any person receiving such notice of breach shall forthwith cease and desist from removing or depositing, or permitting the removal or depositing of any further soil from or upon the said lands until such breach is remedied.

26. In the event that any person, having received such notice of breach, fails within the time set forth to remedy such breach or otherwise proceed to breach any provision of this by-law and/or the permit, the permit issued in the first instance shall become void and all monies collected, as a result of this permit, shall be forfeited. Once the breach has been corrected, it will then be necessary for the permit holder to apply for and obtain a new permit and all fees set out in the By-law shall be due and payable as a condition of issuance of the permit.

Amended
by
By-law
No. 7139

27. No further permit for removal or depositing of soil from or upon any lands within the Municipality of Surrey, shall be issued to any person who has had a permit revoked, unless and until such person shall, in addition to any other security required pursuant to this by-law, have posted an additional security in an amount not exceeding Ten Thousand (\$10,000) Dollars.

28. Where any holder of a permit neglects and/or refuses to carry out the works or any part of them in accordance with the provisions of this By-law, and/or the terms and conditions of the said permit, it shall be an offence against this by-law, and every day that the land and/or the required works remains in a condition contrary to the provisions of this by-law, and/or the terms and conditions

of the said permit, a new offence shall be committed and such permit holder shall be liable to the penalty hereinafter provided.

29. The deposition of any soil, sand, gravel, rock or other material on any lands without a permit shall be removed from the property. Failure to remove such material shall constitute an offence under this by-law.

Inserted
B/L 10127
07/17/89

30. Every person who violates any of the provisions of this by-law or who suffers or permits any act or thing to be done in contravention of this by-law, or who neglects to do or refrains from doing any act or thing required to be done or who violates any of the provisions of this by-law, shall upon Summary Conviction therefore be liable to a fine not exceeding Two Thousand Dollars (\$2,000.00) or to a term of imprisonment not exceeding three (3) months, or to both fine and imprisonment.

Sections
30 - 34
renumbered
B/L 10127
07/17/89

31. Appendix I outlines the area known as the "Bridgeview and South Westminster Area" for the purposes of this By-law and is attached to and forms part of this By-law.

32. Schedules "A" to "H" inclusive are attached to and form part of this By-law.

33. "The Surrey Soil Removal By-law, 1976, No. 4978" is hereby repealed.

"The Surrey Soil Removal By-law, 1976, No. 4978, Amendment By-law, 1977, No. 5148" is hereby repealed.

"The Surrey Soil Depositing Regulation By-law, 1976, No. 4982" is hereby repealed.

"The Surrey Soil Depositing Regulation By-law, 1976, No. 4982, Amendment By-law, 1978, No. 5603" is hereby repealed.

34. This By-law may be cited for all purposes as "The Surrey
Soil Removal and Soil Depositing Regulation By-law, 1979,
No. 5880".

PASSED FIRST AND SECOND READINGS by the Municipal Council on the
7th day of May, A.D., 1979.

PASSED THIRD READING by the Municipal Council on the 23rd day of
July, 1979.

RECONSIDERED AND FINALLY ADOPTED, signed by the Mayor and Clerk,
and sealed with the Corporate Seal on the 30th day of July,
A.D., 1979.

"R.M. Johnston"

ACTING MAYOR

"R.N. Chester"

CLERK

CLKBLW2400

THE CORPORATION OF THE DISTRICT OF SURREY

THE SURREY SOIL REMOVAL AND DEPOSITING REGULATION BY-LAW, 1979 NO. 5880

SCHEDULE "A"

APPLICATION FOR SOIL REMOVAL/DEPOSITING PERMIT NO. _____

1. I _____ of _____
(full name) (address) (phone no.)

hereby apply for a permit to remove/deposit soil from/upon the following property:

Address: _____

Legal Description: _____ Zoning: _____

2. The owner of said property is: _____
(full name)

of _____
(address) (phone no.)

3. The title or tenancy under which said property is occupied by me
(if not the owner) is: _____

4. The soil is being removed/deposited for the following purpose:

5. The ground area from/upon which the soil is to be removed/deposited is _____ hectares.
The total volume of soil to be removed/deposited is _____ cubic metres.

6. Submitted herewith is the removal royalty fee in the amount of \$_____.
Amended B/L 9855 12/19/88

7. Submitted herewith is security in the form of a cash deposit or an irrevocable letter of credit drawn upon a chartered bank in the amount of \$_____.

I hereby declare that the above information is correct, that it is my intention to remove/deposit soil from/upon the said property in accordance with the attached plans and specifications, that I am aware of the provisions of the Soil Removal and Depositing Regulation By-law, and that I will abide by all applicable provisions of said By-law and such other terms and conditions as may be imposed under the said By-law in respect to this, my application for a Soil Removal/Depositing Permit.

Date _____ Signature of Applicant _____

THE CORPORATION OF THE DISTRICT OF SURREY

THE SURREY SOIL REMOVAL AND DEPOSITING REGULATION BY-LAW, 1979 NO. 5880

SCHEDULE "B"

SOIL REMOVAL/DEPOSITING PERMIT NO.

Pursuant to "The Surrey Soil Removal and Depositing Regulation By-law, 1979, No. _____", and any amendments thereto, permission is hereby granted to

_____ (name)

of _____

(address)

(phone no.)

to remove/deposit _____ cubic metres of soil from/upon the lands described as:-

_____ (address of property)

_____ (legal description of property)

in accordance with the provisions of "The Surrey Soil Removal and Depositing Regulation By-law, 1979, No. _____", and amendments thereto, Application No. _____ and the plans, specifications, and other supporting data filed therewith, and the following additional terms and conditions:-

This permit is issued conditional upon the permit holder fully complying with all provisions of "The Surrey Soil Removal and Depositing Regulations By-law, 1979, No. _____", and all other terms and conditions herein.

Received _____ from _____
(type of security)

No. _____ in the amount of \$ _____

as security for full and proper performance of the soil removal/depositing operation in compliance with "The Surrey Soil Removal and Depositing Regulation By-law, 1979, No. _____", and all other terms and conditions of this permit.

This permit is issued on the _____ day of _____, A.D., 19__

This permit shall expire on the _____ day of _____, A.D., 19__

.Receipt No. _____

Chief Inspector

"THE SURREY SOIL REMOVAL DEPOSITING
REGULATION BY-LAW, 1979, NO. 5880"

SCHEDULE "C"

REMOVAL OR DEPOSIT OF SOIL FROM OR ON BUILDING PROJECTS

In addition to the requirements set down in the text of the by-law every operation involving such removal or depositing of soil as is necessary for the construction of a bona-fide building project shall comply with the following requirements:-

- 1) Every applicant for a permit pursuant to the by-law and this schedule shall submit with his application for a building permit the following information in sufficient detail to establish the volume of soil to be removed or deposited:-
 - (a) Plans of the lands from or upon which the applicant proposes to remove or deposit the soil, which show
 - (i) the topography and surface elevations of the site existing prior to commencement of any excavation or depositing of soil, and
 - (ii) the finished contours of the limits of the excavation or the soil deposited,
 - (b) a statement of the total volume of the soil to be removed or deposited from or upon the site along with a copy of the cross-sections, calculations, and other engineering data and pertinent information used in calculating such total volume.
- 2) Upon completion of the building project the lands from or upon which soil has been removed or deposited shall be developed in accordance with the site plan approved for issuance of the Building Permit.

"THE SURREY SOIL REMOVAL AND DEPOSITING
REGULATION BY-LAW, 1979, NO. 5880"

SCHEDULE "D"

REMOVAL OR DEPOSITING OF SOIL FROM OR UPON SITES
OTHER THAN BUILDING PROJECTS

In addition to the requirements set down in the text of the by-law, every soil removal or depositing operation, other than a soil removal or depositing operation under Schedule "C" hereto, shall comply with the following requirements:

- 1) Every applicant for a permit to remove or deposit soil pursuant to the by-law and this Schedule may be required to submit with his application any or all of the following information in sufficient detail to adequately describe the proposed operation:-
 - (a) A description of soil and the purpose for which the soil is to be removed or deposited.
 - (b) Plans of the lands from or upon which the applicant proposes to remove or deposit the soil, prepared by a B.C. Land Surveyor or Professional Engineer, which include:
 - (i) contour plans of the said lands, to a scale of not smaller than one thousand to one (1000:1), showing at one (1) metre intervals the geodetic elevations as they exist on the said lands, and the relation thereof to those of the adjoining lands and highways, and showing at one (1) metre intervals the proposed geodetic elevations of the lands after the soil has been removed therefrom or deposited thereon.
 - (ii) Full particulars of the present use, occupancy and condition of the lands from or upon which the removal or depositing of soil is proposed and of those portions of adjacent lands which might be affected by the proposed soil removal or depositing operation, including all pertinent topographic features, buildings, structures and tree cover existing thereon, highways and highway allowances, foot paths, watercourses, water table drainage facilities, fence lines, facilities existing for pedestrian and vehicular traffic, (indicating the suitability of same for carrying the type and volume of traffic to be generated in removing or

depositing the soil), and any utilities, services and other existing facilities.

- (iii) The proposed slopes which will be maintained during and upon completion of the removal or depositing of soil.
 - (iv) The proposed methods of erosion control for the banks of the excavation or of the soil deposited, during and upon completion of the removal or depositing of soil.
 - (v) The proposed methods of drainage control for the excavation or the soil deposited during and upon completion of the removal or depositing of soil.
 - (vi) The proposed methods of access to the site during and upon completion of the removal or depositing of soil.
 - (vii) The proposed methods of fencing, enclosing, and/or clearing the site to ensure that no hazard to human or animal life shall exist.
 - (viii) The proposed progressive stages of excavation or depositing of soil in terms of annual developments showing vertical contours specified above, grades and slopes on separate plans for each stage.
 - (ix) The proposed location of stockpiles indicating their extent and nature.
 - (x) The proposed location of machinery, buildings, scales and other proposed structures and improvements.
 - (xi) Such further and other information as may be necessary to adequately describe the proposed soil removal or depositing operation applied for.
- (c) A statement of the volume of soil to be removed or deposited along with a copy of the calculations, cross-sections, and other engineering data and pertinent information used in calculating such estimated total volume.
- (d) The consent in writing of any mortgagee, unpaid vendor or owner of the lands from or upon which it is intended to remove or deposit the soil along with a current Certificate of Encumbrances attesting to the

ownership of the said lands immediately prior to the date of application.

- 2) Excavations shall at all times be conducted in accordance with the following requirements:
- (a) All excavation and pit operation shall be carried out in strict compliance with requirements of the Workers' Compensation Act, the Mines Regulation Act and such other applicable legislation as may be enacted from time to time by the Province of B.C. or the Dominion of Canada; and in any case must be operated in a safe and prudent manner. The Chief Inspector may require a Certification from a Professional Engineer that the excavation is being carried on in a safe and prudent manner.
 - (b) No excavation shall be undertaken within ten (10) metres of any new dedicated right-of-way or utility easement without first obtaining the approval in writing of the authority having jurisdiction over such right-of-way or easement, and a copy of such written approval shall be submitted to the Chief Inspector.
 - (c) No excavation shall be undertaken within ten (10) metres of any property line about the perimeter of the soil removal site, except that where an adjoining property has already been excavated, the excavation may (with the written approval of the owner of the said adjoining property) be continued across the property line with the said adjoining property to tie in with the said existing excavation, subject to the maximum slopes permitted above. A copy of such written approval shall be submitted to the Chief Inspector. Amended
by B/L
9663
29/08/88
 - (d) The excavation shall not extend beyond the limiting excavation face delineated by the minimum setbacks and the maximum slopes permitted above. There shall be no excavation into the toe of such limiting excavation face. Such limiting excavation face shall comprise undisturbed natural soil and it shall not be permitted to excavate beyond such limiting excavation face by backfilling.
 - (e) As the excavation progresses the face of the excavation shall be progressively restored to the condition called for under Section 7 of this schedule so that the unrestored portion of the finished excavation face is no longer than one hundred (100) metres at any one time.

(f) Excavations shall at all times be graded in such a manner that positive gravity drainage is assured throughout, and surface water shall not be allowed to pool anywhere within the excavation, except, where necessary to remove sediment from surface run-off, a settling pool may be established for the duration of a soil removal operation. Surface run-off shall drain by gravity to the lowest point in the excavation and thence to a natural watercourse or a public drainage facility having adequate capacity for the purpose. The excavation shall not lower the effective water table at wells on any other property without the written consent of the owner of such property, a copy of such written consent to be submitted to the Chief Inspector.

(g) Both vertical and horizontal survey control lines are to be established and maintained at all times during the currency of the permit by a registered Professional Engineer or British Columbia Land Surveyor.

Amended
by
By-law
No. 7139

3) The depositing of soil shall at all times be conducted in accordance with the following requirements:-

(a) The slope of any part of an exposed face of any deposited soil shall not be greater than the angle of repose necessary for stability of the soil in question.

(b) The deposited soil shall not in any way interfere with the established above or below ground drainage pattern of any adjoining lands, and shall not cause the groundwater table to rise on adjoining lands so as to cause flooding or malfunctioning of a septic disposal system or contamination of a well. Where necessary, a system of interceptor or relief drains shall be installed which is sufficient to compensate for any interference which might otherwise occur to such established drainage pattern as a result of the soil depositing operation.

(c) The deposited soil shall be graded in such a manner that positive gravity drainage is assured throughout, and a drainage system shall be installed which is of sufficient capacity and extent to ensure that no more run-off will flow onto any adjoining lands than used to prior to the commencement of the soil depositing operation.

- (d) No soil shall be deposited over any dedicated public right-of-way or registered easement without first obtaining the approval, in writing, of the authority having jurisdiction over such right-of-way or easement, and a copy of such written approval shall be submitted to the Chief Inspector.
- (e) Where the natural subsoil is compressible no soil shall be deposited in the immediate vicinity of any utilities or services which might be damaged by any settlement resulting from the depositing of such soil without first obtaining the approval, in writing, of the authority having jurisdiction over such right-of-way or easement, and a copy of such written approval shall be submitted to the Chief Inspector.
- 4) All buildings and structures erected in connection with a soil removal or depositing operation under this schedule shall be temporary in nature and shall be removed forthwith upon completion of the soil removal or depositing operation.
- 5) No person shall use washing, crushing or screening equipment in connection with a soil removal or depositing operation under this schedule, unless such person shall have obtained a Pollution Control Board Permit or Exemption therefore, and the lands upon which such washing, crushing or screening equipment are to be located are zoned for that use.
- 6) All hazards or potential hazards arising from a soil removal or depositing operation shall be adequately fenced or otherwise made inaccessible to the public or other unauthorized persons, and suitable weather-proof signs shall be mounted and maintained at intervals of not greater than seventy-five (75) metres around the perimeter of the excavation with clear, legible wording to indicate any hazard, the nature of the operation, the presence of the excavation and prohibiting the presence of the public or other unauthorized persons.
- 7) Rectification Provisions
- Upon completion of the removal or depositing of soil, every permit holder shall forthwith:-
- (a) Leave all surfaces of the excavation or the soil deposited with a slope not greater than the grade shown on the plans filed pursuant to Section 1(b) of this Schedule and as specified in the permit.

- (b) Cover all surfaces of the excavation with fifteen (15) centimeters of topsoil and an established growth of grass or other suitable rooted ground cover.
- (c) Should the necessary rectification of the property not be completed within a period of ninety (90) days after expiry of the permit, all letters of credit held as security for compliance with the conditions and provisions of the by-law shall be cashed and all monies shall be held by the Municipality until all such necessary work is completed.
- (d) Should the permit holder not carry out all the necessary rectification work to the satisfaction of the Chief Inspector, the Municipality under the terms of the covenant registered against the property shall enter the lands and carry out the necessary work or such work that can be completed to the total amount of the bond monies only.

"THE SURREY SOIL REMOVAL AND DEPOSITING
REGULATION BY-LAW, 1979, No. 5880"

SCHEDULE "E"

In addition to the requirements set down in the text of the by-law, and Schedule "C" and Schedule "D" hereto, every operation involving the depositing of "other material", as defined under the by-law, shall comply with the following requirements:-

- 1) No person shall deposit or permit the depositing of "other material to a depth of greater than zero decimal three (0.3) metres (one foot), upon any parcel of land within the Municipality of Surrey (save and except an authorized sanitary land fill), unless he has first been granted a Pollution Control Branch Permit or Exemption, and such depositing shall be undertaken in full compliance with the terms of such permit.

- 2) "Other material" may be deposited upon land in the Municipality provided each lift is not more than one decimal zero (1.0) metres (three feet) in depth over the extent of the lift or alternatively is deposited in accordance with a placement programme designed, specified and supervised by a Professional Engineer registered in the Province of British Columbia, and a separate permit is obtained for each lift.

Notwithstanding the above requirements, any person wishing to deposit other material must first make application for and receive a permit to deposit other material under the terms and conditions of the Surrey Land Fill By-law No. 3582.

SCHEDULE "F"

FORM FOR REGISTRATION OF SOIL REMOVAL PERMIT

THIS INDENTURE made the day of A.D., 19 :
BETWEEN:

(hereinafter called the "Grantor")

OF THE FIRST PART:

AND:

THE CORPORATION OF THE DISTRICT OF SURREY, a District Municipality under the "Municipal Act", of the Province of British Columbia, and having its Municipal Offices at 14245 - 56th Avenue, in the Municipality of Surrey, in the Province of British Columbia.

(hereinafter called the "Municipality")

OF THE SECOND PART:

AND:

(hereinafter called the "Mortgagee")

OF THE THIRD PART:

WHEREAS:

- A. The Grantor is the registered owner of certain land (hereinafter called "the Land") situate in the Municipality of Surrey, in the Province of British Columbia, more particularly known and described as:
- B. By the provisions of Section 215A of the Land Title Act, there may be registered as annexed to any Land, a condition or covenant in favour of the Municipality that the Land, or any specified portion thereof, is not to be built upon or is to be or not to be used in a particular manner.
- C. The Grantor has made application to the Municipality for a Soil Removal Permit to be issued pursuant to the Soil Removal By-law of the Municipality which permit grants to the Grantor the right to remove soil from the Land in accordance with the conditions contained in the said permit.

NOW THEREFORE THIS INDENTURE WITNESSETH that in consideration of the sum of ONE DOLLAR (\$1.00) of lawful money of Canada paid by the Municipality to the party of the first part (the receipt of which is hereby acknowledged by the party of the first part):

1. The Grantor for itself, successors and assigns hereby covenants, promises and agrees, pursuant to Section 215A of the Land Title Act, R.S.B.C., 1979, Chapter 290 and amendments thereto (it being the intention of the parties hereto that the covenant herein contained shall be annexed to the Land) that the Grantor will use or not use the Land other than as hereinafter set forth in the Soil Removal Permit attached hereto as Schedule "A".

Amended
by
By-law
No.6932

2. The Municipality, may, at any time and without the consent of the party of the first part release or cause to be released this indenture against title to the Land in the Land Title Office and upon such release this indenture shall be discharged and of no further force and effect.

Amended
by
By-law
No.6932

MORTGAGEE'S COVENANTS

The Mortgagee, in consideration of the payment of ONE DOLLAR (\$1.00) and other good and valuable consideration (the receipt whereof is hereby acknowledged) hereby agrees and consents to the registration of this Agreement, running with the Land and against the Land in priority to the said Mortgage Number and in the same manner and to the same effect as if it had been dated, granted and registered prior to the said Mortgage.

This indenture shall enure to the benefit of and be binding upon the parties hereto and their respective successors and assigns.

THE CORPORATION OF THE DISTRICT OF SURREY

"THE SURREY SOIL REMOVAL AND DEPOSITING REGULATION
BY-LAW, 1979, NO. 5880"

SCHEDULE "G"

APPLICATION FOR DESIGNATION OF LANDS FOR SOIL REMOVAL

1. Pursuant to the provisions of "The Surrey Soil Removal and
Depositing Regulation By-law, , No. ",

I _____
(full name)

of _____
(address) (phone no.)

hereby apply for designation of the following lands for the
purpose of Soil Removal:

Address: _____

Legal Description: _____ Zoning _____

2. The owner of said property is: _____
(full name)

of _____
(address) (phone no.)

3. The title or tenancy under which said property is occupied by me

(if not the owner) is: _____

4. The soil is being removed for the following purpose:

5. The ground area from which the soil is to be removed is _____ hectares.

The maximum depth of the excavation will be _____ metres.

The total volume of soil to be removed is _____ cubic metres.

6. The proposed date of commencement is _____; proposed date of completion is _____.

7. Submitted herewith is the required administration fee in the amount of \$ _____.

I hereby declare that the above information is correct, that it is my intention to remove soil from the said property in accordance with the attached plans and specifications, that I am aware of the provisions of the Soil Removal and Depositing Regulation By-law, and that I will abide by all applicable provisions of said By-law and such other terms and conditions as may be imposed under the said By-law and/or the public hearing pursuant thereto in respect to this, my application for designation of lands for the purpose of Soil Removal.

Date _____ Signature of Applicant _____

IN WITNESS WHEREOF the parties have executed this indenture under seal under the hands of their respective proper signing officers in that behalf as of the day and year first above written.

The Corporation Seal of _____)
was _____)
hereunto affixed in the _____)
presence of: _____)
_____)
_____)
_____)

The Corporate Seal of THE)
CORPORATION OF THE DISTRICT OF)
SURREY was hereunto affixed in)
the presence of its duly)
authorized officers:)
)
)

_____)
Mayor)

_____)
Clerk)

The Corporate Seal of)
was)
hereunto affixed in the presence)
of its duly authorized officers:)
)
)

_____)
)
_____)

"THE SURREY SOIL REMOVAL AND DEPOSITING
REGULATION BY-LAW, 1979, No. 5880"

SCHEDULE "H"

DEPOSITING OF SOIL IN THE "BRIDGEVIEW AND SOUTH WESTMINSTER AREA"

In addition to the requirements set down in the text of the By-law, and Schedules "C", "D" and "E" hereto, every operation involving the depositing of soil within the region of the Municipality of Surrey known as the Bridgeview and South Westminster Area defined as the shaded area on Appendix 1 attached hereto shall comply with the requirements of Schedule "H" hereto.

- (1) Every applicant for a permit pursuant to the By-law and this Schedule shall submit with his application the following information in sufficient detail to establish the volume of soil to be deposited:-
 - (a) Plans of the lands upon which the applicant proposed to deposit the soil, which show
 - (i) the topography and surface elevations of the site existing prior to commencement of any depositing of soil, and
 - (ii) the finished contours of the limits of the soil deposited.
 - (b) A statement of the total volume of the soil to be deposited upon the site along with a copy of the cross-sections, calculations, and other engineering data and pertinent information used in calculating such total volume.
- (2) No soil shall be deposited to an elevation greater than two decimal seven four (2.74) metres (9.0 feet) Geodetic Survey Canada nor within eight decimal zero (8.0) metres (25 feet) of any front property line or within eight decimal zero (8.0) metres (25 feet) of any Municipal storm sewer or Municipal sanitary sewer unless such deposit is in accordance with a placement programme designed, specified and supervised by a Professional Engineer registered in the Province of British Columbia, whose design shall be further subject to the satisfaction of the Chief Inspector.

CLKBLW2400

THE CORPORATION OF THE
CITY OF PORT COQUITLAM

MEMORANDUM

TO: Kip Gaudry, Deputy Engineer
FROM: Andrew de Boer, Project Engineer
DATE: May 27, 1991

CITY OF PORT COQUITLAM ENGINEERING DEPT.		
MAY 27 1991		
FILE # _____		
TO	FROM	DATE

SUBJECT: Pitch-in Campaign Summary

Pitch-in Week was held this year in Port Coquitlam during the week of May 6-12, 1991.

A total of 15 groups participated in the campaign, seven which were sponsored by the City. The groups which participated included Beavers, Cubs, Junior Forest Wardens, Rotary Club, elementary schools and secondary schools - approximately 1500 people in total.

Areas which were cleaned up were the main downtown streets, parks, school grounds and adjacent areas. Most of the PoCo trail was also covered.

Overall the campaign went well, although some improvements should be considered for next year. These include:

- 1) Move PITCH-IN to the first week of May. Some groups have difficulty in recruiting participants because of the May Day celebrations in Port Coquitlam and the fact that May 12th (the last day of PITCH-IN week) was Mother's Day.
- 2) Encourage more community groups to participate. The majority of the groups which participated were schools. More intensive campaigning should be done to get additional community groups to participate
- 3) Offer incentives to the groups to participate eg. PITCH-IN party at the end of the week, prizes for elementary schools with the cleanest school yard.
- 4) Have the participants drop-in to City hall the week before Pitch-in to pick up bags and information. This is more flexible for the participants than a one day weekend meeting.

RECOMMENDATION

For next year I would recommend continuing the City sponsored PITCH-IN campaign for the improvement in the City's appearance, the community pride that it instills and the education that it gives to school children.



Andrew de Boer
Project Engineer

**THE CORPORATION OF THE
CITY OF PORT COQUITLAM**

MEMORANDUM

TO: Kip Gaudry, Deputy Engineer ←
FROM: Andrew de Boer, Project Engineer
DATE: May 24, 1991

SUBJECT: HOUSEHOLD HAZARDOUS WASTE COLLECTION

The responsibilities for household hazardous waste collection have been transferred from the Ministry of Environment to the newly formed B.C. Hazardous Waste Corporation.

Some of the duties of the corporation for this year:

- To operate the 8 household hazardous waste collection depots around the province. The nearest depot to Port Coquitlam is located at 15326 - 103A Ave. in Surrey. These depots will accept all household hazardous wastes except explosives, radioactive material, biomedical waste (prescription drugs) and asbestos. Approximately 80% of the material will be recycled with the balance being disposed of in secure sites.
- To contract the provision and operation of a mobile Hazmobile which will serve 150 communities, via 50 stops in all regions of the province. The Hazmobile will only serve communities outside of the G.V.R.D.

As the Hazardous Waste Corporation wishes to work closely with the municipalities on hazardous waste problems, I have put my name forward as the contact person for the City.


Andrew de Boer
Project Engineer



OUR FILE

THE CORPORATION OF THE CITY OF PORT COQUITLAM

2580 SHAUGHNESSY STREET
PORT COQUITLAM, B.C.
V3C 2A8

TELEPHONE: 941-5411
FAX: 464-3524

CITY OF PORT COQUITLAM		
ENGINEERING DEPT.		
MAY 10 1991		
FILE #		
TO	FROM	DATE
	IZ	May 10
KB		

May 9, 1991

Mr. Lake
1584 Elinor Crescent
Port Coquitlam, BC

Dear Mr. Lake:

RE: Complaint about leaking oil from Swimming Pool
AT: 1579 Western Drive, Port Coquitlam, BC

An investigation was carried out with respect to your complaint about leaking oil from a swimming pool pump at 1579 Western Drive, Port Coquitlam, BC.


This problem has now been rectified. The owners of the property have removed the oil tank and pipes and replaced the system with natural gas. The natural gas now supplies the pump for the swimming pool and the home furnace. However, as the oil from the line has probably been seeping into the ground for years and when heavy rains occur it would appear the oil finds its way into the sewer system.

We believe by the natural gas conversion and the removal of the oil system that this problem should now be corrected. However, there may be still some oils within the soil that may still find its way into the sewer system.

The leaking of oil will be monitored by the City in the future.

We thank you for your concern about this situation and for bringing this problem to our attention.

Yours truly,


R.G. Criggle
Chief Licence Inspector
Bylaw Enforcement Officer

RGC/mg

cc: Alderman R. Talbot
K. Gaudry - Deputy City Engineer ✓


THE CORPORATION OF THE
CITY OF PORT COQUITLAM

M E M O R A N D U M

TO: Environmental Protection Committee DATE: May 16, 1991
COPY: Kip Gaudry, P.Eng.
Deputy Engineer
FROM: Bryan R. Kirk
City Administrator
RE: DUMPING OF CONTAMINATED SOIL

John Seager of 1185 Dominion Avenue (941-2313) called me and expressed his concern that toxic soil is being dumped on the northside of Dominion Avenue.

I have spoken to Kip Gaudry who will contact Louise Ouellet of the provincial Ministry of the Environment to confirm that the soil is non-toxic.


Bryan R. Kirk
City Administrator

/dp

CITY OF PORT COQUITLAM ENGINEERING DEPT.		
MAY 17 1991		
FILE #		
TO	FROM	DATE



Province of
British Columbia

Ministry of
Crown Lands

Lower Mainland Region
Suite 401, 4603 Kingsway
Burnaby
British Columbia
V5H 4M4
Telephone: (604) 660-5500
Rpicorn: 660-5538

City of Port Coquitlam
City Hall
2580 Shaughnessy
Port Coquitlam
V3C 2A8

May 15, 1991

Attention: Mr. Brian Kirk
City Administrator

Dear Brian;

Further to our phone conversation, this is to advise that the Province will be dumping industrial fill on George Treit Lands located off Dominion Avenue.

Approximately 40,000 tonnes of material are being transported to the site of which 5,000 to 7,000 tonnes will be bio-remediated. Testing will be done on the soils subject to bio-remediation and a certificate issued by the Ministry of Environment stating that the material is acceptable for industrial or commercial use. Please note there is no special waste contained in the soils.

The Province is preparing a press release for the media and your office will receive a copy prior to its release.

Thank you for keeping council informed on this matter and if you have any further questions please do not hesitate to call.

Yours truly,

George Millward
Agent for the Ministry
of Lands and Parks

GM/ks

cc: Mr. R. H. Roberts
Ministry of Lands and Parks
Lower Mainland Region



Province of
British Columbia

Ministry of
Environment

Parliament Buildings
Victoria
British Columbia
V8V 1X4

OFFICE OF THE
MINISTER

May 3, 1991

His Worship Mayor Len Traboulay
City of Port Coquitlam
2580 Shaughnessy Street
Port Coquitlam, British Columbia
V3C 2A8

CITY OF PORT COQUITLAM		
ENGINEERING DEPT.		
MAY 09 1991		
FILE #		
TO	FROM	DATE
KK	IZ	May 9

Dear Mayor Traboulay:

It gives me great pleasure to inform you that the application of the City of Port Coquitlam for financial assistance under the Multi-Material Recycling Financial Assistance Program has been approved.

Financial assistance will be provided in the form of a contribution to project costs of \$55,995.00, which represents 33 percent of the estimated capital and initial promotion and education costs.

It is understood that the City of Port Coquitlam will apply the contribution to the purchase of two collection vehicles and promotional materials for use in Port Coquitlam's multi-material recycling program.

When your project has been completed please submit a Letter of Certification, as outlined in the Appendix to the Applicant's Guidelines to Ms. Leslie Sullivan, Manager, Marketing and Enterprise Development, Municipal Solid and Biomedical Waste Branch, Environmental Protection Division, Ministry of Environment, 5th Floor, 1312 Blanshard Street, Victoria, British Columbia, V8V 1X5, telephone 356-9971.

I would like to convey my personal appreciation to the City of Port Coquitlam for working towards reducing municipal solid waste in British Columbia.

Yours sincerely,

Dave Mercier

Dave Mercier
Minister

cc: Mr. Mark Rose, M.L.A.
Mr. Gordon Campbell, Greater Vancouver Regional District

COPIES: ALDERMEN
B.R. KIRK
J. MAITLAND
I. ZAHYNALCZ
K. GAUDRY
A. DE BOER

THE CORPORATION OF THE
CITY OF PORT COQUITLAM

M E M O R A N D U M

TO: Kip Gaudry, P.Eng.
Deputy Engineer

DATE: May 1, 1991

FROM: Danielle Pagé
Administration

RE: Attached Letter from Mrs. S. Newlands (Animal Control)

His Worship Mayor Traboulay has asked that the attached letter concerning animal control be referred to the Environmental Protection Committee, for reply.

Please provide the Administration Department with a copy of the Committee's response.

Thank you.

Danielle Pagé

CITY OF PORT COQUITLAM ENGINEERING DEPT.		
MAY 03 1991		
FILE # _____		
TO	FROM	DATE
	IZ	May 3,
KG		J

Att.

COPIES: MAYOR & ALDERMEN
K. GAVORY

April 29, 91
Mrs. S. NEWLANDS
1766 EASTERN DR
464-7178
Port Coquitlam

To whom it MAY CONCERN:

This letter is to complain about the six p.m. closure of S.P.C.A.

I pay twenty-five dollars a year to keep my animals in their own yard.

The S.P.C.A. is not available at other times for animal control. Why do I pay so much if the S.P.C.A. cannot control other peoples dogs. Even if there was a S.P.C.A. person at the facilities to take strays that we taxpayers catch would be a help. We need 24 hour S.P.C.A.'s, animal control is not a 9 to 5 problem. If the S.P.C.A. can't help at night, can you suggest any one who can do animal control evenings. Thank you

Mrs. S. Newlands

THE CORPORATION OF THE
CITY OF PORT COQUITLAM

M E M O R A N D U M

TO: Igor Zahynacz, P.Eng.
City Engineer

DATE: May 21, 1991

FROM: Danielle Pagé
Administration

RE: Mayor's Recycling Program - PNE Exhibition

His Worship Mayor Traboulay has requested that the attached letter and its attachments be considered.

Danielle Pagé

CITY OF PORT COQUITLAM		
ENGINEERING DEPT.		
MAY 21 1991		
FILE #		
TO	FROM	DATE
	IZ	May 21
KG		
AD		

/dp
Att.



OFFICE OF THE PRESIDENT

May 15, 1991

Mayor Len Traboulay
City of Port Coquitlam
2580 Shaughnessy
Port Coquitlam, B.C. V3C 2A8

Your Worship:

Greetings from the Pacific National Exhibition, British Columbia's Provincial Fair. I'm pleased to advise you that we are working very hard to make "Your All-Time, Good-Time Fair" the best ever for 1991.

Last year's Mayor's Recycling Program has been expanded to include all British Columbians, public and private sector. The new program, **British Columbia's 3 R's Competition - Reduce, Reuse and Recycle**, is part of our Community Outreach Program which is designed to involve all the communities and the people of B.C. in their Annual Provincial Fair. An invitation, entry form and rules and regulations are appended for your information. We hope that your municipality will participate in this environment program to improve the sharing of knowledge about recycling programs between communities of B.C. *

We are also encouraging all of British Columbia to join in our celebration by participating in the P.N.E.'s 2nd Annual Flags and Banners Program. Flags and Banners from communities throughout the province will decorate the Pacific National Exhibition grounds and surrounding streets during the annual fair, August 16 - September 2, 1991.

Last year Port Coquitlam was on board this successful program and we are once again requesting your participation. Simply send two (2) of Port Coquitlam's flags (3' x 6') to my attention by June 17, 1991 and we will do the rest. This is an excellent opportunity to give *

/ . . . 2

a little exposure to Port Coquitlam by more than 1 million Fairgoers. If you have any questions please do not hesitate to contact Kris Sigurdson, Program Coordinator, at 253-2311.

Your continued support is greatly appreciated.

Yours truly,

A handwritten signature in black ink, appearing to read "Morgan Thomas", written in a cursive style.

Morgan Thomas
President

/kas
a:\flagret.ltr

BRITISH COLUMBIA's 3 R's COMPETITION
the Pacific National Exhibition
REDUCE, REUSE, and RECYCLE



ENTRY FORM

NAME OF PARTICIPANT: _____

NAME OF COMMUNITY: _____

MAILING ADDRESS: _____

PHONE NUMBER: _____ FACS NUMBER: _____

NAME OF CONTACT (if different than above): _____

RECYCLING PROJECT TITLES YOU ARE ENTERING:
(use a separate sheet of paper if you need more room)

1. _____
What form will the entry take? ___ video ___ photo ___ written desc. ___ display (size? _____)

2. _____
What form will the entry take? ___ video ___ photo ___ written desc. ___ display (size? _____)

3. _____
What form will the entry take? ___ video ___ photo ___ written desc. ___ display (size? _____)

4. _____
What form will the entry take? ___ video ___ photo ___ written desc. ___ display (size? _____)

Mail or Facs to the PNE:

BRITISH COLUMBIA's 3 R's COMPETITION
REDUCE, REUSE and RECYCLE
Pacific National Exhibition
P.O. Box 69020
Vancouver, B.C. V5K 4W3

Facs 251-7726



Greater Vancouver Regional District
4330 Kingsway, Burnaby, British Columbia, Canada V5H 4G8

General
Telephone (604) 432-6200
Fax (604) 432-6251

Air Quality and Source Control Department - Tel (604) 436-6700 Fax (604) 436-6707

May 16, 1991

R.A. Freeman
City Clerk/Deputy Administrator
The Corporation of the
City of Port Coquitlam
2580 Shaughnessy Street
Port Coquitlam, B.C.
V3C 2A8

CITY OF PORT COQUITLAM
ENGINEERING DEPT. File: 12.1.5
MAY 17 1991
FILE # _____

TO	FROM	DATE
KG	FZ	May 21



Dear Mr. Freeman:

Enclosed is a copy of a report which was brought before the GVRD Board of Directors regarding the 1991 Annual Meeting and Exhibition of the Air and Waste Management Association. The meeting will be held in Vancouver June 16-21, 1991.

A registration form is also attached for a Policy-Maker's Workshop which will be held Wednesday, June 19, 1991. This workshop is free of charge. If you wish to attend the workshop please fax the attached form to the Pittsburgh office [fax number (412) 232-3450] or mail it to the address indicated on the form.

Yours truly,

Kenneth P. Stubbs,
General Conference Vice-Chairman

KPS/ch/52

cc. Council
BR Kirk

KG



Greater Vancouver Regional District
4330 Kingsway, Burnaby, British Columbia, Canada V5H 4G8

Item No. 2c

To: Air Quality Committee
From: Manager, Air Quality and Source Control
Re: Annual Meeting and Exhibition of the Air and Waste
Management Association
Date: April 17, 1991

PURPOSE:

To advise the Air Quality Committee and Board of Directors of the 84th Annual Meeting and Exhibition of the Air and Waste Management Association to be held on June 16-21 in Vancouver, and the role that GVRD staff are playing in this event.

BACKGROUND/SUMMARY:

The Air and Waste Management Association - A&WMA (formerly The Air Pollution Control Association - APCA) is a professional organization of over 10,000 members (primarily Canada and the U.S.). It is dedicated to promoting a clean environment, providing leadership in the fields of air pollution control and waste management, promoting a sense of environmental responsibility and serving its membership and the public. It carries out its mission through extensive education and training programs for members and the public, and publications, workshops and conferences designed to address regional and global air pollution and waste management problems.

In 1986, the 1991 Annual Meeting and Exhibition of the Association was awarded to Vancouver, B.C. for the first time in the 79 year history of the Association. Since 1986 the Annual Meeting has grown from an attendance of approximately 3000 to a projected attendance of over 6000 this year in Vancouver. This years meeting will be the largest in Association history with nearly 1200 technical papers being delivered and over 300 exhibitors being present. It is also the largest technical meeting on air quality and waste management issues ever to be held in North America.

The GVRD has had a long history of supporting the activities of the A&WMA both locally and internationally. Through this commitment, GVRD staff have played a major role in the organization and are now actively invilved in the delivery of the 1991 meeting. Ken Stubbs (Ambient Air Analyst) is General Conference Vice-

MEMBER MUNICIPALITIES:

Member municipalities are being separately advised of this Conference/Exhibition by the District.

INTERGOVERNMENTAL: - nil

STAFF RECOMMENDATIONS:

That the report entitled "Annual Meeting and Exhibition of the Air and Waste Management Association" dated April 17, 1991, be received and forwarded to the GVRD Board of Directors for information.

COMMITTEE COMMENTS:

COMMITTEE RECOMMENDATIONS:

BOARD DECISIONS:

Attachments: Excerpts from the Preliminary Program of the 1991
A&WMA Meeting

Why
should you attend
the largest
environmental
meeting
in North America?

Another opportunity
for technical & managerial exchange
provided by



**AIR & WASTE MANAGEMENT
ASSOCIATION**

SINCE 1907

on various leading-
e, technical topics by
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program.
ou may choose from
ong 15 continuing
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s:

**Environmental
Management**
Air Toxic Risk
Assessment
1990 Clean Air Act
Amendments,
CERCLA (Superfund),
and RCRA
Evaluating Green-
house Gas Mitigation
Options
Reviewing the Air
Toxic Standards and
MACT Requirements
of the 1990 Clean Air
Act Amendments

Equipment and Process Design and Operation

Designing Pollution
Control Equipment
for Toxic Air
Pollutants
Industrial Processes
for Pollution Preven-
tion and Waste
Minimization
Permitting, Designing,
and Operating
Hazardous Waste
Incineration Systems
Co-firing: The Use
of Mixed Fuels

**Monitoring and
Analysis**
Remote Sensing of
Atmospheric Pollutants

- RCRA Facility
Groundwater
Monitoring Statistics
- Recent Advances in
Continuous Emissions
Monitoring
- Sampling and
Analysis of Indoor Air

Emissions and Modeling

- Introduction to
Dispersion Modeling
of Hazardous
Releases
- Air Pollution Emission
Inventory Principles
for Point, Area, and
Mobile Sources
- Techniques and Tools
for Estimating Air
Emissions

Technical Tours

You may view the actual
operation of plants, sys-
tems, and equipment by
touring any of four
facilities:

- TRIUMF, Canada's
National Subatomic
Research Facility
(Tour A)
- Greater Vancouver
Regional District MSW
and the Recomp MSW
Incinerators (Tour B)
- Vancouver Regional
Public Transit System
(Tour C)
- Howe Sound Pulp &
Paper (Tour D)

Job Placement

A job placement and re-
ferral service will be oper-
ated by the Association
during the meeting. Per-
sonnel at the placement
service arrange meetings
between applicants and
employers. They match
employers' job orders
with applications from po-
tential employees. You
must be a fully-paid regis-
trant attending the annual
meeting to use the service.
Please note: this is not a
confidential job placement
service.

Committee Meetings

You can influence the
direction and scope of
Association programs by
participating in the Asso-
ciation's council and com-
mittee structure.

More than 80 commit-
tees will meet during the
week to discuss the state
of the art in specific areas
of environmental exper-
tise and to plan future
Association meetings,
seminars, workshops,
education courses, and
publications. These
meetings are open to all
attendees.

Join us June 16-21 at
the Vancouver Trade
and Convention Centre
in British Columbia for
the 84th Annual Meet-
ing & Exhibition of the
Air & Waste Manage-
ment Association.

The Air & Waste
Management Associa-
tion is a technical, educa-
tional organization of
12,000 professionals
who exchange technical
and managerial infor-
mation all year. The
result of this exchange
is reflected in the
Annual Meeting &
Exhibition, a technical pro-
gram, exhibition, and ancillary
programs and
activities.

You can expect so
much from attending the
Annual Meeting &
Exhibition. But, only you can
orchestrate how the many
activities of the meeting
fit together to benefit you
and your organization.

Vancouver, B.C.



84th ANNUAL MEETING & EXHIBITION
JUNE 16-21, 1991 - VANCOUVER, B.C.

Key activities at a glance

Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
			Registration opens at 7 a.m.			Registration opens at 7 a.m.
		Keynote breakfast begins at 8 a.m.	Technical sessions begin at 8 a.m.			
			Exhibition opens at 9 a.m.			
			Exhibition viewing breaks 9:15 Technical sessions resume at 10 a.m.			
				Policy makers workshop at 10 a.m.		
				AAEE luncheon at noon	Honors and Awards Luncheon at noon	
		Job placement open at 11:30 a.m.	Lunch available in the Exhibition Hall			
		Technical sessions at 11:30 a.m.	Technical sessions resume at 2 p.m.			Technical sessions resume at 1 p.m.
					Technical sessions at 2 p.m.	
			Refreshments at the Exhibition 5:30 to 6:30 p.m.			Meeting at 3 p.m.
				Public forum on household hazardous waste at 8 p.m.	Closing mixer begins at 6:30 p.m.	
	Opening mixer begins at 6:30 p.m.					

(Tentative schedule)

Environmental Management Issues

	Management	Global Management	Health & Env. Effects	Toxic Chemicals	Legal, Regulatory and Public Issues
Monday	In Eastern Europe - 116 Job Market - 118 Data Analysis - 119		Air Cancer Project - 131	Modeling Accidents - 84	New Source Review - 152 CAA Implementation - 153 Canadian Hazardous Waste Management - 163 Superfund Status - 2
Tuesday	Pollution Prevention - 115 Public Information & Education - 117 Public Communications - 148		CO Exposure & Effects - 138 VOC & Odors - 146	Public Communication - 148 CAA, Accidental - 149 Pesticides & Herbicides - 150 Modeling Accidental Releases - 86 State & Local Initiatives - 81	Residential Wood Combustion - 129 Crested Butte Airshed - 130 Mobile Sources - 155 Acid Rain - 157 Canadian Air Quality - 165 Canadian NOx & VOC Plan - 166 Superfund Liability Issues - 167 Criminal Enforcement - 168 Risk Communication - 175 RCRA Update - 1
Wednesday	Information Resources - 108 Transportation Controls - 114 Microcomputer Applications - 120 Electric Utilities & RCRA - 123 Decision Analysis - 124	Ecological Implications - 126 Effects on Vegetation - 127	VOC & Odors - 147 Superfund & Hazardous Sites - 109 Incineration Facilities - 132 Electromagnetics & Human Health - 133 Lead - 134 Wood Smoke - 136 Air Pollutants - 142	Inventories & Emissions - 91 Multi-Media Exposure - 109	CAA Title I - 154 CAA Title III, MACT - 156 CAA Ambient Monitoring - 160 Mediation Processes - 164 Market Incentives - 169 Risk Assessment - 170 Personal Exposures - 172
Thursday	Environmental Assessments - 112 Iron & Steel Industry - 121	Mitigation Perspectives - 125 Emission Estimates - 128	Asbestos - 135 Ozone - 144 Community Noise - 145 Urban Air - 140	Transporting - 14 Cross Media Transfer - 60 Urban Air - 140	Implementing Incentives - 151 CAA Title V - 158 Planning & Policy - 161 Siting & Permitting - 176
Friday	Energy Usage - 122 Environmental Audits - 111 Risk Management - 113	Energy Usage - 122	Chemical Mixtures - 137 Animal Model Applications - 139 Long Term Risks - 141 Materials Damage - 143 Terrestrial Ecosystems - 77	HAP Emissions - 58 Toxic Deposition - 76	CAA Title VII - 159 Solid Waste Management - 162 Apportioning Risk - 171 Non-Cancer Health Risk - 173 North American Air Toxic Status - 174 In Eastern Europe - 177

Committee Meetings

You can influence the direction and scope of the Association's programs and activities by participating in its Councils and Committees.

More than 80 committees meet during the Annual Meeting & Exhibition. They discuss the state of the art in specific areas of environmental expertise and plan future conferences, seminars, workshops, courses, and publications.

Committee meetings are open to all attendees. Schedules for the meetings are posted in the registration area throughout the week. Most of the meetings are held in the convention center.

Most technical coordinating committees will meet from 11 a.m. to 1:30 p.m. Monday, June 17, and from 11:30 a.m. to 1:30 p.m. Tuesday and Wednesday, June 18 and 19. Other committees will meet at various times throughout the week.

These committees are meeting:

Air Group

Sources

- Mobile Sources (AS-1)
- Residential/Commercial (AS-2)
- Fugitive Emissions (AS-3)

Emission Control Technology

- Particulate and Associated Acid Gases (AE-1)
- Solvents, Odors, and Gases (AE-2)

Basic Sciences

- Particulates (AB-1)
- Chemistry (AB-2)
- Meteorology (AB-3)
- Atmospheric Deposition (AB-4)
- Noise (AB-5)
- Visibility (AB-6)
- Indoor Air Quality (AB-7)

Environmental Management Group

Industrial Processes

- Utility Sources (EI-2)
- Industrial Furnaces and Boilers (EI-3)
- Chemical/Petroleum Sources (EI-4)
- Nonmetallic Processing (EI-5)
- Iron and Steel (EI-6)
- Nonferrous (EI-7)

Effects

- Health Effects and Exposure (EE-1)
- Ecological (EE-2)
- Materials (EE-4)
- Risk Assessment/Management (EE-5)
- Odor (EE-6)

Measurement

- Emission Factors and Inventories (EM-1)
- Receptor/Source Apportionment (EM-2)
- Ambient Monitoring (EM-3)
- Source Monitoring (EM-4)

- Data Analysis and Quality Assurance (EM-5)

- Remote Monitoring (EM-6)
- Groundwater Monitoring (EM-7)

Program Administration

- Policy and Regulations (EP-1)
- Land Use and Transportation Policies (EP-2)
- Legal (EP-3)
- Facility Permitting and Siting (EP-4)
- Community Relations (EP-5)
- Emergency Responses (EP-6)
- Economics (EP-7)

Waste Group

Source Control

- Waste Minimization and Utilization (WS-1)
- Storage and Transportation (WS-2)

Physical/Chemical/Biological Treatment

- Hazardous Waste (WP-1)
- Groundwater Remediation (WP-2)
- Biosystems (WP-3)

Thermal Treatment

- Hazardous Waste (WT-1)
- Municipal Waste (WT-2)
- Medical Waste (WT-3)

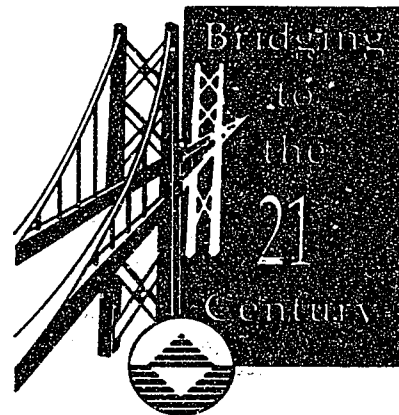
Facility Operation, Closure, and Remediation

- Solid Waste Management -- Land Based (WF-1)
- Hazardous Waste Management -- Land Based (WF-2)
- Site Remediation and Closure (WF-3)

Intercommittee Task Forces

- Toxic Air Pollutants (ITF-2)
- Sources and Emission Characterization (ITF-2.1)

Vancouver '91



- Monitoring, Measurement, and Analysis (ITF-2.2)
- Health and Environmental Effects (ITF-2.3)
- Policy, Regulations, and Strategies (ITF-2.5)

Education

- All committees of the Public Education Division
- All committees of the Higher Education Division
- All committees of the Training Division

Section Council

Administrative

- International Affairs
- Marketing
- Membership
- Publications
- Canadian Government Affairs
- U.S. Government Affairs
- Technical Program Steering
- Annual Meeting Local Arrangements

Desert Research Institute,
University of Nevada System
Dieterich Standard
Donaldson Company
DuPont
Durr Industries, Inc.

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A Division of Ebasco
Services, Inc.
Ecology and Environment, Inc.
EDM Environmental Inc.
EMC Analytical, Inc.
Engelhard Corporation
Engineering-Science, Inc.
ENSR Consulting &
Engineering
EnSys, Inc.
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Automation
Entropy Environmentalists
Environics, Inc.
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Environment SA
Environmental Measurement
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Environmental Science &
Engineering, Inc.
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Contractors
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Magazine
Enviropian
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EPRI
The ERM Group
ESKO Industries, Limited
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Foth & Van Dyke and
Associates, Inc.
Furon/Dekoron/UniTherm
Division

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Gas Research Institute
Gelman Sciences
General Metal Works
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W. L. Gore & Associates
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Greater Vancouver Regional
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Handar, Inc.
HDR Engineering Inc.
Hirt Combustion Engineers
Hughes Environmental, Inc.

In-Process Technology, Inc.
Indaco Air Quality Services,
Inc.
Industrial Gas Cleaning
Institute
Insitec
IT Corporation

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Consulting Engineering, Inc.
Johnson Matthey, Inc.
JWP Energy & Environmental
Air Technologies

Keystone Environmental
Resources, Ltd.

Lace Engineering
Laidlaw Environmental
Services, Ltd.
Land Combustion
Law Environmental, Inc.
Lear Siegler Measurement
Controls Corporation
Lewis Publishers/CRC Press,
Inc.
Liquid Carbonic

Malcolm Firmie, Inc.
The Mellvaine Company
McLaren/Hart
MDA Scientific
Measurement Technologies
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& Technology
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NUS Corporation
Nutech

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Pace Environmental Products
Performance Analytical, Inc.
Pergamon Press
Photovac International, Inc.
Publishers for Conventions,
Inc.

Quad Environmental Tech
Corporation

Radian Corporation
Remediation Technologies,
Inc.

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Laboratories
Research-Cottrell Companies
RMT, Inc.
Rosemount Analytical, Inc.
Rowan Williams Davies &
Irwin
RTP Environmental
Associates, Inc.
Rupprecht & Patashnick
Company, Inc.

Sampling Technology
Scan Technologies, Inc.
Scintrex Ltd.
Scott Specialty Gases, Inc.
Sentex Sensing Technology,
Inc.

Sierra Environmental
Engineering, Inc.
Sierra Instruments, Inc.
SKC, Inc.
Smith Engineering Company

Solmar Corporation
Solus Systems, Inc.
Sonic Environmental Systems
Source Evaluation Society
Stanley Consultants, Inc.
Supelco, Inc.

Team Inc./Emission Control
Division
TEC Systems, W. R. Grace &
Company/Conn
Technical Enterprise
Technical Heaters Inc.
Tekmar Company
Teledyne Geotech
Temprite Industries, Ltd.
Thermo Environmental
Instruments
Thermotech Systems
Corporation
Tracer Technologies
Triangle Laboratories, Inc.
Trinity Consultants, Inc.
Turner Engineering, Inc.
Tylan General, Inc.

University Research Glassware
U.S. EPA

Vara International
Versar, Inc.
Versatech Products, Inc.
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VICI Metronics Inc.

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Wedding Associates, Inc.
Western Environmental
Services & Testing, Inc.
Western Research
Westinghouse Environmental
& Geotechnical Services
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Laboratories

**Interested in exhibiting? There may still be space available.
Call Leonard Mafrika (412) 232-3444.**

convention center. Special conference rates of \$35-60 (Canadian Funds) plus 10% tax are available. Students must make their own reservations by contacting the YWCA, 580 Burrard Street, Vancouver, B.C. V5C 2K9; (604) 683-2531; fax (604) 684-9171.

When making reservations, students must advise the clerk that they are attending the Association's meeting to receive the special rate.

Social Events

Welcoming Reception & Mixer

The Meeting's social agenda opens with the traditional Sunday evening Reception & Mixer at 6:30 p.m. in the convention center. Complimentary refreshments are available. Admission to the reception is included in the price of a full registration.

Honors and Awards Luncheon

At noon Thursday, June 20, the Association will present during a luncheon its annual honors and awards. This luncheon will provide attendees and the Association to collectively recognize the accomplishments of individuals within the air and waste management fields.

The 1991 awardees are:

Frank A. Chambers Award
R.K.M. Jayanty
S. Smith Griswold Award
Gustave von Bodungen
Lyman A. Ripperton Award
Arthur C. Stern
Waste Management Award
Walter C. Barber
Honorary Membership
Robert L. Stockman

Tickets to the luncheon are not included in any registration fees and must be purchased separately. Tickets are \$15 each and are available on a first-come, first-served basis. To ensure a seat, purchase your ticket as soon as possible. A cash bar opens one-half hour before the luncheon.

Closing Mixer

The final get-together begins at 6:30 p.m. on Thursday, June 20, in the convention center. Complimentary refreshments are available. Admission is included in the price of a full registration.

Ancillary Events

Lobby Demonstration and Displays

In the lobby of the convention center, a display and demonstration of techniques for handling household hazardous waste and recyclables is open to all attendees and the public.

A consecutive series of booths feature information on:

- *household hazardous wastes
- *recycling in the home and office
- *recycling hazardous and solid wastes
- *the use and reuse of packaging materials.

The booths are open:

Sunday, June 16 - 2 to 7 p.m.

Monday through Thursday,

June 17-20 - 9 a.m. to 5 p.m.

Friday, June 21 - 9 a.m. to 2 p.m.

A student poster exhibit will also be on display in the convention center lobby. The most outstanding posters from each of the participating schools in the Greater Vancouver Regional District may be viewed at the same times as the demonstration.

The demonstration is presented by the Association with the cooperation of the Brit-

ish Columbia Ministry of the Environment, the British Columbia Hazardous Waste Management Corporation and the Greater Vancouver Regional District, and several corporate donors.

Public Forum

A public forum on household and solid waste recycling will be held in the convention center from 8 to 10 p.m. Wednesday, June 19.

This forum will gather the public, recycling companies, municipal officials, legislators, government agencies, environmentalists, and waste management professionals to discuss key issues and problems related to solid waste recycling. Panelists will make presentations related to household hazardous waste and solid waste management and then field questions from recycling experts and the public.

Some key issues they will address are:

- *Who should bear the cost to clean up household hazardous waste?
- *Polystyrene vs. paper in fast-food service.
- *Plastics vs. paper in packaging.

AAEE Luncheon

The American Academy of Environmental Engineers (AAEE) will hold its annual luncheon at noon on Wednesday, June 19.

William G. Rosenberg, Assistant Administrator for Air and Radiation, U.S. EPA, has been invited to be the principal speaker. His topic would be the Clean Air Act Amendments of 1990, EPA plans for their implementation, and the expected role of state agencies.

Tickets are \$25 each and may be purchased by using the registration form in this booklet. A limited number of tickets will also be available on-site.

Policy Makers' Workshop

The Policy Makers' Workshop will be at 9 a.m. Wednesday, June 19. The topic will be "Air Pollution Control Strategies in the U.S. and Canada: Common Problems, Different Approaches."

This workshop provides an opportunity for officials to share experiences and to be briefed on environmental issues such as air toxics, urban smog, and vehicular controls.

Support Services

Preprints

Preprints of most of the technical presentations will be on sale beginning at 9 a.m. Sunday, June 16, at the Preprints &

Publications Booth in the Exhibition Hall. Each copy is \$2.50.

If quantities of a preprint run out during the meeting, the Association will mail your

copies after the Meeting. Place your order at the Preprints & Publications Booth.

You can also order preprints after the Meeting. Send your request in writing along

If you plan to attend a continuing education course, you should register in advance since attendance is limited.

On-site Registration

You can register on-site on:

Sunday, June 16 - 9 a.m. to 7 p.m.

Monday through Thursday,

June 17-20 - 7 a.m. to 5 p.m.

Friday, June 21 - 7:15 a.m. to 2 p.m.

Refund Policy

To receive a refund of your registration fee (less \$25), make your request in writing to the Air & Waste Management Association by May 31. No refunds will be given after that date, but you may substitute people by notifying the Association.

Honors and Awards Luncheon

Tickets to the Honors and Awards Luncheon will be sold separately to attendees for \$15.

Opening Keynote Breakfast

For those who do not obtain a full registration, a limited number of tickets for the breakfast will be available at \$15 per ticket.

Authors Registration

If you are giving a presentation in the technical program, you

must register and pay at least a daily registration fee for the day you are giving your paper. To enter your session room, you will need the badge you will receive when you register.

On the day of your presentation, you should attend the Authors Complimentary Breakfast at 7 a.m. in the convention center. At this breakfast, authors ribbons are issued and last minute arrangements are discussed.

Media Registration

Representatives of the trade press and news media receive complimentary registration. Media registration is held in the Media Room in the convention center and you must present working media credentials.

In the Media Room you'll find information about the Meeting, the Air & Waste Management Association and all ancillary events. The staff there will also help you schedule interviews with authors.

The Media Room is open on

Sunday, June 16 - 1 to 5 p.m.

Monday through Thursday,

June 17-20 - 8 a.m. to 5 p.m.

Friday, June 21 - 8 a.m. to 3 p.m.

Transportation

Discount Air Fares

The Air & Waste Management Association and Convention Travel Headquarters are offering major savings on air fares to the meeting. If you travel to Seattle first, special rates are available for bus or rental car.

To make reservations call 1 (800) 544-2901. By arranging your reservations through us you will receive:

- *guaranteed lowest air fares on any airline when you book your flight
- *discounts on the official carriers of up to 50% off coach class fares, 35% off Canadian fares and 5% off lowest applicable fares (some restrictions apply and you must book your ticket at least 7 days in advance)
- *car rental discount

*frequent flyer mileage

*senior citizen discounts

*bus rates ranging from \$34 to \$60 (round trip).

By using this reference # 1101, your own travel agency can also make reservations through Convention Travel Headquarters so that you receive the discounted fares.

Transportation from the Airport

Vancouver is approximately 11 miles from the Vancouver International Airport. The airport express bus is \$7.25 each way. Limousine Service is approximately \$26, and taxi service is about \$20 (all in Canadian funds). Many of the hotels offer complimentary shuttle service.

Special Notes

Identification Required

All attendees traveling from outside of Canada must have proper proof of citizenship (passport, birth certificate, green card, alien card, or voters registration with a picture identification). U.S. citizens must have more than just a drivers license.

Goods/Services Tax

Canada has recently enacted a 7% goods/services tax (GST). This tax will be applied to all sleeping room charges, food, and any purchases made.

Non-Canadian residents may apply for a rebate of this tax as they leave Canada at a "duty-free" shop. The rebate will not apply

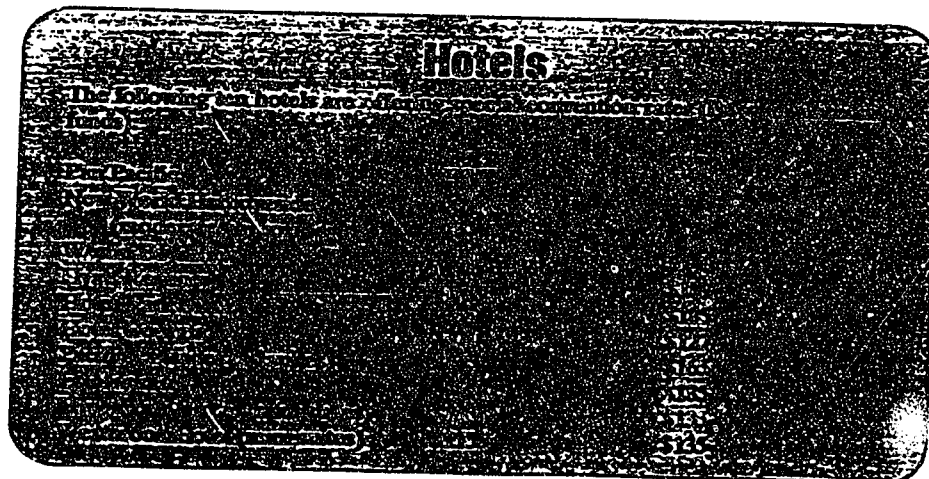
to food purchases or if the tax liability totals less than \$7.

Cruise

The Association is offering a group discount on our post-convention cruise to Alaska. The 7-day, inside-passage cruise departs June 22, 1991.

Inside cabins range from \$1,239 to \$1,489. Outside cabins range from \$1,689 to \$3,339.

A deposit of \$200 in U.S. funds is required by each passenger with final payment due 60 days before departure. For more information and a brochure, call the travel agency (604) 657-5785.



AIR POLLUTION CONTROL STRATEGIES

U.S AND CANADA: COMMON PROBLEMS, DIFFERENT APPROACHES

Air pollution doesn't respect any boundaries, including national frontiers. Both the United States and Canada are fighting to secure clean air, but each nation may be looking at the problem with differing priorities and strategies. Can we learn from each other? What initiatives must be taken now so we can successfully bridge into the next century with these problems solved? Consistent with our theme for the annual meeting, "Bridging to the 21st Century", we hope to answer these questions.

The eighth annual Policy Makers Workshop will focus on this basic question, emphasizing three broad categories of concern: airborne toxics; urban smog (i.e., ozone and PM10), and mobile source control, including emission standards, I & M and clean fuels programs. The newly enacted Clean Air Act Amendments may lock in the U.S. approach - in part - but much discretion is left for state and local efforts. As for Canada, the legislative program is not so clearly defined, with creative provincial input still available. Both nations have common problems, but a different approach to solving them; both have a common goal: protecting the health of our people.

The Air & Waste Management Association (A&WMA), together with State and Territorial Air Pollution Program Administrators/ Association of Local Air Pollution Control Officials (STAPPA/ALAPCO), and the (SANFRANCISCO) Bay Area Air Quality Management District (BAAQMD) is honored to present a panel of experts who will try to answer these and other related questions in a three hour session, to be held in conjunction with A&WMA's 84th Annual Meeting in Vancouver starting at 9:00 A.M. on Wednesday, June 19th, Pavilion B in the Pan Pacific Hotel.

The panel will consist of six people, three from each country, plus a moderator. The workshop will be in three segments: Toxics, Urban Smog and Mobile Source Control. As always, there will be adequate time for interchange between the panelists and the workshop participants.

The panelists will include:

AIR TOXICS:

from Canada: Sherri Watson, Acting Director
Industrial Programs Branch

from the U.S. Donald F. Theiler, Director
Wisconsin Department
of Natural Resources

URBAN SMOG:

from Canada: E.W. (ED) Piche, Director
Air Resources Branch, Ontario

from the U.S. David R. Jordan, Administrator
Indianapolis Air Pollution
Control Division

MOBILE SOURCES CONTROL:

from Canada: Harry J. Vogt, Acting Director
Air Management Branch
British Columbia Ministry
of Environment

from the U.S. Richard Baldwin,
Air Pollution Control Officer
Ventura County Air Pollution
Control District

Moderator will be the Honorable Al Aramburu, Member and Past Chair, Board of Directors BAAQMD.

These people have been intimately concerned with national and state/provincial policy on controlling air pollution. Any elected or appointed official who is dealing with these concerns is sure to gain useful insights by participating in the Workshop.

And if past sessions are any guide, the Workshop will be enjoyable for all concerned.

Detach and mail to
The Air & Waste Management Association,
P.O. Box 2861, Pittsburgh, PA 15230.

REGISTRATION FORM

Yes, I (we) will attend the Policy-Maker's Workshop in ~~Pittsburgh~~ ^{Vancouver} on Wednesday, June 19, 1991.

Name _____

Title _____

Name _____

Title _____

Organization _____

Address _____

City _____

State _____

Zip _____

I (we) will only attend the Workshop.
No registration necessary.

Please send the Preliminary Program for the 84th Annual Meeting and Exhibition, "Bridging to the 21st Century."



Province of
British Columbia

Ministry of
Environment

Waste Management
Lower Mainland Region
15326 - 103A Avenue
Surrey
British Columbia
V3R 7A2
Telephone: (604) 584-8822
Fax: (604) 584-9751



File: 50.78
(Port Coquitlam)

May 17, 1991

Corporation of the City of Port Coquitlam
2580 Shaughnessy Street
Port Coquitlam, B.C.
V3C 2A8

Attention: Mr. C.F. Gaudry, P. Eng., Deputy City Engineer

Dear Mr. Gaudry:

Re: Intrawest Site - SE corner of Shaughnessy & Lougheed, Coquitlam

Further to your request of May 15, 1991, this office will be prepared to refer any remediation plans for your consideration prior to approval by our office. If requested by the City of Coquitlam, we are also prepared to forward copies of any review comments for your information.

By copy of this letter, I am advising Dr. John Wiens of our Victoria Headquarters of your request. Dr. Wiens is Head of the Contaminated Sites Unit in Victoria, and will assist our office with the review and assessment of the remediation plan once it is submitted by Intrawest. To date, we have not received any definite plans for remediation of this site.

Please do not hesitate to contact me if you need any further information.

Yours truly,

Louise Ouellet

Louise Ouellet, P. Eng.
Head, Special Waste Section
Environmental Protection
Lower Mainland Region

cc: Dr. J. Wiens, Environmental Protection, Victoria

CITY OF PORT COQUITLAM		
ENGINEERING DEPT.		
MAY 22 1991		
FILE # _____		
TO	FROM	DATE
	IZ	May 22
KF		

Recycling Council of British Columbia

#102 - 1525 West 8th Avenue, Vancouver B.C. V6J 1T5 (604) 731-7222 Fax (604) 734-7223

April 18, 1991

Dear Mayor and Council,

The Recycling Council of British Columbia (RCBC), established in 1974, is an association of companies, groups, societies, governments and individuals engaged in Recycling and Waste Management. By acting as a unified recycling organization, the Council aims to foster communication between all concerned groups and works to achieve their common goals. Our priorities are waste reduction, reuse and recycling.

The Recycling Council of British Columbia offers a number of services that can help your municipality and its residents. Two of RCBC's Services include the B.C. Recycles Hotline and the B.C. Waste Exchange.

The B.C. Recycles Hotline is supported by the Ministry of the Environment and operated by the Recycling Council of B.C. The service responds to telephone calls from all over the province. A team of information officers uses a computer database to answer questions about how, what, and where to recycle.

The B.C. Waste Exchange is an information exchange that matches industrial waste generators with waste users. The Waste Exchange was developed by RCBC in 1987 and is published on an "as funding is available" basis. The Council is currently requesting MOE sponsorship of this program to enable it to expand into a constant and active service.

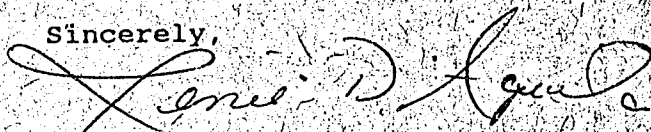
Both of these services are offered free of charge to users.

We formally request that the municipality demonstrate support for these services by:

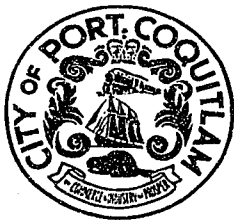
- a) publishing the Hotline number in your municipal newsletter.
- b) sending a letter of endorsement for the Waste Exchange Service.

We are enclosing a number of Hotline telephone stickers. We hope you will place them on Municipal Hall phones.

Sincerely,



Renie D'Aquila
President
Recycling Council of B.C.



OUR FILE

THE CORPORATION OF THE CITY OF PORT COQUITLAM

2580 SHAUGHNESSY STREET
PORT COQUITLAM, B.C.
V3C 2A8

TELEPHONE: 941-5411
FAX: 464-3524

June 11, 1991

POOR RICHARD'S DISTRIBUTING CORP.
2820 Huntington Place
Port Coquitlam, BC
V3C 4T3

ATTENTION: MR. RICHARD SCHROEDER

Dear Sir:

RE: Port Coquitlam Recycling System

It was unfortunate you were unable to attend our ~~Environmental Protection Committee meeting of May 29, 1991~~. However, I would still like to provide you with information concerning items raised in your March 26, 1991 letter.

The Port Coquitlam Recycling Program will start September 1, 1991 for all single family residential houses within the City. It is the intent to have each household provide recyclable goods in a plastic bag at curbside on the same day as their garbage is put out and a separate truck will come by and retrieve the recyclable goods. In the future, as resources, training, and information become available, it is the City's intent to look at expanding the Recycling Program into the industrial, commercial, and institutional areas. Before this would be attempted, coordination meetings would be held with all interested parties to gather data and determine the best approach.

The City will be producing a Recycling Newsletter once or twice a year and I would encourage you to read these as they will provide the most accurate status of the Recycling Program in Port Coquitlam and the suggested plans for the future.

Yours truly,

A handwritten signature in black ink, appearing to read "C.F. Gaudry".

C.F. (Kip) Gaudry, P. Eng.
Deputy City Engineer

CFG:gc

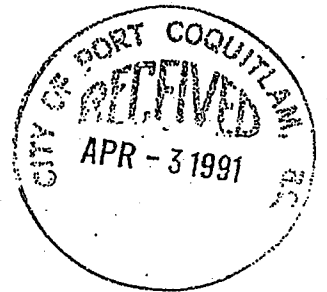
cc: Mayor Trahoulay
Bryan Kirk, Administrator
Alderman Keryluk
Alderman Talbot
Andrew de Boer, Project Engineer

POOR RICHARD'S

Distributing Corp.

March 26th, 1991

Mayor and Council,
City of Port Coquitlam,
2272 McAllister Avenue
Port Coquitlam, B.C.
V3C 2A8



Re: Proposed Recycling Service
for Port Coquitlam Industrial Sites

Dear Sirs:

A neighbor of ours has made me aware that there is a proposed Recycling Program under discussion, that would see boxes or bins collected from Industrial Sites such as ours. We own a small multi-tenant type warehouse, at the site of the old Huntington Mill.

We would like to voice our objection to this idea, based on the following reasons:

- 1/ It is not practical. Industrial users are already directing recoverable waste through private firms that either pay for the salvage, or haul it at no charge to the business;
- 2/ Household waste, such as bottles, papers, cans, etc., is not usually present at Industrial sites, as it is at households;
- 3/ Our business would not use this service. We, like other businesses, have already made our own arrangements to remove re-cyclables;
- 4/ We don't like having a service that we don't want, forced upon us through automatic assessment.

I only heard of this proposal by accident. I hope it is not too late to have my opinion considered.

Sincerely,

Richard Schroeder

A handwritten signature in dark ink, appearing to read "Richard Schroeder". The signature is fluid and cursive.

P.S. ... My compliments to the City's Garbage Truck operation. They do a great job, and you can set your watch by their pick-up times.

RS/jml

