

THE CORPORATION OF THE DISTRICT OF BURNABY
ENVIRONMENT AND WASTE MANAGEMENT COMMITTEE

HIS WORSHIP, THE MAYOR
AND ALDERMEN

REPORT OF THE ENVIRONMENT AND WASTE MANAGEMENT COMMITTEE
RE: RECYCLING INITIATIVES

RECOMMENDATIONS:

1. THAT Council implement the following recycling initiatives as more fully detailed herein:
 - (a) That residential backyard composting be promoted by distributing the G.V.R.D. brochure on backyard composting during distribution of sanitation calendars.
 - (b) That the provision for utilizing recycled asphaltic pavement (RAP) be incorporated into tender documents for engineering construction contracts.
 - (c) That the Corporation establish a pro-active role on procurement by purchasing re-refined oil for Corporation-owned and maintained vehicles.
 - (d) That the Corporation commence negotiations with Old Orchard Shopping Centre for the establishment of an interim, pilot recycling drop-off centre, and further that Burnaby approach the G.V.R.D. and the Recycling Council of B.C. for support of this initiative.
 - (e) That the Corporation respond to and facilitate residents who come forward in establishing block recycling programs.
 - (f) That the Corporation coordinate and facilitate strata-unit and cooperative housing complexes in establishing drop-off depots for their specific complexes.
 - (g) That the Corporation expand the office paper recycling program presently being undertaken in the Municipal Hall, West Building, and Works Yard to all Municipal jurisdictions; such as Fire, Police, Library, etc.
 - (h) That Corporation commercial container trucks be re-routed such that commercial paper waste be disposed of at Wastech, where it is recovered and recycled, rather than at the G.V.R.D.'s Incinerator.
 - (i) That a trial program of supplying Burnaby residents with containers for the recycling of waste oil be initiated, at a maximum cost of \$7,000, with the oil industry invited to participate in the program and senior government funding to be sought.

INTERNAL DISTRIBUTION:

AGENDA 1989 AUGUST 21
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- DIRECTOR ENGINEERING
- DIRECTOR FINANCE
- DIR. PL. & BLDG. INSP.
- DIR. REC. & CULTURAL SERVICES
- CHIEF PUBLIC HEALTH INSPECTOR

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REPORT

The Environment and Waste Management Committee, at its meeting held 1989 August 09 received a report from the Acting Director Engineering regarding specific Recycling Initiatives.

The Acting Director Engineering reported as follows:

"BACKGROUND

Council, at its regular meeting of 1989 August 08, endorsed the G.V.R.D.'s MacLaren Report entitled "Waste Reduction and Recycling in the G.V.R.D.:" A Blueprint for Comprehensive Resource Management, June, 1989" subject to several qualifications (Report No. 2 from the Environment & Waste Management Committee). As mentioned in the Council report, Engineering Department staff have extensively reviewed the MacLaren Report and are strongly in agreement with its basic philosophy and overall direction. Staff agree with the outlined aggressive and innovative approach to solid waste management which views solid waste not as garbage to be disposed of, but as a resource to be managed.

Staff also concur with the MacLaren Report being used as a "road map" for arriving at the primary goals of reduce, reuse, and recycle by various paths such that the flexibility required by member municipalities is not sacrificed. Inherent in this road map concept is the shared responsibility for the creation and success of the Resource Management System, and staff are currently working with G.V.R.D. and other member municipalities on the initial stages for implementation of this Resource Management System. However, there are many other recycling initiatives that Burnaby can undertake without compromising our position regarding the G.V.R.D.'s Resource Management System.

RECYCLING INITIATIVES

There are six main areas in a Resource Management System, namely:

1. Residential Waste Reduction
2. Markets
3. Residential Waste Recycling
4. Institutional, Commercial, and Industrial (ICI) Waste Reduction
5. Special Wastes
6. Promotion and Education

Several recycling initiatives, grouped according to these six main areas, are presented following as ones that the Environment and Waste Management Committee feel the Corporation can undertake in order to make tangible, positive progress on recycling. The Committee's criteria in selecting these specific recycling initiatives were; first - to select recycling initiatives that were desirable in terms of making a positive impact on the three R's of recycling (reduce, reuse, and recycle) without compromising Burnaby's position regarding the G.V.R.D.'s overall Resource Management System; and second - to select recycling initiatives which would not require major expenditures. The following recycling initiatives are put forward based upon these criteria.

RECYCLING INITIATIVES (Cont'd.)

1. Residential Waste Reduction

Objective: To reduce the amount of residential waste requiring disposal and/or recycling.

i) Initiative: Promote residential backyard composting.

Action: Distribute G.V.R.D. brochure on backyard composting (subject to availability) during distribution of sanitation calendars (Oct/Nov/Dec).

Benefits:

- educate residents;
- reduce lawn and garden wastes requiring pick-up.

Costs: Negligible - brochures obtained from G.V.R.D.;
- distribution with calendars.

2. Markets

Objective: To promote the creation of markets for recycled materials.

i) Initiative: Develop a "pro-active" role in the use of recycled asphalt for base course asphalt in construction contracts.

Action: Amend construction contract specifications to include provision for the use (to a maximum of 20%) of recycled asphaltic pavement in base course pavements, as further detailed in Appendix 1, attached.

Benefits: Promotes the use of secondary materials, creates markets for recycled materials.

Costs: Total annual costs are estimated to not exceed \$5,000, and would be included in the budget for the specific work being contracted.

ii) Initiative: Develop a "pro-active" role in the use of re-refined oil.

Action: Purchase re-refined oil for all Corporation-owned and maintained vehicles once existing stock of virgin oil is depleted.

Benefits: Promotes the use of secondary materials, creates markets for recycled materials.

Costs: Re-refined oil is slightly less expensive than virgin oil, and therefore there would be a savings of approximately \$1,000-\$2,000 per year.

RECYCLING INITIATIVES (Cont'd.)3. Residential Waste Recycling

Objective: To initiate selected residential waste recycling programs.

i) Initiative: Shopping Centre drop-off depots.

Action: Commence negotiations with Old Orchard Shopping Centre for the installation of an interim, pilot recycling drop-off centre.

Benefits:

- allows for participation by apartment dwellers;
- heightens awareness of recycling by visibility of operation;
- allows for participation of customers and merchants at shopping centres.

Costs: None at present; work will be undertaken by existing staff and if any costs are to be incurred they will be the subject of a further report to Council.

ii) Initiative: Block recycling.

Action: Respond to and facilitate interested residents to initiate block recycling programs.

Benefits:

- encourages residential recycling;
- publicizes recycling program.

Costs: None, work will be undertaken utilizing existing staff as time permits.

iii) Initiative: Strata-unit and cooperative housing pilot projects.

Action: Work with a strata-unit and cooperative housing complexes to establish drop-off depot for their specific complexes.

Benefits:

- allows for participation by residents;
- heightens awareness.

Costs: Minimal, strata or cooperative housing rent containers and maintain the sites.

4. Institutional, Commercial, and Industrial (ICI) Waste Reduction and Recycling

Objective: To recycle ICI wastes presently requiring disposal.

- i) Initiative: Expand office paper recycling program similar to that at Municipal Hall, Works Yard, and West Building.

RECYCLING INITIATIVES (Cont'd.)

4. (Cont'd.)

Action: Council to direct all Municipal jurisdictions to commence with an office paper recycling program (recreation facilities, libraries, fire halls, etc.).

Benefits:

- reduces waste stream;
- heightens awareness.

Costs: Minimal, undertaken with existing staff time.

ii) Initiative: Re-routing of Corporation container trucks.

Action: Change the schedule for pick-ups of commercial customers to pick commercial first, which then empty at Wastech in Coquitlam instead of incinerator and then pick-up apartments/stratas.

Benefits: Re-routes commercial refuse (mainly paper) from incinerator to Wastech where it is recovered for recycling.

Costs: Minimal, possible extra time for trucks to travel to Coquitlam; minimal extra costs would be within existing sanitation budgets.

5. Special Wastes

Objective: To remove used motor oil from the waste stream.

i) Initiative: Supply containers for recycling of waste oil (possibly in conjunction with interested oil industries).

Action: Purchase, distribute containers, pick-up when full and replace with empty containers.

Benefits:

- Removes waste oil from the waste stream and from watercourses;
- cooperative effort with industry to illustrate both government and industry can work together;
- innovative action, heightens public awareness.

Costs: Costs of containers at approximately \$2 each and cost of distribution. Additional funds may be available from Federal or Provincial cost sharing; assuming 2,000 containers, cost not to exceed \$7,000.

6. Promotion and Education

Objective: To promote recycling and to educate the public as to the importance of reuse, reduce and recycle.

Various initiatives to promote recycling and to educate the public will be the subject of a further report to the Committee.

SUMMARY

Staff are very supportive of the MacLaren Report and the need for team work, between the public and private sectors, in order to successfully undertake the Resource Management System. The core of this team will be the G.V.R.D. and its member municipalities and staff are working with the G.V.R.D. and other member municipalities towards the implementation of this Resource Management System. There are, however, a number of recycling initiatives which Burnaby can proceed with which will not impact on the "team", but which will still impact favourably on the three R's of reduce, reuse and recycle.

Funds for these recycling initiatives, if required, are provided in the allowance for recycling purposes included in the 1989 operating budget."

The Environment and Waste Management Committee recommend that Council proceed with the implementation of the aforementioned recycling initiatives.

Respectfully submitted,

Alderman J.M. Sawicki
Chair

Alderman D.R. Corrigan
Member

Alderman D.P. Drummond
Member

USE OF RECYCLED ASPHALTIC PAVEMENT (RAP) IN

ENGINEERING CONSTRUCTION CONTRACTS

FOR BASE COURSE ASPHALTS

BACKGROUND

Recycled asphalt is an asphaltic concrete mix utilizing old pavement that has been crushed and combined with new asphalt cement and aggregate, resulting in a product which meets all the specifications of a new (virgin) asphalt mix. Recycled asphalt pavement (RAP) may contain up to 100% recycled material. At the present time, only two suppliers, Columbia Bitulithic and B.A. Blacktop, produce RAP. The other two major suppliers in the area, Jack Cewe Ltd. and Winvan Paving, use only virgin asphalt in their operations.

USE OF RAP

The use of plant recycled asphalt requires more control and testing with respect to ensuring the combined mix (recycled and new) meets all the specifications of a virgin mix. The major considerations in a recycled asphalt mix are:

- a) that the asphalt cement in the combined mix meets all the specifications for a new mix;
- b) that the aggregate gradation of the combined mix meets requirements for a new mix;
- c) the combined mix must meet the requirements for stability, air voids, flow, mix density, asphalt content, aggregate gradation, etc.

The greater the percent of recycled asphalt allowed in the mix the more stringent the quality control requirements become. The old pavement to be recycled must be sampled prior to the recycling to determine the asphalt content and aggregate gradation in order to design the proper percent of recycled and new material. Other considerations to be given depend on the type of plant, batch or drum mixer, used to produce the RAP. In a batch plant there are constraints regarding heating the recycled asphalt to a suitable temperature to soften it and combine it in a new mix.

This constraint can lead to restricting the percent of RAP allowed when using a batch plant. This constraint is not as severe with a drum plant due to nature of the heating process, and by restricting the allowable percent of RAP to 20% the limitations encountered with both plants should be accommodated.

Additional quality control requirements due to the use of RAP may be required and can be provided by our materials testing consultant - presently Terra Engineering Ltd. Additional specifications have been developed for inclusion in our Engineering construction contracts.

APPENDIX 1 (Cont'd.)PROCUREMENT INITIATIVE

It is suggested that a procurement initiative preferring products containing secondary materials over products that do not contain secondary materials be adopted. Therefore, it is recommended that the Engineering construction contracts be revised to allow for the use of 20% RAP in the asphaltic cement utilized in road base pavements. In addition, it is recommended that, for the purpose of tender evaluation only, the tendered amount for the specified percentage of recycled asphalt be discounted by five percent (5%). The total tender price would be adjusted accordingly and this new total tender amount would be used for the evaluation of tenders. However, in the event that the Corporation accepts this discounted tender, the contract entered into will be for the original tendered amount.

For Example:

A tender for roadworks totals \$500,000 and contains 5,000 tonnes of base course asphalt material at \$45 per tonne. This base course is specified to contain 20% RAP. Therefore, the new total tender for tender evaluation purposes is:

$$500,000 - (5,000 \text{ tonnes})(\$45)(20\%)(5\%) \\ \text{tonne} \\ = 500,000 - 2,250 = \$497,750$$

Should the tender be accepted upon evaluation at this revised amount, ie. \$497,750, a contract would be entered into at the original tender amount, ie. \$500,000.

COSTS

The additional testing that may be required is estimated to not exceed approximately \$3,000 per year. The estimated cost of discounting tenders which include RAP is very difficult to forecast, since this discounting may or may not cause the discounted tender to be successful. However, our best estimate is that the annual cost would not exceed \$2,000. Therefore, the total estimated annual cost of establishing a pro-active procurement initiative for the use of recycled asphaltic pavement is estimated to not exceed \$5,000.

SUMMARY

It is unlikely this Procurement Initiative would result in a specific tender becoming the low tender due to the discounting detailed herein. However, staff are of the opinion that it is important as a philosophy for promoting, through financial incentives, the use of products that contain secondary materials. Regarding the use of RAP, as far as staff can ascertain, Burnaby would be the first Municipality in B.C. to undertake such an initiative.