
CITY OF KELOWNA
MEMORANDUM

Date: December 2, 2004.
File No.: 5280-01
To: City Manager
From: Environment & Solid Waste Manager
Subject: **Solid Waste By-law #7173 Amendments;
Demolition Wastes & Schedule D Fees.**

RECOMMENDATION:

THAT Council have staff amend, part 4, Schedule D of By-law # 7173 for inclusion of pro-rated fees for the landfill levy activated at date for final request for inspection

AND THAT staff amend fees under Schedule D for Demolition, Construction and Land Clearing debris.

DISCUSSION:

1) Pro-Rata Amendment

In the existing by-law under part 4 of Schedule D the Landfill Levy fee is applied annually at a set fee of \$59.28. The fees are used to cover landfill refuse disposal costs, recycling programs and waste reduction activities. The amendment to the by-law would have the fee applied on a pro-rata basis at time of final inspection. This is consistent with the conditions under which our Garbage Fees are applied (which cover off collection of curbside garbage and yard waste).

2) Demolition, Construction and Land Clearing Debris Project

The Waste Reduction Office and City of Kelowna Landfill/Solid Waste Staff are implementing a project to capture the greater than 20% waste attributable to Demolition, Construction and Land Clearing Debris (DLC). Most materials if source separated are recyclable. The stakeholder meetings and commitment by individual companies to be part of the program is very encouraging (Attach 1). In order to commence with the program fee amendments to the by-law are necessary. Without the fee schedule changes there is minimal incentive/disincentive for the companies to participate. The fees were derived from data reviewed by staff and are consistent with similar fees in other jurisdictions.

The following rates are proposed for all DLC Project demolition, construction, and commercial refuse delivered to the Glenmore Sanitary Landfill at all times when the Landfill scale is operating:

Source-separated recyclables	\$ 10.00 per metric tonne
Co-mingled recyclables sorted at landfill	\$105.00 per metric tonne
Drywall	\$145.00 per metric tonne
Mixed waste for disposal	\$210.00 per metric tonne

The costs for this DLC Project are staff time related to project implementation, inspections and any separation of material required at the landfill. However there is a recovery through tip fees and a savings on airspace. A detailed report for the project will be presented in late 2005 and will outline our successes, costs and further changes to the by-law if necessary.

Environment and Solid Waste Manager



Approved for inclusion:
John Vos
Director of Works & Utilities

Attach 1 – DLC Report and Recommendation

cc: Waste Reduction Office
City Clerk
Revenue Manager.

Outline of Demolition, Land Clearing and Construction (DLC) Pilot Project

Glenmore Landfill Spring 2005

Background

A 2002 landfill composition study revealed that 20 percent of the total waste in the Glenmore Landfill is demolition, land clearing and construction (DLC) waste.¹ Since that report was released, there has been an approximate 20 percent increase in the amount of DLC waste disposed of in the landfill each year.² In 2003, 23,000 tonnes of DLC materials were disposed of in the Glenmore and Westside Landfills.

DLC waste is extremely bulky and takes up an inordinate amount of space in landfills. Other jurisdictions in British Columbia and elsewhere have shown that more than 80 percent of DLC waste can successfully be recycled and diverted from landfills. The methods of diversion used include variable tipping fees, landfill bans of specific materials, separation of co-mingled bins of materials at specific DLC allocated sites, and penalties for lack of compliance. The primary building materials recycled or composted are land clearing debris, wood, concrete, cardboard, metal and drywall.

To effectively counter the growing amount of DLC waste disposal in local landfills, the Regional District of Central Okanagan (RDCO) recognizes the need to implement effective DLC recycling and diversion programming. It also recognizes that any successful strategy will require the combined efforts and cooperation of industry and government. In July 2004, the RDCO, in conjunction with the North Okanagan and Okanagan Similkameen regional districts, organized a *DLC Waste Diversion Workshop*. The purpose of the workshop was to solicit input from representatives of the local construction and development industry, municipal staff, and community organizations on effective strategies to reduce DLC waste. All participants indicated an interest in reducing waste and a willingness to modify current practices to achieve reductions.

Feedback from the workshop participants indicated that the principal challenges to construction job-site recycling in the RDCO include, high volumes of construction and land-clearing waste resulting from development of large houses on previously undeveloped sites, higher labour costs, and minimal incentives for efficient material use and on-site separation of waste materials. Increasing levels of demolition activity are expected in the coming years.

¹ City of Kelowna Landfill Profile Study, CH2M Hill, 2002.

² Regional District of Central Okanagan Landfill Statistics, Regional Waste Reduction Office, 2002, 2003, 2004.

Recommendations obtained at the workshop included implementing variable tipping fees, banning additional materials at landfills, and public or private designated DLC landfill sites for waste separation. To test the viability and efficiencies of the recommendations, the RDCO Waste Reduction Office staff is recommending a pilot project at the Glenmore Landfill featuring a variety of construction and demolition companies to test various separation and recycling and composting options.

Objectives of Pilot Project

The overall objective of the pilot project is to obtain a better understanding of the construction and demolition industry's challenges of DLC waste disposal and recycling and test the efficacy of the purposed solutions for increased diversion. Specific objectives of the pilot project, include:

- Determination of the real costs of on-site source separation for construction and demolition companies;
- Determination of the challenges construction and demolition companies would experience if required to source separate on site;
- Determination of volumes of DLC waste that could be diverted from the Glenmore Landfill;
- Determination of the feasibility of variable tipping fees, including price sensitivities to various options;
- Determination of the costs of DLC materials separation at the Glenmore Landfill
 - Site requirements
 - Staff hours requirements
 - Equipment requirements;
- Determination of the most effective permitting options;
- Determination of effective incentives, deterrents and enforcement options;
- Build a strong working relationship of the construction industry leaders; and
- Begin a public relations campaign to promote DLC waste diversion.

General Description (Methodology)

Literature Review

Regional Waste Reduction Office (WRO) staff have reviewed the regulations and operating practices of the regional districts in British Columbia that have already implemented DLC diversion strategies, including the Greater Vancouver, Capital, Nanaimo, Cowichan Valley, Squamish Lilloett, and Kootenay Boundary Regional Districts. Primary information sources include completed studies and reports, the Internet and personal interviews with staff.

In addition, WRO staff purchased a U.S. Department of Housing and Urban Development study on the Feasibility of Deconstruction and accessed construction, renovation and demolition waste reduction studies from the Alberta Environment and the B.C. Ministry of Water, Land and Air Protection.

Concept

Research has consistently shown that response to financial incentives and disincentives have the greatest effect on behaviour change, particularly amongst the business community. Therefore the concept is to introduce financial enticements and deterrents for DLC waste disposal. The incentives would include lower tipping fees for source-separated waste and an opportunity to have co-mingled DLC recyclables separated at the Glenmore Landfill for a lesser fee. The disincentive would be significantly higher tipping fees for mixed DLC waste that cannot be separated easily. The variable tipping fees and regulations would correspond as much as possible with neighbouring regional districts' fees and regulations.

Identify Representatives

In 2003, 690 businesses were registered as building contractors and nearly 3000 building permits were issued in the Central Okanagan. There are 30 large residential developers and numerous smaller construction companies (companies that build anywhere from one to dozens of homes a year). In addition, there are commercial construction companies, demolition companies, deconstruction companies and more than 50 companies that specialize in renovations.

As it is important to ensure all building industry sectors are represented, companies from each segment will be recruited to participate in the pilot project. Nine volunteer companies will be recruited (several companies have already volunteered to participate):

- Two residential developers (Dilworth Quality Homes Inc.)
- One commercial developer (Norson Construction Ltd)
- One mid-size construction company (AuthenTech Homes Ltd)
- Two small construction companies (Immaculate Construction, Team Construction Ltd)
- One renovation specialization company
- One demolition company
- One deconstruction company (Diamond Select)
- One roofing company

Recruitment will be done through the Canadian Home Builder's Association, the Urban Developers Institute and personal contact.

Waste hauling and recycling companies are also important stakeholders and must be active participants in the pilot project. Therefore, the contractors' waste haulers and representatives from the recycling industry will also be active participants. It is anticipated the following waste haulers will also participate in the pilot project:

- Waste Management of Canada
- BFI
- Alpine Disposal
- Kelowna Junk Removal
- Orchard Valley Disposal
- Knox Mountain Metals
- Metro Materials Recycling

Development of Pilot Project Strategy (Timeline)

1. **November: Project outline.** An approach was developed using a technical resource group composed of WRO staff, City of Kelowna landfill management staff and construction and deconstruction industry representatives. This group will be responsible for creating the parameters of the pilot study, selecting the criteria to be evaluated and ensuring the implementation of the study proceeds appropriately.
2. **December: Input from stakeholders and volunteer participants.** The first meeting with the technical resource group, volunteer participants and waste haulers is tentatively scheduled for mid-December 2004. The goal of the meeting is to outline the goals and methodology of the pilot project and examine possible challenges. This information will provide input to help develop a detailed strategy.
3. **January: Strategy presentation.** Based on input from the first meeting a detailed strategy will be formulated and then presented to the volunteer participants. Participants will be asked to provide a written outline of their plans for participation and provide agreement to participate.
4. **February: Participants' plans.** Participants will present outlines of their waste and recycling disposal plan for the three month time period. The technical resource group and participants will review challenges and discuss possible solutions.
5. **March: Staff to visit each site.** The pilot project will begin March 1st. During the first week of March, WRO and City of Kelowna staff (politicians and senior staff will be encouraged to attend as well). This will provide an excellent opportunity to observe operations of waste disposal at each construction/demolition site and discuss challenges with workers. The media will also be invited.
6. **April: Follow-up meeting.** The technical resource group and volunteers will meet to discuss challenges and preliminary findings. Adjustments will be made if required.
7. **May:** The pilot project ends May 31.
8. **June: Final meeting.** The technical resource group and volunteer participants will meet a final time to discuss the challenges faced during the study and assess the accrued data. From this assessment and data, recommendations will be included in the proposed regulation change for the disposal of DLC waste.

Implementation

The primary building materials that will be included in the pilot project are materials that are easily recycled or composted in the Central Okanagan. These include:

- Land clearing debris;
- Wood;
- Concrete and asphalt;
- Cardboard;
- Metal; and
- Drywall.

The concept of the pilot project is to introduce incentives and disincentives. As the primary incentive tool available to landfills is the control of tipping fees and because variable tipping fees have worked well in other constituencies to reduce DLC waste, variable tipping fees will be the primary tool used in this pilot project as well. (The exception is drywall; because of the toxic nature and the costs incurred to recycle the material tipping fees will be higher.) The fees chosen for the test coordinate with other neighbouring regional districts and are as follows:

Source-separated recyclables:	\$10 tonne
Co-mingled recyclables sorted at landfill:	\$105 tonne
Drywall	\$145 tonne
Mixed waste for disposal:	\$210 tonne

Source-separated waste: Volunteer companies would place separate bins on-site to collect whichever waste materials they produce. A company could have up to six bins or drop-off locations on-site, one bin for each recyclable product: dry wood waste and land-clearing debris, cardboard, metal, drywall, concrete and garbage. It would be the company's responsibility to ensure the appropriate materials are placed in the correct receptacles. As bins become full, the waste hauler would deliver the recyclable material to a recycler or the Glenmore Landfill.

Generally, there is little or no charge for recycling the materials, and in some instances, the companies would receive monies for the delivered product. The Glenmore Landfill would charge \$10 per tonne for land clearing debris, wood, cardboard and metals. A load of mixed DLC waste would be charged \$210 per tonne.

Established recyclers in the Central Okanagan for these DLC recyclables are:

DLC Recyclable	Recycler	Price/Tonne
Wood and landclearing debris:	Glenmore Landfill	\$10
Concrete and asphalt:	Glenmore Landfill	banned
	Ensign Bros. Sand and Gravel	\$20-\$25
	Pier Mac Sand and Gravel	\$6.50 -\$21.50
	OK Excavating	\$5-\$12.50
Cardboard	Metro Materials Recycling	Receive \$
	BFI	Receive \$
Metal	Glenmore Landfill	\$10
	Action Metals	May receive \$
	Knox Mountain Metals	May receive \$
Drywall	Glenmore Landfill	\$145
	Alpine Environmental	\$136

Co-mingled recyclables separated at the Glenmore Landfill: Construction and demolition companies would use co-mingled bins. That is, materials would be placed together in one or more bins. When the bins would become full, the waste hauler would deliver the mixed waste to the DLC allocated site at the Glenmore Landfill. Staff at the landfill, using specialized picking equipment and labour would then proceed to separate the mixed materials. The materials would then be sorted and recycled or composted. The fee charged for separation would be \$105/tonne.

If the materials in the co-mingled bins were contaminated with other garbage (i.e. wet organic waste, hazardous waste, household garbage, etc.) the company would be charged a \$210/tonne tipping fee.

Mixed waste deemed inseparable or contaminated: If DLC mixed waste is delivered to the landfill and is contaminated (i.e. wet organic waste, hazardous waste, household garbage, etc.) a \$210 / tonne tipping fee will be charged.

Data Measurement

The pilot project is scheduled March 1 to May 31, 2005. During that time, the Glenmore Landfill staff will weigh and allocate costs to all loads of DLC waste that is delivered from the participating companies. Data reports will be run and sent to the WRO and each participating company on a monthly basis.

In addition, landfill staff will determine and analyze all internal operating costs of the pilot project. This information will be made available to the WRO for study and inclusion in the final analysis of the project.

WRO staff will observe and assess each participant's site on a monthly basis. As part of site monitoring, staff will discuss challenges and successes with participant companies' staff.

The technical resource group and participants will meet on a monthly basis to assess progress and discuss challenges.

Permitting

To help ensure long-term waste diversion compliance, permitting and *Proof of Recycling* receipting will be critical. Representatives from the City of Kelowna and Regional District Inspections Services will be part of the technical resource group and it is expected they will create *Proof of Recycling* receipts for the pilot project and provide input on the efficacy of the receipts.

Public Relations/Education

The pilot project will provide an excellent opportunity to start a public relations and media campaign targeting the construction and demolition sectors. Firstly, WRO staff will work directly with representatives from those sectors to help create a team approach to program and regulation design. It is expected these representatives will become sector leaders and excellent spokespeople for the program.

WRO staff will design and create a tool kit for each of the volunteer participants that potentially could also be used for other DLC waste producers. The tool kit will be modeled on the successful GVRD "Recycling Works" guide that includes a DLC

recycling directory, signs for the jobsite (prompts), informational brochures and any additional materials the volunteer participants deem appropriate.

In addition, WRO staff will send regular press releases to media highlighting the participants and the progress of the study. This will help publicly profile the project and gain general awareness of the DLC waste issue. Public input will also be sought during the course of the project.

Lastly, the volunteer participants will receive a special Mayor's Environmental Award to be presented at the Mayor's Environmental Expo. The volunteers will also be nominated for other award programs that are appropriate. The objective is to give volunteers public recognition for their community involvement and corporate citizenship.

Budget

WRO:

Management and implementation of project:	n/c
Public relations campaign	n/c
Design and print DLC toolkit:	\$1000

Glenmore Landfill:



Regional Board Report

To: Regional Board
From: Engineering Committee (meeting of December 2, 2004)
Date: December 4, 2004
Re: DLC Recycling Pilot Project

RECOMMENDATION

THAT the Regional Board recommends the implementation of a Demolition, Landclearing and Construction (DLC) recycling pilot project at the Glenmore Landfill.

BACKGROUND

A 2002 landfill composition study revealed that 20 percent of the total waste in the Glenmore Landfill is demolition, land clearing and construction (DLC) waste.³ Since that report was released, there has been an approximate 20 percent increase in the amount of DLC waste disposed of in the landfill each year.⁴ In 2003 23,000 tonnes of DLC materials were disposed of in the Glenmore and Westside Landfills.

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The pilot project will also provide an excellent opportunity to start a public relations and media campaign targeting the construction and demolition sectors.