



Consulting Engineers & Planners

RECEIVED APR 13 1984

OUR FILE: 9100-51-5  
YOUR FILE:

19 December 1983

The Regional Municipality  
of Halton  
P.O. Box 7000  
1151 Bronte Road  
Oakville, Ontario  
L6J 6E1

Attention: Mr. G.N. Woodburn, P.Eng.  
Manager, Waste Disposal

Burlington Landfill Capacity  
Update

Dear Sirs:

We are pleased to provide the latest site capacity update and volume calculations for the Burlington Landfill. Study data, based on 29 April and 28 October 1983 photography, was produced by Northway-Gestalt and analyzed by Dillon. Study results obtained are summarized as follows:

|                         |   |                            |
|-------------------------|---|----------------------------|
| Refuse Density Achieved | - | 760 kg/m <sup>3</sup>      |
| Refuse to Cover Ratio   | - | 3.8:1                      |
| Estimated Site Closure  | - | August (Beginning of) 1984 |
| Cover Material Surplus  | - | 22,740 m <sup>3</sup>      |

Outlines of the calculations undertaken are attached.

The refuse density and refuse to cover ratio calculated appear quite realistic. These results are due to the accurate records of incoming cover material now kept at the landfill site. As noted, there is now a projected cover material surplus at the landfill.

The estimated site closure date was based on the waste quantity projections established in the "Report on Possible Continued Use - Revised" (20 October 1983, M.M. Dillon Limited).

.....continued

DILLON

The Regional Municipality  
of Halton

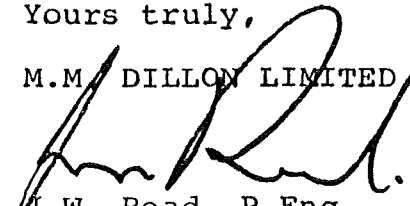
- 2 -

19 December 1983

We trust the above is satisfactory. Should you have any questions, please contact the undersigned.

Yours truly,

M.M. DILLON LIMITED

A handwritten signature in dark ink, appearing to be 'J.W. Read', written over the typed name.

J.W. Read, P.Eng.  
for W.F. Wells, P.Eng.  
Project Manager

JWR:lly  
Encls:

14 December 1983

BURLINGTON LANDFILL  
SITE CAPACITY

1. VOLUME UTILIZATION

|                                                                                     |                          |                                     |
|-------------------------------------------------------------------------------------|--------------------------|-------------------------------------|
| Total volume used between photos                                                    |                          | 169,440 m <sup>3</sup>              |
| Net Fill used:                                                                      |                          |                                     |
| i) Fill excavated at site<br>(Includes 15% for bulking)                             | 33,690 m <sup>3</sup>    |                                     |
| ii) Fill from previous stockpiles                                                   | 7,280 m <sup>3</sup>     |                                     |
| iii) Fill trucked into site<br>(64,043 tonnes)                                      | 33,180 m <sup>3</sup>    |                                     |
| iv) Less fill left in stockpiles<br>(Includes buffer area + top<br>soil stockpiles) | (17,460 m <sup>3</sup> ) |                                     |
| TOTAL GROSS FILL USED                                                               | 56,690 m <sup>3</sup>    |                                     |
| LESS: 15% for losses<br>(Infilling of refuse voids,<br>etc)                         | 8,500 m <sup>3</sup>     |                                     |
| TOTAL NET FILL USED                                                                 | 48,190 m <sup>3</sup>    | ( 48,190 m <sup>3</sup> )           |
| REFUSE VOLUME.....                                                                  |                          | <u><u>121,250 m<sup>3</sup></u></u> |

Waste received at site = 92,215 tonnes

∴ DENSITY ACHIEVED = 760 kg/m<sup>3</sup>

2. REFUSE:COVER RATIO

|                                             |   |                                    |
|---------------------------------------------|---|------------------------------------|
| From 1; Net Fill Used                       | - | 48,190 m <sup>3</sup>              |
| Less Final Cover where Placed               | - | (15,000 m <sup>3</sup> )           |
| Less Fill Used in Access Road Work          | - | ( 1,440 m <sup>3</sup> )           |
| FILL USED FOR INTERMEDIATE &<br>DAILY COVER | - | <u><u>31,750 m<sup>3</sup></u></u> |

∴ 121,250 m<sup>3</sup> Refuse: 31,750 m<sup>3</sup> Fill

OR 3.8:1 REFUSE TO COVER

### 3. REMAINING CAPACITY

|                                                                     |                             |
|---------------------------------------------------------------------|-----------------------------|
| Volume Remaining to Final Contours<br>(includes future excavation)  | - 255,730 m <sup>3</sup>    |
| Less 0.6 m Final Cover                                              | - ( 34,200 m <sup>3</sup> ) |
| Refuse, intermediate + daily cover                                  | - 221,530 m <sup>3</sup>    |
| Less cover at 4:1 Refuse to Cover Ratio                             | - ( 44,310 m <sup>3</sup> ) |
| REFUSE VOLUME AVAILABLE.....                                        | 177,220 m <sup>3</sup>      |
| Refuse Tonnage Capacity<br>(assuming 750 kg/m <sup>3</sup> density) | 132,920 tonnes              |

#### Using:

October/83 : 1,200 tonnes (Filled after photo)  
 November/83: 15,102 tonnes (Region's records)  
 December/83: 14,000 tonnes (Estimate)  
 1984 : 14,600 tonnes/month

.. ESTIMATED SITE CLOSURE - August (Beginning of) 1984

### 4. FUTURE FILL REQUIRED

|                                                                               |                               |
|-------------------------------------------------------------------------------|-------------------------------|
| Final Cover at 0.6 m                                                          | - 34,200 m <sup>3</sup>       |
| Intermediate and Daily Cover<br>(4:1 Refuse to Cover Ratio)                   | - 44,310 m <sup>3</sup>       |
| Less Fill Available in Current Stockpiles<br>(Topsoil stockpile not included) | - (15,220 m <sup>3</sup> )    |
| Less Fill Remaining to be Excavated<br>(includes 15% for bulking)             | - (86,030 m <sup>3</sup> )    |
| TOTAL FILL DEFICIT (SURPLUS).....                                             | <u>(22,740 m<sup>3</sup>)</u> |

.. A FILL SURPLUS PRESENTLY EXISTS