THE REGIONAL MUNICIPALITY OF HALTON

P.O. BOX 7000
1151 BRONTE ROAD
OAKVILLE, ONTARIO L6J 6E1
416/827-2151

OFFICE OF THE CHIEF
ADMINISTRATIVE
OFFICER

1987 04 08

Messrs. Osler, Hoskin & Harcourt
Barristers & Solicitors
Box 50
First Canadian Place
Toronto, Ontario
M5H 1B8

Attention: T. Lederer, Esq.

Dear Sirs:

Re: Response to Interrogatories
Information Request No: 1 and No: 2
Letter of March 6, 1987

Answers to the questions raised by the Ministry of Natural Resources in their Information Requests Nos. 1 and 2 of March 6, 1987 are herein provided. I trust that you will forward these on to the appropriate legal counsel.

INFORMATION REQUEST NO. 1

1. Estimated Cost of Extracting Shale and Transportation to Nearby Off-site Storage Facility

1.1 Details of Calculations and Analysis

RESPONSE: The per unit cost of $8.00 per cubic metre for shale excavation was established based on conversations and contacts with contractors and consultants. Attached memos show that the shale excavation costs varied from about $6.00 per cubic metre to $8.00 per cubic metre. Since the $8.00 per cubic metre was an actual tendered price and considering that the $6.00 per cubic metre was an estimate, we concluded that the higher price should be used to cost shale extraction at Site F.

It should be noted that all of the unit costs quoted in our cost estimate report (attached as Appendix to Schedule K) were given for the purposes of preparing the economic feasibility study. Actual unit costs can vary significantly, from project to project or from tender to tender on the same project for identical items depending on a variety of factors. If our investigations showed differences in the unit cost figures, we tended to choose the higher figure.

As far as the shale excavation costs are concerned, our approach was to consider the shale excavation as part of construction costs, to excavate to specified base contours and ultimately, to install leachate collection pipes. Our approach did not consider shale extraction for the sole purpose of mining the shale.

1.2 Meaning of "off-site"

RESPONSE: The Design and Operations Report, Schedule A-F, pages 96-97, states that the excess shale will be "stockpiled at a nearby off-site property such as the National Sewer Pipe facility across King Road". In our assessment, we assumed that the shale would need to be stockpiled at a nearby location to minimize transportation costs. We assumed this to be at the NSP property although no agreements have been entered into for that purpose. If the shale could not be stockpiled nearby, we recognize the possibility of the per unit cost for shale extraction to increase from the $8.00 per cubic metre.

1.3 Need to Transport Off-Site

RESPONSE: The excess shale quantities, estimated to be 510,000 cubic metres, could not be stored on-site without seriously compromising the integrity of the oak-hickory forests which we were attempting to preserve as described in our Design and Operations Report. Potential areas for on-site storage were, therefore, limited. In the absence of information that would indicate the storage capacity required for the shale (i.e., a knowledge of the quantities that could be sold), we made the assumption that off-site storage would be necessary and further assumed that all of the excess shale would be stored off-site.

It should be emphasized that although we specify that the shale stockpile will occur off-site, the per unit cost quoted essentially assumes on-site storage. This is the primary reason for suggesting the NSP property as the storage location. If the NSP facility could not be used and an alternative site were to be located a significant distance from Site F, we would anticipate an increase in the $8.00 per cubic metre cost.

1.4 Whether "Immediately" modifies "transporting" or "off-site"

RESPONSE: As indicated in Responses 1.1, 1.2, and 1.3, "immediately" will modify "transporting" and "off-site" inasmuch as we anticipate an increase in the per unit cost should the storage location be situated further than the NSP property.

2. Site Refinement to Reduce or Eliminate Excess Shale Extraction

2.1 Cost of Design Refinement

RESPONSE: It is submitted that the cost of this refinement is not relevant for the purposes of this hearing.

2.2 Amount of Excess Shale from the Refinement of Site F Design

RESPONSE: Preliminary analysis shows that the refinement of the design of Site F will result in about 28,000 cubic metres of excess shale. This is inclusive of the material that will be used for berms which are intended to be removed at the completion of site operations.

2.3 Supporting Documentation

RESPONSE: This will be available once the design refinement is complete.

3. Importation of Cover Material

3.1 Estimate of the Chances of Cover Material Needing to be Imported

RESPONSE: We anticipate that cover material will not be required to be imported to augment the on-site material with the exception of topsoil for site rehabilitation.

3.2 Estimate of Imported Cover Material Required

RESPONSE: We do not anticipate the need to import cover material.

3.3 Supporting Material

RESPONSE: This will be available once the design refinement is complete.

4. Initial Decision to Extract 510,000 cubic metres of Excess Shale

4.1 Basis for Initial Decision

RESPONSE: The basis for this decision evolved from discussions with the Ministry of Natural Resources in May of 1986 and as a result of comments made by the Ministry of Natural Resources in the Ontario Government Review of Halton's Environmental Assessment. We understood the Ministry requested us to consider the possibility of a design which would result in some shale in excess of our requirements which could be available as a resource.

Therefore the original design involved the extraction of some excess shale beyond that dictated by the cover material requirements. Since marketability of the shale had not yet been determined, there were no established quantities of excess shale that we could use as a goal in our design. In the absence of a specific desired quantity of shale, our approach was to carry out the design to optimize the shale extraction with a focus on the extraction of shale in the weathered zone. We anticipated that this would result in substantial quantities of excess shale while minimizing per unit excavation costs.

4.2 Extraction of Different Amounts of Shale and Related Costs

RESPONSE: Our design work did not account for calculating different amounts of shale since this would involve a complete design for each different quantity. With no desired quantity established, this would have been merely speculative, and prolonged the design report.

Similarly, costing was not a consideration and we did not explore cost differences based on varying quantities of extraction. The per unit cost of $8.00 per cubic metre is not a function of the quantity extracted.

4.3 Basis for Considering or not Considering Different Quantities of Shale

RESPONSE: We emphasize that the primary function of our assignment is to design a landfill site, not to extract shale. Therefore, when our work resulted in a satisfactory site design, the volume calculations showed the excess shale to be 510,000 cubic metres.

5. Price at which One Company States it is Interested in Purchasing Shale

5.1 Basis for the price of $1.20 -$1.25 per cubic metre delivered to plant

RESPONSE: The $1.20 - $1.25 per cubic metre price for shale (delivered to their plant) was provided by the Company (a major Ontario brick producer) as the price at which it would be interested in purchasing shale. The Company expressed a disinterest in purchasing shale at higher rates, based on its assessment of the incremental cost of using its own reserves.

5.2 Whether Company indicating the $1.20 - $1.25 price is the same company currently purchasing shale at $8-$9 per cubic metre delivered to its plant

RESPONSE: The company quoting $1.20-$1.25 per cubic metre is not the same company as that purchasing shale at $8-$9 per cubic metre excavated and delivered to its plant. The latter is only purchasing a small quantity of shale relative to the Region's potential annual production, but was considered in the market analysis.

5.3 NOT APPLICABLE

INFORMATION REQUEST NO. 2

1. Report FIN 184/86, page 3

1.1 Difficulties in the Region Marketing Shale

RESPONSE: Our legal advice is that it is not clear whether the Region would have the statutory authority to commercially market shale. However, the Region is empowered to dispose of interests in land. It would therefore be possible for the Region to sell a licence to extract shale from these lands to an interested buyer of the shale.

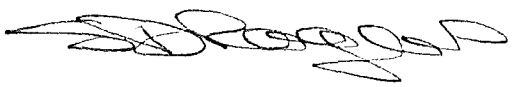
However, in view of the urgency of preparing this landfill site for acceptance of solid waste, any interference in the preparation of the site or operation of the site caused by the activities of an

shale extraction operator having completely different goals than those of the Region on this site, could have disastrous and costly implications. There may be substantial administrative and coordinating difficulties, which raises the possibility of delaying or destroying the established design contours, site preparation, and operations.

1.2 Operating Difficulties

RESPONSE: See 1.1 above.

Yours truly,



Susan D. Rogers,
Landfill Approvals Coordinator

SDR/rad
Enclosure

Memo to File #8501

Halton EPA- Cost Estimates 29 Sept. 1986

Telephone call to Lamco Construction-887-9161

Contact: Joe Grella

Name suggested by Giffels as one we could use in determining some cost items.

- shale excavation costs $6 to $7/c.m.

- clay, $3 to $3.50/c.m.

- clearing $3300/ha; grubbing, $4700/ha

- topsoil, 3" as per MTC requirements, about $7 to $8/c.m.

Also contacted sodding contractor: FOB site in Burlington, for sodding of area of more than 1 ha, $1.40/sq. m. or $14,000/ha including fine grading, laying and maintenance for 1 year. Does not include pegging.

Compare with Region cost of $45,000 to seed and topsoil. If more than minimum of topsoil laid, say, 6", cost of sodding is still less than $20,000/ha.

JAH

Memo to File #8501 3 Sept. 1986

Re: Halton Site F Cost Estimates-Telephone conversation with Paul McLeod, Giffels

I called Paul to enquire about recent costs that he might have that would be useful in our cost estimating. He provided me with figures taken out of an actual tender document dated August 1986.

- road construction, paved: $125/m including ditches; gravel: $65/m including ditches

- excavation, $3/c.m. excavation only

- other prices range from $5.55, $7.52, $4.55/c.m. for soil excavation (Site D price could be widely variable, but the per unit cost should include haulage and construction of berms)

- $8.00/c.m. for shale, price should include haulage to a reasonable location nearby (for Site F, the excavation cost should include haulage to NSP)

- pipe prices 250 mm $125/m, $150/m

- 300 mm $91.00/m, $125/m

- 375 mm $104/m

- 150 mm $10/m to $24/m

JRH