

ITEM	11
MANAGER'S REPORT NO.	11
COUNCIL MEETING	1980 02 11

RE: SOILS STUDY FOR THE STRIDE AVENUE DISPOSAL AREA

Following is a report from the Municipal Engineer on the Stride Avenue Disposal Area. The similarity between this report and Item 12 on Page 134 is as follows:

- (1) This report recommends a course of action which, if adopted, would engage an outside engineering consultant to do work relative to the entire disposal site.
- (2) Item 12 pertains to ^{additional} engineering services which would be carried out by the same consultant, but in this case, the land that is being referred to includes a specific area within the disposal site and an adjoining industrial area.

Included in this report's recommendation is reference to the cost for engineering services in the amount of \$29,500. This cost does not include the municipal share in the amount of \$7,500 which is referred to in Item 12. If both recommendations were adopted, the total municipal outlay would be \$37,000.

RECOMMENDATION:

1. THAT the recommendation of the Municipal Engineer be adopted.

* * * * *

TO: MUNICIPAL MANAGER 80 02 06
 FROM: MUNICIPAL ENGINEER
 SUBJECT: STRIDE AVENUE DISPOSAL AREA

RECOMMENDATION:

1. THAT the Corporation enter into an Engineering Agreement with Underwood McLellan Ltd. to provide the necessary engineering services as outlined in this report and in accordance with the Consultant's proposal (copy attached) for an estimated total cost of \$29,500 plus disbursements.

REPORT

For some years now, the Corporation has been working toward finalization of the grading to ultimate desired elevations of the Municipal Landfill Area at Stride Avenue and Mission Street (see attached Sketch #1). Also, the Council has promised the residents living near the subject landfill area that the proposed green belt lying directly over the former refuse fills would be left in a suitable landscaped condition. We are now drawing near to achieving this end result.

At the same time that the aforementioned work has been going on at the Stride Avenue site, an increasing amount of investigative and research work has been conducted throughout North America (and in other parts of the World as well) into the long-term problems which can be expected to accrue from current and former landfills, especially in the form of gas and leachate production.

The research work is still going on and in fact is being intensified. In general, results indicate that problems from old landfills can be expected to go on for perhaps a hundred years but at least for fifty or sixty. Gas generation, for example, appears to peak at a landfill age of some twenty-five years, even after having been shut down. (Stride was closed to general refuse dumping about ten years ago.)

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The precise amount and nature of gas and leachate production varies with each individual landfill. It should be recognized, though, that Stride Avenue was used for dumping all forms of general refuse, including considerable amounts of putrescible material, not only from household garbage but from all forms of commercial enterprise as well. Under these conditions, gas production and its attendant migration in particular could be of considerable concern.

Your Municipal Engineer, having apprised himself of some of the results of the aforementioned research, is convinced that the Corporation can not afford to ignore the fact that it has a former landfill with an overall age of approximately seventy years but with a weighted volume age of only fifteen to twenty years located in close proximity to areas slated for green belt creation and industrial and residential land uses. Gas and leachate production could have a profound effect on the form and pattern that such land uses would assume. Your Municipal Engineer has seen some of the long term effects of being unaware of the seriousness of gas production and migration in the City of Winnipeg and would strongly suggest that Burnaby would not wish to undertake the same risk.

In view of the foregoing, your Municipal Engineer invited Underwood McLellan Ltd. to submit a proposal for the provision of the required engineering services (site investigation and testing program) to determine the nature and extent of problems of a future building or environmental nature in the Stride Avenue landfill area. A copy of the proposal is attached. The total estimated cost of the required services is \$29,500 plus disbursements; it should be noted that, of this total amount, \$19,500 would be for drilling and associated field work and tests.

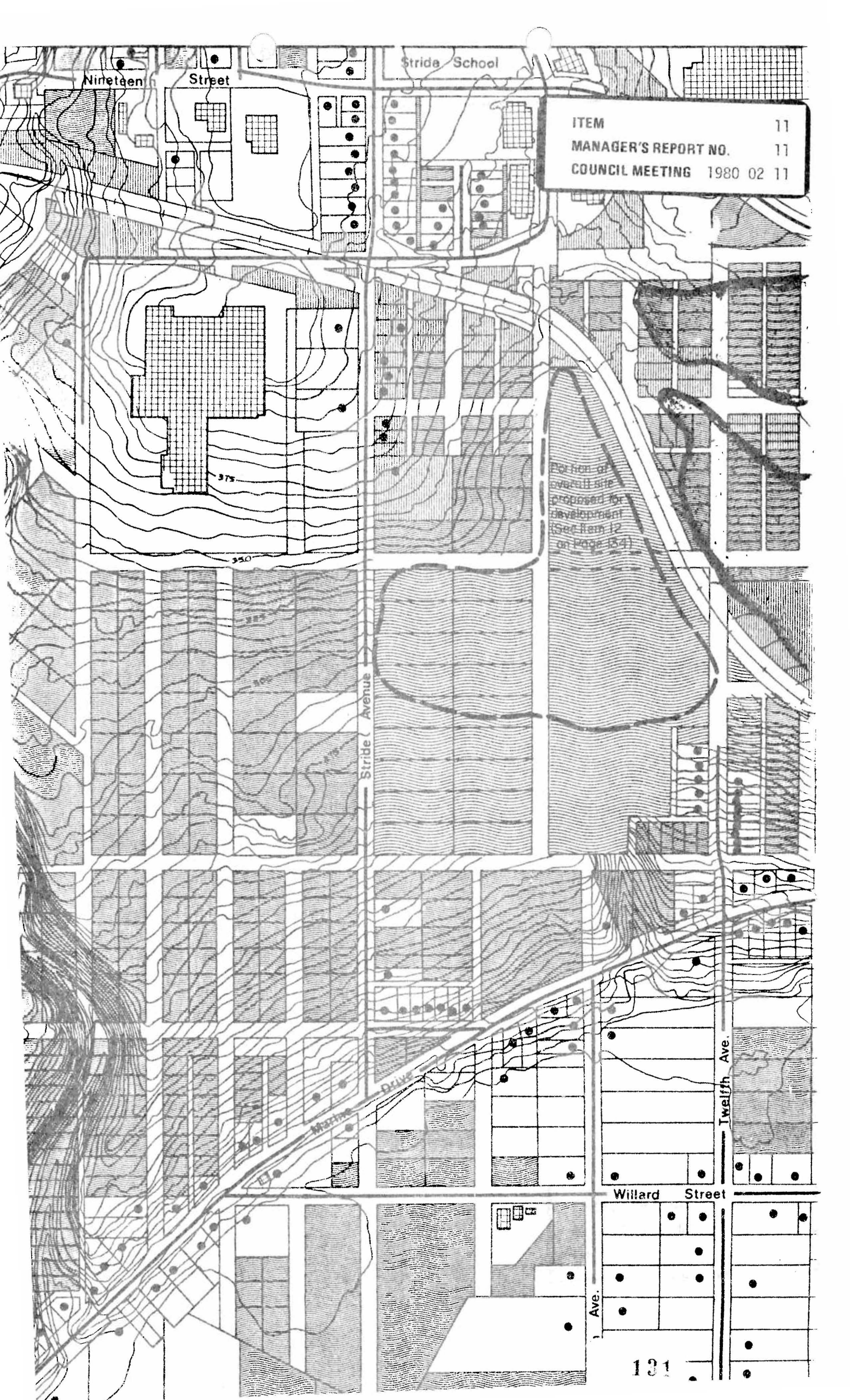
Your Municipal Engineer considers the UMA Group to be the foremost firm available for the performance of these particular services, which are of a highly specialized nature and requiring a particular expertise, particularly in the area of the interpretation of the test data to put them into meaningful and understandable format. The UMA Group, which has Offices across the Country, has a considerable range of "experts" to draw upon who have been involved in other projects of this nature. Foremost among these other projects are a major current landfill project for the City of Winnipeg and several former City landfills, all requiring extensive testing programs in order to properly monitor all of the potential problems which could emanate from such landfills, both former and current. The type of services required in this instance are highly specialized and does not fit into the guidelines generally followed in the procurement of the more common types of engineering services.

Funds for the required expenditure are being provided in Code 70 of the 1980 Capital Budget (Land Assembly and Development).

E.E. Olson
MUNICIPAL ENGINEER

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Atts.



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Portion of overall site proposed for development (See Item 12 on Page 134)

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The Corporation of the
District of Burnaby
4949 Canada Way
Burnaby, B. C.
V5G 1H2

Attention: Mr. E.E. Olson, P.Eng.
Municipal Engineer

Dear Sir

Re: Stride Avenue Landfill

In accordance with your instructions, we are pleased to submit herewith our proposal for the site investigation and testing program to determine whether the Stride Avenue landfill would present problems of a future building or environmental nature. We propose the following program for this study:

- (1) Collect all available data for landfill characteristics and history.
 - a) Municipal location plans, future zoning, etc.
 - b) Establish refuse dumping time frame and history.
 - c) Review air photos dating back to 1950, to confirm landfill boundaries.

2 Man weeks.
- (2) Develop the field program to identify the presence and character of landfill gas and leachate, as well as site specific landfill gas and leachate migration patterns. This will include the drilling program to determine the stratigraphy of the area adjacent to the site and to determine the leachate production and migration patterns. Gas probes will be installed to be used in a monitoring program to identify the presence and, where positive, the concentration of the landfill gas. The location for test pits and test drilling probes will be selected.

3 Man weeks.

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- (3) The information obtained from the above will be incorporated into a report which will indicate the findings and, where positive, recommendations on the remedial measures will be included.

2 Man weeks.

We estimate the cost for undertaking the above to be \$10,000.00. In addition, expenses for drilling, probe tests, gas and leachate analyses will be \$19,500.00.

The above is our best estimate at this time. We will not, however, exceed this budget without written permission from the District of Burnaby.

The above does not include the cost of disbursements, which disbursements will be increased by 5% in accordance with Article 3 of the District of Burnaby's Engineering Agreement.

We trust the above meets your approval and look forward to completing this project.

Yours very truly

UNDERWOOD McLELLAN LTD.



for
S. S. Strilchuk, P.Eng.
Acting Branch Manager

PWB:mkm

