



**STAFF REPORT
ACTION REQUIRED**

Installation and Maintenance of Geothermal Heating/Cooling System Within the City Laneway – 357 College Street - “Planet Traveller”

Date:	June 24, 2008
To:	Toronto and East York Community Council
From:	Director, Transportation Services Toronto and East York District
Wards:	Trinity-Spadina – Ward 20
Reference Number:	te08048te.row

SUMMARY

Transportation Services is in receipt of a request from the owners of 357 College Street, Planet Traveller to install a Geothermal heating/cooling system within portions of the public laneway abutting their building. The heating/cooling system will encroach into the laneway approximately 1.07 m. The pipes together with the main header will commence a minimum of 1.83 m below grade of the laneway to a further depth of approximately 128 m. Transportation Services has reviewed the request and determined that the Geothermal heating/cooling system will not impact negatively on the public right of way and permission should be granted to the owners for its installation and ongoing maintenance should City Council approve the Geothermal heating/cooling system.

In addition, the owners will be required to enter into an encroachment agreement for the on-going maintenance of the system and satisfy any requirements that the utility companies may impose.

RECOMMENDATIONS

Transportation Services recommends that City Council:

1. approve the installation of the Geothermal heating/cooling system within portions of the public laneway abutting 357 College Street, subject to the owners entering into a encroachment agreement with the City of Toronto, agreeing to but not limited to the following:

- a. indemnify the City from and against all actions, suits, claims or demands and from all loss, costs, damages and expenses that may result from such permission granted and providing of an insurance policy for such liability for the lifetime of the Agreement in a form as approved by the Deputy City Manager and Chief Financial Officer and in the amount not less than \$2,000,000 or such greater amount as the Deputy City Manager and Chief Financial Officer may require;
 - b. maintain the Geothermal heating/cooling system at their own expense in good repair and a condition satisfactory to the General Manager of Transportation Services and will not make any additions or modifications to the system beyond what is allowed under the terms of the Agreement;
 - c. obtain approval for associated work on private property from Toronto Building;
 - d. obtain clearances and/or signoffs from all affected utilities and satisfy all conditions imposed by any utilities that may be affected by the installation and maintenance of the Geothermal heating/cooling system;
 - e. provide “as-built” drawings within 60 days upon completion of all installations;
 - f. provide a Letter of Credit in the amount of \$20,000 as a municipal road damage guarantee to cover the cost for permanent repairs associated with the restoration of the curb and pavement of the public laneway and agree to pay all associated costs that may exceed this amount;
 - g. pay an annual fee for the encroaching Geothermal heating/cooling system within the public right of way as determined by the Director, Real Estate Services, Facilities & Real Estate, to be adjusted annually by the Consumer Price Index (CPI);
 - h. limit the life of the Agreement to the removal of the encroachment or the date of the demolition of the building at 357 College Street, whichever is the less; and
 - i. accept such additional conditions as the City Solicitor or the General Manager of Transportation Services may deem necessary in the interest of the City;
2. direct Legal Services and/or the General Manager of Transportation Services to extend the Encroachment Agreement to the new owner, in the event of sale or transfer of the property abutting the encroachment, subject to approval of the General Manager of Transportation Services;

3. request Legal Services to prepare and execute the Encroachment Agreement; and
4. the Deputy City Manager of Cluster B and the Deputy City Manager and Chief Financial Officer, in consultation with a stakeholder group from the development and design community, develop guidelines for the use of public right of way for geo energy projects.

Financial Impact

There is no financial impact to the City as a result of this report.

ISSUE BACKGROUND

Transportation Services has received an application from the owners of 357 College Street requesting permission to install a Geothermal heating/cooling system within portions of the public laneway abutting their property to the west.

The Geothermal heating/cooling system is an established technology requiring a significant length of “ground loop” pipes buried underground. Heat is exchanged with the ground through those pipes. The ground heating/cooling system themselves are made of high density polyethylene which is essentially the same material used for natural gas lines. The estimated life-span of the ground loops exceeds 25 years. Manufacturers offer over 50 years of warranty for this type of pipe which do not corrode or support biological growth as proven with their use for natural gas and other chemicals.

In a worst case scenario, should a pipe break, the system will shut down that individual loop and damaged pipes themselves could be excavated and replaced in a scheduled, non-emergency manner. The remaining loops can be separately valve controlled and any shortfall in heating will cause the system to revert to a backup boiler. The government approved fluid within the pipes is essentially water with an environmentally friendly anti-freeze that is non toxic and offers no detrimental effect to the environment should it ever leak from the pipes.

The building at 357 College Street is a derelict building that is being converted into a hotel by the owners who will own and operate the hotel. The building occupies 100% of the property footprint and is boxed in by buildings to the south and east, City sidewalk to the north and the public laneway to the west.

In support of the application, the co-owner of the property indicated that the basement of the building does not allow for enough room for operating drill rigs for the project. As a result, the pipes for the Geothermal heating/cooling system cannot be installed on private property.

With respect to 357 College Street, the system will consist of 10 holes approximately 15 cm in diameter to be drilled in the public laneway which will be connected by a main header, all encroaching approximately 1.07 m. The pipes together with the main header will commence a minimum of 1.83 m below the grade of the laneway to a further depth of approximately 128 m. The system will be maintained by the Geothermal provider,

Clean Energy Developments. Once the project is complete, there will be no permanent effect on the use of the surface of the laneway. The applicant will be responsible as a condition of approval to pay for the cost for the restoration of the laneway. Accordingly, the applicant will be required to submit an irrevocable letter of credit in the amount of \$20,000 as a municipal road damage guarantee to cover the cost for permanent repairs associated with the restoration of the curb and pavement of the public laneway and agree to pay all associated costs that may exceed this amount.

The Geothermal heating/cooling system is in keeping with City initiatives to reduce greenhouse gas emissions and Transportation Services is in support of this alternate form of energy generation encroaching within the public right of way. This application is the first instance for this type of use of the public right of way. It has been reviewed in consideration of its particular characteristics. To facilitate future applications of this nature, it would be useful to develop guidelines on City processes and requirements so that potential future applicants can incorporate these requirements into the design and decision making process of their project. The guidelines will be developed in consultation with stakeholders in the development and design community working with a group of Transportation Services, Facilities and Real Estate and City Planning staff.

The applicant has indicated that the estimated total drilling time, during which they will require use of the public laneway, is 2 weeks.

Given the potential impact of this project on existing utility services, it is the applicant's responsibility to undergo a public utility review with a view of obtaining clearances from the affected utility agencies or satisfying their requirements prior to the issuance of a construction permit authorizing work within the public right of way. At the time of preparing this report, the applicant has not yet submitted the clearances from the affected utilities.

Staff have consulted with Appraisal Services, Facilities and Real Estate, Corporate Services, to determine the annual rental licence fee for the Geothermal heating/cooling system within portions of the public laneway adjacent to 357 College Street, however, this information was not available at the time of preparing our report. It is recommended that the initial annual rental fee be utilized and the fee be adjusted annually by the Consumers Price Index.

Details of the proposal are on file with Transportation Services.

Photos of the property together with the adjacent public laneway are shown on Appendix 'A'.

COMMENTS

Applicable regulation

There are no provisions within the former City of Toronto Municipal Code Chapter 313, Streets and Sidewalks, to allow for the installation and maintenance of the proposed

geothermal heating/cooling system; therefore, we are required to report to Community Council on this matter.

Reasons for approval

As the proposal is in keeping with City initiatives to reduce greenhouse gas emissions and Transportation Services has reviewed the application and determined that the installation and maintenance of the Geothermal heating/cooling system within the public laneway will not impact negatively on the public right of way, the application should be approved subject to the owners entering into an encroachment agreement and satisfying any requirements imposed by the utility companies.

CONTACT

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SIGNATURE

Andrew Koropeski, P.Eng.
Director, Transportation Services

ATTACHMENTS

Appendix 'A' – Photos of laneway abutting 357 College Street

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