

MEMORANDUM

July 6, 2011

TO: Mayor Robertson and Councillors

COPY TO: P. Ballem, City Manager
S.A. Johnston, Deputy City Manager
M. Coulson, City Clerk
M. Welman, Director of Communications
D. McLellan, General Manager of Community Services
B. Toderian, Director of Planning
F. Connell, Director of Legal Services
P. Judd, General Manager of Engineering Services
A. Pitre-Hayes, Director of Sustainability

FROM: K. Munro, Assistant Director of Planning

SUBJECT: CD-1 Rezoning - 4255 Arbutus Street (Arbutus Centre)

At Council's Regular meeting of June 14, 2011, the above referenced rezoning application was referred to public hearing. As committed to in the staff report, this memorandum reports to Council on the proposed conditions of approval regarding district and renewable energy.

Part 1 - Sustainability Conditions

Discussion

As part of the rezoning application, the applicant provided two studies examining district and renewable energy feasibility (in accordance with the provisions of EcoDensity Action A-2). In order to follow through on the recommendations on those studies, the conditions contained in the recommendation are to be added and/or replaced accordingly in the Council report.

RECOMMENDATION

THAT the conditions of approval of the form of development, as presented in Appendix B of the Policy Report dated May 31, 2011 entitled "CD-1 Rezoning - 4255 Arbutus Street (Arbutus Centre)", be amended to add the following conditions:

In (c) "Conditions of By-law Enactment" add the following conditions under the heading of "Sustainability"

21. Undertake and complete further testing and analysis as may be required to confirm whether a vertical closed-loop geo-exchange system is viable for the site and deliver a report to the General Manager of Engineering Services which summarizes such testing and analysis, all of which must be to the satisfaction of the General Manager of Engineering Services.
22. Enter into such agreements as the General Manager of Engineering Services and the Director of Legal Services determine are necessary to implement and operate the Renewable Energy System which may include but are not limited to agreements which:
 - (a) require the development and operation of the Renewable Energy System;
 - (b) require buildings to connect to the Renewable Energy System;
 - (c) grant the operator access to the Renewable Energy System; and
 - (d) require the delivery to the City of detailed performance reporting on the Renewable Energy System on a schedule and containing information required by the General Manager of Engineering Services.

In (b) "Conditions of Approval of the Form of Development", under the heading "Renewable Energy", delete conditions 45 to 53 and replace with the following:

45. An intrusive test drilling and loop installation program, followed by Formation Thermal Conductivity testing, shall be performed by a qualified professional to confirm a vertical closed-loop geo-exchange system is viable for the site and for the purpose of developing a detailed ground loop design, all to the satisfaction of the General Manager of Engineering Services. If results of the testing program support geo-exchange system development, such a system shall be required for the development. If results of the testing program and further analysis do not support geo-exchange system development, then a suitable alternative will be selected from screened technologies and shall be implemented prior to full build-out of the site, all to the satisfaction of the General Manager of Engineering Services.
46. The renewable energy sources (i.e., geo-exchange or alternative) shall provide a minimum of 70% of total annual space heating and domestic hot water energy requirements delivered as part of the renewable energy system to buildings within the development. Remaining energy demands shall be provided by high efficiency gas boilers for peaking and backup.

47. Mechanical heating and domestic hot water systems of all buildings shall be designed to be easily serviced by the Renewable Energy System that provides a minimum supply temperature of 65 degrees Celsius and maximum return temperature of 50 degrees Celsius.
48. Locate all heat pumps and required boilers in one centralized mechanical room to service the development. Equipment location and centralization must be to the satisfaction of the General Manager of Engineering Services.
49. Building design must provide for connectivity of all mechanical systems (for heating and cooling) and domestic hot water systems to the Renewable Energy System to the satisfaction of the General Manager of Engineering Services.
50. The energy system shall be designed in such a way as to enable the monitoring of performance metrics during system operation for the purpose of preparing system performance reports, which shall include items such as: actual measurements of peak and annual cooling/heating loads (including DHW and make-up air, separated into commercial and residential components), heat recovery from cooling on an annualized basis, coefficients of performance of heat pumps in cooling and heating mode, boiler use, and, if applicable, long-term expected performance of any geo-exchange fields or changes in their performance.
51. Final detailed design of the Renewable Energy System must be to the satisfaction of the General Manager of Engineering Services.
52. Space heating and ventilation make-up air shall be provided by hydronic systems without electric resistance heat, distributed heat generating equipment, including gas fired make-up air heaters.
53. No heat producing fireplaces are to be installed within residential suites.

Note to Applicant: All fireplaces are discouraged. A letter from a professional Engineering outlining any provision for ornamental fireplaces is to be submitted at the time of application for Building Permit to state that the fireplaces installed are not heat producing.



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Current Planning Division

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