May 24, 2005 Reference No.: 0412-W019.1

Urban Ecosystems Limited
7050 Weston Road
Suite 705
Woodbridge, Ontario
L4L 8G7

Attention: Mr. Daniel Schembri

Re: Baseline Hydrogeological Report
Diblasio Estates West Residential Subdivision, Phase 2
City of Mississauga

Dear Sir:

In accordance with your request, a baseline hydrogeological report has been prepared for the captioned site.

The study provides background information on groundwater conditions in the vicinity of the subject site and assesses the potential impact of the proposed development on local groundwater supplies.

SITE DESCRIPTION

The subject site is irregular in shape, located on the West Side of McLaughlin Road, between Highway 401 and Derry Road West, City of Mississauga. At present, the site is mainly vacant with a watercourse meanders in the shallow valley south of the property. Both the northern and southern limits of the property are bordered by the valley land of Fletchers Creek. The subject site and 500-m zone of potential influence area are illustrated on the attached Area of Study and Well Location Plan, Drawing No. 1.

HYDROGEOLOGIC SETTING

The site is in the City of Mississauga which is situated on Peel-Markham till plain where drift dominates the soil stratigraphy. The drift beds onto shale bedrock of Dundas or Queenston Formation at shallow to moderate depth.

A soil investigation comprising of 11 boreholes to depth ranging from 5.2 to 6.1 m, was performed on July, 1990 by this firm. The investigation has disclosed that beneath a veneer of topsoil, a stratum of silty clay till was encountered. It extends onto shale bedrock of Queenston Formation at depth varying from 2.6 to over 6.1 m from the prevailing ground surface.

The silty clay till is a soil of low permeability and infiltrating precipitation in the wet seasons will be trapped in the fissures in the soil. A perched groundwater is therefore expected to occur at a shallow depth during the wet seasons. Its yield will generally be very small.

All boreholes remained dry upon completion except one borehole located in the southeast corner of the subject site where groundwater level was recorded at a depth of 3.1m. Groundwater was encountered in this borehole in the bedrock stratum, and rose to the above noted level upon completion of the fieldwork. This indicates that the permanent groundwater regime generally lies in the bedrock and is in a subterranean artesian condition; however, it is expected to be limited and can be drained by continuos pumping.

WATER USES IN THE AREA

An area extending 500 m from the site was selected to study the hydrogeological characteristics of the site and vicinity.

Soil Engineers Ltd. canvassed the study area on December 12, 2004 and again on January 13, 2005. Occupants of the houses that possibly rely on private wells were asked to participate in the survey. The area around the subject site and within the 500-meter study radius is populated with recently built residential houses, serviced by municipal water. A hand delivered letter was distributed to residents that did not respond at the time of canvassing. A copy of the letter is attached in Appendix 'A'. The results of the survey are listed in Appendix 'B'.

Of all the properties included in the survey, only the resident of 6616 McLaughlin Road, indicated that he relies on well water and granted Soil Engineers Ltd. permission to monitor the said well. The well on this property is sealed.

Although water level cannot be carried out, water quality testing can be conducted. The testing includes three parameters namely, E.Coli, Total Coliform and Nitrate. The results of the water quality tests are compared to the Safe Drinking Water Act 2002 (SDWA) standards. If any samples do not comply, a letter with the results of the test will be sent to the resident of the home, the developer and the Region's Health and Public Works Departments. An initial water quality test was performed on January 13, 2005, for 6616 McLaughlin Road. The result was within the acceptable limits and meets SDWA parameters. Copies of both original lab results are enclosed on Appendix "C". All available water quality sampling data is presented in Table 1.

Well records on file with the Ministry of the Environment (MOE) were examined for the study area and are plotted on the Area of Study and Well Location Map, Drawing No. 1. The MOE well record data is attached in Appendix 'D'. Selected information for these wells is presented in Table 2.

IMPACT ASSESSMENT

The proposed residential development will be provided with municipal services and roadways meeting the urban standards.

The boreholes were checked for the presence of groundwater and the occurrence of cave-in upon their completion. All boreholes conducted on the subject site by Soil Engineers Ltd. (Reference No.9007-S.3) remained dry upon completion of the field work, except one Borehole located in the southeast corner of the subject site, where groundwater was detected at a depth of 3.1 m.

The soil investigation has disclosed that the site is underlain by a stratum of stiff to hard silty clay till extending onto a shale bedrock of Queenston Formation. The permanent groundwater regime occurs in the bedrock. The permanent groundwater regime in the bedrock may occur at various depths and will have a limited yield. If encountered, the seepage may be under pressure and appreciable in amount, but will deplete if allowed to drain continuously.

Due to the low permeability of the tills, it is unlikely that the excavation will have a significant effect on the ground water supply for the wells within the 500m zone.

MONITORING PROGRAM

All of the residents within the study area rely on municipal water except for the house located at 6616 McLaughlin Road. This resident has granted Soil Engineers Ltd. permission to monitor the said well. Since the well for this property is sealed, thus, well water level monitoring is considered unnecessary.

CONTINGENCY PLAN

In the unlikely event that any of the private well systems within 500 m of the site deteriorate due to the servicing of the residential development, the developer will provide temporary water supplies to the residents upon notice of the Region and will continue supplying the water to the affected residents until the issue is resolved to the satisfaction of the involved parties.

We trust this letter meets your present requirements. If any queries arise, please feel free to contact this office.

Yours very truly,
SOIL ENGINEERS LTD.

Ahmed Al-Temimi, M.Sc.

Mathew Ma, P. Eng.
AT/MM:

Enclosures

Area of Study and Well Location Plan ..... Drawing No. 1
Water Quality Results (test Records) ....Table 1
Summary of Well MOE Well information ....Table 2
The distributed letter to the residents..... .....Appendix 'A'
The results of surveyed area .... Appendix 'B'
Copies of Lab. Results ....Appendix 'C'
MOE Well Record Data .... Appendix 'D'

TABLES

REFERENCE NO. 0412-W019.1

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TABLE 1: WATER QUALITY RESULTS

Parameter	SDWA Standards	6616 McLaughlin Rd.
E.Coli (CFU/100ml)	Undetectable	0
Total Coliform (CFU/100ml)	Undetectable	0
Nitrate (µg/ml)	10	0.05

TABLE 2: SUMMARY OF LOCAL MOE WELL INFORMATION

#*	MOE Well #	Diameter (inches)	Depth (feet)	Static Level (feet)	Pumping Rate (GPM)	Source Aquifer (Bedrock/Overburden)
1	02506	30	37	25	1	Bedrock
2	02503	4	69	25	5	Bedrock
3	05313	6	102	12	10	Overburden
4	02551	5	50	16	2	Bedrock
5	05274	5	80	9	60	Bedrock
6	07643	6	72	20	10	Bedrock
	06812	6	42	19	3	Bedrock

* Number corresponding to well on Drawing No.1

APPENDIX 'A'

THE DISTRIBUTED LETTER TO THE RESIDENTS

REFERENCE NO. 0412-W019.1

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APPENDIX 'B'

THE RESULTS OF SURVEYED AREA

REFERENCE NO. 0412-W019.1

May 2005

Derry Road West:

320	Resident stated that no wells are on the property. This property is serviced by municipal water.
346	Resident stated that the well have been decommissioned. This property is serviced by municipal water.
358	No response to hand delivered letter.
376	No response to hand delivered letter.
390	Resident stated that the well have been decommissioned. This property is serviced by municipal water.

Mc Laughlin Road:

6720	Resident stated that the well have been decommissioned 5 years ago. This property is serviced by municipal water.
6680	The homeowner called and stated that he is relying on Municipal Water
6616	The homeowner has a drilled well located on the property. Permission was granted to monitor the well.

Novo Star Drive:

545 to 730	Relies on Municipal Water

Valiant Heights:

6508 to 6401	Relies on Municipal Water

Song Bird Crescent:

6511 to 6634	Relies on Municipal Water

Western Skies Way:

6321 to 6581	Relies on Municipal Water

Gypsy Fly Crescent:

639 to 711	Relies on Municipal Water

Mondavi Court:

6780 to 6813	Relies on Municipal Water

Amour Ter.:

6890 to 6996	Relies on Municipal Water

Vicar Gate:

6904 to 6953	Relies on Municipal Water

Madame Street:

601 to 679	Relies on Municipal Water

Arrowsmith Drive:

364 to 450	Relies on Municipal Water

Golden Hills Way:

6676 to 6933	Relies on Municipal Water

Oak Tree Crescent:

295 to 486	Relies on Municipal Water

Longview Pl.:

6764 to 6788	Relies on Municipal Water

Rocca Court:

382 to 431	Relies on Municipal Water

Kroton Crescent:

362 to 493	Relies on Municipal Water

Ramonet Drive:

459 to 496	Relies on Municipal Water

Tattinger Avenue:

6731 to 6782	Relies on Municipal Water

Tremblant Court:

468 to 498	Relies on Municipal Water

Spinnaker Circle:

6379 to 6639	Relies on Municipal Water

Navigator Circle:

513 to 611	Relies on Municipal Water

Rally Master Height:

6455 to 6540	Relies on Municipal Water

Skipper Way:

6465 to 6655	Relies on Municipal Water

Deckhouse Court:

618 to 675	Relies on Municipal Water

APPENDIX 'C'

MINISTRY OF THE ENVIRONMENT (MOE) WELL RECORD DATA

REFERENCE NO. 0412-W019.1

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APPENDIX 'D'

COPIES OF LAB. RESULTS FOR CHEMICAL ANALYSIS OF WELL WATER

REFERENCE NO. 0412-W019.1

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