



HEALTH DEPARTMENT

**REGION OF DURHAM
DRILLED WELLS
AND
LOT SIZING POLICIES
AS APPLIED TO
CONSENTS (SEVERANCES)
AND
DRAFT PLANS OF SUBDIVISION**

October 2010

DRILLED WATER WELL POLICY

OBJECTIVE

To ensure drilled wells are provided on (A) vacant subdivision lots and (B) vacant lots created by Land Division Committee consent where private water supplies are required.

(A) Subdivision Lots

The requirements for the installation of a drilled well must be incorporated into the Regional Subdivision Agreement respecting all lots created by subdivision. The Region of Durham must obtain from the developer a letter of credit to cover the cost of drilling a new well on each lot in the subdivision or receive a copy of a water well record for each existing drilled well;

(B) Lots Created by Consent (Severance)

For all lots created through the Land Division Committee Consent Procedure, the applicant will be required to provide to the Durham Region Health Department a copy of a water well record to confirm that a drilled well has been constructed on the vacant lot. Alternatively, the applicant can post a letter of credit to be held as security for the construction of a drilled well.

The above procedure (B) is not applicable where a local municipality has a policy in place that requires the installation of a drilled well for vacant lots.

Local municipalities that have a policy in place include: City of Pickering, Town of Ajax, City of Oshawa, Township of Uxbridge, Township of Brock, and Township of Scugog.

DRILLED WELL POLICY AS APPLIED TO SEVERANCES

Background

The Durham Region Official Plan requires the provision of drilled wells on newly created vacant lots. Drilled wells are considered to be of superior construction and are less susceptible to contamination than other types of wells.

To ensure that drilled wells are installed on all newly created vacant lots Durham Region Council has adopted a “Drilled Well Policy” to address the provision of a long term water supply for unserviced properties.

Procedures

A drilled well must be provided on each newly created vacant lot and in order to satisfy this requirement one of the following two (2) options must be met:

1. Construct a drilled well on each vacant lot and present a “Water Well Record ” from the licensed well contractor to the Environmental Health Division of the Durham Region Health Department at 101 Consumers Dr., 2nd Floor, Whitby, ON, telephone 1-888-777-9613; or
2. Submit a \$15,000.00 letter of credit for each newly created vacant lot to the Durham Region Legal Department, 605 Rossland Rd. E., Whitby, ON, telephone 905-668-7711.

The above options are not applicable where a local municipality has a policy in place that requires the installation of drilled wells on vacant lots.

Local municipalities that have a policy in place include: City of Pickering, Town of Ajax, City of Oshawa, Township of Uxbridge, Township of Brock, and Township of Scugog.

Letter of Credit

The letter of credit must be prepared by an acceptable financial institution and meet the requirements of Durham Region.

To obtain a release of a letter of credit, the owner must obtain a “Water Well Record ” for each vacant lot that validates that a drilled well has been constructed and provide a copy to the Environmental Health Office of the Durham Region Health Department at 101 Consumers Dr., 2nd Floor, Whitby, ON, telephone 1-888-777- 9613.

DRILLED WELL POLICY AS APPLIED TO SUBDIVISIONS

Background

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Procedures

A drilled well must be provided on each newly created vacant lot and in order to satisfy this requirement one of the following two (2) options must be met:

1. Construct a drilled well on each vacant lot in the subdivision and provide a “Water Well Record ” from the licensed well contractor to the Durham Region Legal Department at 605 Rossland Rd. E., Whitby, ON, telephone 905-668-7711; or
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LOT SIZE POLICY AS APPLIED TO SEVERANCES

Background

To prevent land development from potentially contaminating the environment or becoming a public health risk, Durham Region Council has approved a Lot Sizing Policy for properties requiring on-site private sewage systems.

The size of lots will be determined by the requirements of the Durham Region Lot Sizing Policy and other applicable provincial policies and guidelines. For all new vacant lots being created, the sewage system area will be based on a Class 4 conventional sewage system including a separate area for the replacement of a Class 4 conventional sewage system. The Class 4 system will be designed to process a minimum daily sewage flow of 3000 L.

Procedure

The Region may require the applicant to provide a two (2) metre deep test hole(s) to confirm the soil and groundwater conditions. Under these circumstances the inspector will contact the owner to make the necessary arrangements.

In some instances, a geo-technical and/or hydro-geological report , a site plan prepared by a qualified designer or hydro-geologist and a peer review at the expense of the applicant may be required (e.g. multiple lot development) by the Region.

LOT SIZE POLICY AS APPLIED TO SUBDIVISIONS

Background

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The size of lots will be determined by the requirements of the Durham Region Lot Sizing Policy and other applicable provincial policies and guidelines. For all new vacant lots being created, the sewage system area will be based on a Class 4 conventional sewage system including a separate area for the replacement of a Class 4 conventional sewage system. The Class 4 system will be designed to process a minimum daily sewage flow of 3000 L.

Procedure

The lot sizes will be determined by provincial policies and the Durham Region Lot Sizing Policy. It is essential that a representative from the Region be present when onsite testing is being conducted.

**SUBDIVISION/SEVERANCE POLICY FOR LANDS REQUIRING
ON-SITE PRIVATE SEWAGE SYSTEMS
(Residential/Commercial/Industrial)**

The Durham Region Health Department requires that all unserviced lands that are subdivided or severed are to be assessed so consequently the development shall not impact the environment or pose a public health risk.

The Regional Municipality of Durham only recognizes the design and construction of sewage systems that adhere to the Ontario Building Code (OBC), or have Building Materials Evaluation Commission (BMEC) Authorization.

1. Jurisdiction

The Regional Municipality of Durham has entered into an Agreement with certain local municipalities to enforce the requirements associated with sewage systems under the Ontario Building Code (OBC). The Regional Municipality of Durham (Durham Region Health Department) acts as the agent for the local municipalities to perform all activities related to sewage systems.

Definitions:

Severance - means a Consent under the Planning Act to permit the creation of a new lot.

Subdivision - means a subdivision as defined in the Planning Act or a Consent under the Planning Act which are comprised of 3 or more additional lots adjacent to the original parcel or a condominium development under the Condominium Act.

Industrial/Commercial - an industrial/commercial lot means the creation of a lot(s) for a building or structure other than a single family dwelling unit.

Policy

Each newly created vacant lot in a severance application or in a subdivision proposal must be suitable for the construction of a Class 4 conventional sewage system including a separate area for the replacement of a Class 4 conventional sewage system, and also adhere to any other applicable provincial policies and guidelines. These shall be considered as minimum standards for approval of subdivision and severance applications on private sewage systems.

The Durham Region Planning Department is responsible for the co-ordination and distribution of proposed land development applications. The Health Department will respond to the Planning Department upon request for comments regarding private sewage systems and its potential impacts on groundwater supplies.

Scope

Subdivision/severance applications shall be assessed for the installation of a conventional Class 4 sewage system on the basis of soil suitability, a prime and separate replacement area, topography, maximum groundwater elevation, surface drainage, flooding potential and potential impact on groundwater quality and other possible provincial policies and guidelines.

Assessment

The number of lots considered suitable for development on private services will be determined by the requirements of the Ministry of the Environment's (MOE) Technical Guidelines for assessing the potential for groundwater impact in developments serviced by individual subsurface sewage systems, if applicable. The geo-technical assessment must be in accordance with the MOE *Procedure D-5-4, Technical Guideline for Individual On-Site sewage Systems: Water Quality Impact Assessment*, and the hydro-geological assessment must be in accordance with MOE *Procedure D-5-5, Technical Guideline for Private Wells: Water Supply Assessment*, as applicable and Durham Region's Lot Sizing Policy.

A proposed lot must conform with Part 8 Sewage Systems under the Ontario Building Code as it relates to soil percolation time, depth to high groundwater table elevation, depth to impermeable soil, maximum slopes, drainage characteristics and horizontal clearances and Durham Region's Lot Sizing Policy.

The area required for a conventional Class 4 sewage system and the separate replacement area must be available for all new vacant lots. Each lot will be assessed on the assumption that a minimum daily sewage flow of 3000 L/day will be generated from the proposed residence. Other proposals that will generate sewage flows in excess of 3000 L/day (i.e., commercial/industrial or large residential dwellings) but not more than 10,000 L/day will be assessed on an individual basis.

Proposed vacant lots shall be sized according to the following table:

SEWAGE SYSTEM AREA ESTIMATES (prime and reserve)			
Soil Percolation Rate (T)	Loading Rate (L/m²/day)	Daily Sewage Flow (Litres)	Sewage System Area (m²) [m² x 2]
1<T<20	10	3000	600
20<T<35	8	3000	750
35<T<50	6	3000	1000
T >50	4	3000	1500

Two (2) metre test hole(s) may be required for severance/subdivision applications in order to confirm the percolation rate or "T" time.

Site Constraints

Site constraints for the location of private sewage systems may include but are not limited to:

- Soil with a percolation time greater than 50 minutes per cm, or less than 1 minute per cm.
- Property is subject to flooding in the proposed sewage system areas.
- A high water table in the proposed sewage system areas or where the hydraulic loading of the sewage system may cause a saturated soil condition within 0.9 m of the bottom of the leaching bed.
- The topography of the lot or other site deficiencies that may not be suitable for the installation of private sewage systems. (i.e. an area that has an average slope that exceeds one unit vertically to four units horizontally (> 25%).

NOTE: All constraints shall be recorded. A technical report addressing the constraints will be required prior to approval.

Technical Clarifications

Plans

A site plan must include; the proposed envelopes of all structures, drilled well(s)/adjacent well(s), prime and separate replacement area for the sewage systems and a final grading/drainage plan.

Soils

For subdivisions, a comprehensive soils report taken from a sufficient number of two (2) metre deep test holes is required to adequately represent the varying geology.

Each sample is to be analysed for:

- soil classification
- grain size distribution
- permeability co-efficient and estimated percolation time in min./cm.
- seasonal high groundwater determination
- identification of any limiting layer.

Topography

If a proposed development indicates major reshaping of the property, the Health Department may defer the subdivision/severance assessment until the re-grading has been completed and the municipality has approved the new drainage/grading plans. Extensive reshaping (cut and fill) of the property, particularly sites with fine grained soils, should not be undertaken since re-moulded soils will have a

reduced hydraulic conductivity or the permeability can be destroyed. The OBC restricts the installation of sewage systems in areas where the natural slope in the proposed sewage system envelope exceeds 25%. Lot development involving proposed sewage system envelopes in locations where the natural slope ranges between 10% and 25% will require very specific details relative to surface grading, drainage, tile field design, alignment and depth of cover.

Hydro-geological and Geo-technical Reports

A hydro-geological report and/or a geo-technical report is required for any proposed subdivision development and may be required for lots created through the consent process where there is a potential impact on the environment. This study should consider the quality and quantity of drinking water on the proposed site and on adjacent groundwater conditions. This will require a current study of proposed and adjacent wells to determine quality and quantity.

The Ministry of the Environment's Technical Guidelines (D-5-5) must be applied to assess water supplies through the use of individual private wells in order to establish that a sufficient quantity and quality of drinking water is present.

The Ministry of the Environment's Technical Guidelines (D-5-4) is to be applied to determine the impact of the proposed sewage systems on the immediate and adjacent groundwater supplies (bacterial and chemical quality), which will determine the maximum number of lots.

The Region will require positive and approving comments from the Region of Durham peer review process/system that confirms the hydro-geological and geo-technical reports associated with the proposal complies with the MOE Technical Guidelines.

INFORMATION REQUIRED FOR PROPOSED SUBDIVISION SUBMISSION

- 1. A site plan indicating the proposed location of all structures, drilled wells and sub-surface sewage disposal system envelopes including a separate replacement area for the sewage systems.**
- 2. Results of a soil sampling program comprised of a sufficient number of two (2) metre deep test holes to adequately represent the varying geology of the subdivision. Each sample is to be analysed for:**
 - grain size distribution**
 - permeability coefficient including an estimated percolation time in min./cm.**
 - soil classification**
 - seasonal high groundwater determination, groundwater seepage and level after a 24 hour period**

Contact the Region prior to doing any field testing.

- 3. An existing and final grading plan indicating final lot drainage patterns.**
- 4.(a) A hydro-geological report and an environmental impact study of the proposed on-site and adjacent water supplies with respect to bacterial and chemical contents. Information should be obtained through a sufficient number of test wells drilled on the subject property as per MOE D-5-5.**
- 4.(b) A geo-technical report to determine the impact of the proposed sewage systems on the immediate and adjacent groundwater supplies (bacterial & chemical quality) which will determine the maximum number of lots as per MOE D-5-4.**
- 5. The Region will require positive and approving comments from the Region of Durham peer review process/system that confirms the hydro-geological and geo-technical reports associated with the proposal complies with the MOE Technical Guidelines.**
- 6. Provincial policies and Durham Region's "Lot Sizing Policy" will determine lot sizes.**
- 7. Drilled wells are required in accordance with the "Drilled Well Policy".**