
DATE: January 3, 2007

SUBJECT: **DEVELOPMENT PLANNING SERVICES
PROTOCOL FOR THE USE OF NON-POTABLE GROUNDWATER CRITERIA
IN BROWNFIELD REDEVELOPMENTS IN PEEL REGION**

FROM: Nick Tunnacliffe, Commissioner of Planning
R. Kent Gillespie, Commissioner of Corporate Services and Regional Solicitor

RECOMMENDATION

That the Standardized Applications Review Protocol, attached as Appendix I to the joint report of the Commissioners of Planning and Corporate Services and Regional Solicitor, dated January 3, 2007, titled "Protocol for the Use of Non-Potable Groundwater Criteria in Brownfield Redevelopments in Peel Region", be approved;

And further, that a copy of the subject report be forwarded to the Town of Caledon and the Cities of Brampton and Mississauga for their information;

And further, that Planning staff forward copies of the subject report to the land development industry, to advise that the protocol will be implemented and enforced for Notices of Intention submitted to the Region regarding applications to use the non-potable groundwater standard of O. Reg. 153/04 for brownfield redevelopments.

REPORT HIGHLIGHTS

- The Provincial *Brownfield Statute Law Amendment Act* came into force in October 2004 and became Section XV.1 of the *Environmental Protection Act*.
- The Regulation includes two different standards for site remediation depending on whether the site and surrounding area is supplied with drinking water from public or private water wells (potable standard) or whether the area is serviced by piped municipal water supply (non-potable standard). The requirements for remediation to the non-potable standard are less restrictive than for the potable standard.
- Property owners are required under O. Reg. 153/04 to submit a Notice of Intention to municipalities when they plan to remediate their brownfield sites to the non-potable groundwater standard. The Regulation allows municipalities to object to the use of the non-potable standard, thereby requiring the higher potable standard.
- Since October 2005, Regional staff have objected to all Notices of Intention to use the non-potable standard.
- The attached protocol incorporates specific recommendations received from the development industry and City of Mississauga.
- The protocol will allow brownfields to be redeveloped while protecting Regional groundwater resources.

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DISCUSSION

1. Background

Although the *Brownfield Statute Law Amendment Act* received Royal Assent in November 2001, most of the provisions of the Act came into force in October 2004. The Act established a regulatory framework to encourage brownfield redevelopment in Ontario. One encouraging measure was to provide indemnifications from future actions by the Ontario Ministry of the Environment (MOE) to brownfield property owners who have followed the prescribed Environmental Site Assessment process that is defined in the Act.

The Regulation includes a definition of Qualified Persons (QPs) who can undertake environmental site assessments and remediations.

The brownfield redevelopment process begins with a Phase I Environmental Site Assessment Report, prepared by a QP. Where the Phase I Report concludes that there is no apparent or likely soil contamination, no further investigation or site clean up is required. However, if the Phase I Report determines that there is contamination or potential for contamination on site, a Phase II Environmental Site Assessment Report is required.

The Phase II report presents the results of a scientific analysis of the soil and groundwater conditions on the site. If no contamination is found in Phase II, then no further investigation or site cleanup is required. If contamination in excess of the applicable criteria is found, then the Phase II report will recommend a site clean-up plan.

Following site clean-up, the owner determines the need to file a Record of Site Condition (RSC) Report based on his desire to obtain protection from potential future environmental orders for the site. Record of Site Condition (RSC) reports are prepared by Qualified Persons and are filed in Ontario's Environmental Site Registry.

Record of Site Condition reports are required where a change in land use from industrial or commercial to residential or parkland is proposed. Owners may also file RSC reports voluntarily. In either case, whether the RSC report is required or provided voluntarily, a statement is required from the municipality indicating its consent to use the non-potable groundwater standard for site remediation.

2. Potable versus Non-Potable Groundwater Standard

Regulation 153/04 includes two separate standards for contamination in groundwater depending on whether or not groundwater in the vicinity of the brownfield property is used as a drinking water supply. The Regulation requires a higher standard of site remediation where the site and surrounding area rely on groundwater for their drinking water. This is the potable groundwater standard. In areas where piped municipal water supplies are available, a significantly lower groundwater standard, the non-potable standard, was established. Although lower than the potable standard, the non-potable standard is still considered to be protective of human and environmental health.

The Regulation states that the non-potable groundwater quality standard can only be applied to brownfields where the property and surrounding properties within 100 metres are supplied by a municipal drinking water system, to properties that are not located within an

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area that is designated as a wellhead protection area in a municipal official plan and to properties where the Record of Site Condition report does not specify "agricultural" or "other" use as the planned future land use.

The Regulation also allows municipalities to object to an owner's request to use the non-potable groundwater standard. Since the Regulation was enacted, Regional staff have been responding to all Notices of Intention with a standard objection letter. We have maintained our objections to these requests until the owners have met a number of additional requirements that are intended to safeguard groundwater resources and to reduce the liability of the Region. Once these requirements are met, the Region is then in a position to withdraw its' objections.

3. Draft Brownfield Policy and Protocol for Standard Applications Review

Regional staff recognized that a standardized Regional process was needed in order to meet our responsibilities under the Brownfield Act and Regulation and to better respond to requests to use the non-potable groundwater standard.

A staff team was formed comprising representatives from the Planning, Public Works, Health, Legal and Housing Departments. Consultant Jacques Whitford Limited was retained to help prepare a Regional policy and protocol. The first phase of this work concluded in February 2006 with a Brownfield Policy and Protocol for Standard Applications Review. The Protocol required brownfield property owners who wanted to use the non-potable groundwater standard to submit Phase I and Phase II Environmental Site Assessment Reports, well surveys, area of influence studies and letters of reliance and to pay for peer reviews of their submissions.

Regional staff proceeded to use the Protocol on an interim basis while it was circulated to the Area Municipalities and the land development industry for their review and comments.

a) Consultation with Municipalities

The City of Brampton and Town of Caledon staff advised that they had no objections to the protocol. City of Mississauga staff recommended that the Region's protocol integrate the Regional and City roles in brownfield redevelopment. Mississauga staff noted that the City had adopted a Corporate Policy entitled "Applications for Development of Contaminated or Potentially Contaminated Sites" in 1997. In 2002, this policy was updated to incorporate the Technical Standards and Safety Authority's "Letter of Continued Use" process for operating gasoline stations. The Regional protocol has been drafted to establish processing steps for Regional staff that do not duplicate the City's corporate role in evaluating applications for changes in land use.

Mississauga staff also recommended deleting the requirement for peer reviews of risk assessment reports, delegation of the responsibility for requesting and reviewing the required studies and documentation to the City of Mississauga for sites that are the subject of development applications and setting timelines for receipt of environmental reports.

Based on these concerns and on concerns raised by the development industry as described below, our protocol has been revised to place reliance on reports submitted by the owners' QPs as a substitute for peer reviews. Given Peel Region's responsibility for

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the provision of piped water services, the Regional protocol will retain the determination for use of the non-potable standard as a specific Regional function. With respect to timelines, the timing of submission of reports is the responsibility of the Owner and his consulting QP and not a responsibility of municipal staff. As to timelines for Regional reviews, our protocol has been drafted so that Regional staff will be able to make a determination on the suitability for using the non-potable standard immediately upon receipt of a complete submission from owners.

b) Consultation with the Development Industry

The land development industry has generally supported the brownfields legislation, including the municipal role in determining use of the non-potable groundwater standard. However, the industry recommended several changes to our draft protocol as outlined below.

Industry representatives did not support the Region's proposed use of peer reviews. They recommended that the Regional protocol retain the sole responsibility for site conditions and site remediations with their QPs and not be shared between the QP and a peer reviewer. In their experience in Southern Ontario, peer reviews had not achieved the desired results of confirming site conditions and safeguarding municipal interests. Rather, they found that peer reviews were slow to be completed and often inconclusive. Regional staff have had similar experience with peer reviews to date. For these reasons, we changed our draft protocol to focus the sole responsibility for site conditions with the owners' consulting QPs. This approach is also consistent with the *Brownfields Act and Regulation*.

The development industry was also concerned with the Region's requirement to protect well water supplies in urban areas. In their view, well protection was unreasonable because the Region provides, or plans to provide, piped water supply in these areas. They noted that the non-potable standard was considered to be protective of human and environmental health where groundwater was not used for drinking water supply. They also noted that a requirement to survey private wells would fail in cases where the well owners deny brownfield owners access to their wells. Also, they noted that the well survey requirement was unreasonable because, by remediating sites, they are removing some or all of the contaminants from their sites thereby improving and not degrading groundwater conditions.

Regional staff have changed our draft protocol in response to these concerns. Our new protocol will require the owner's QP to identify wells within 100 metres of the brownfield site and provide a statement as to the potential groundwater impact that will result from site remediation. In areas that rely on groundwater for drinking water supply, the Regional protocol is more stringent and will require a hydrogeological study where remediation to the non-potable groundwater standard is proposed. The protocol will not create barriers to brownfield remediation.

4. Proposed Protocol

The proposed protocol includes the changes that were recommended by the land development industry and the City of Mississauga and changes that arose from staff's experience in working with the original protocol.

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For brownfield properties inside the South Peel Servicing System Area, Notices of Intention filed under the proposed protocol must be accompanied by Phase I and Phase II Environmental Site Assessment Reports, a groundwater impact statement and letters of reliance. The protocol will allow Regional staff to make a determination as to the use of the non-potable standard without delay upon receipt of a complete submission from the owner's QP. Responsibility for the supporting materials will be maintained with the owners' QP and will not involve peer reviewers, as had been our earlier practice.

For brownfield properties outside the South Peel Servicing System Area, the protocol will require Notices of Intention to be accompanied by Phase I and Phase II Environmental Site Assessment Reports, hydrogeological studies and letters of reliance. Generally, the Regional protocol will require brownfield properties outside the South Peel Servicing System Area to be remediated to the potable groundwater standard. The protocol will only allow exceptions to this standard where use of the non-potable standard has been justified by a Risk Assessment report that has been approved by the Ministry of the Environment, or justified by a hydrogeological risk report that is acceptable to Peel Region.

5. Next Steps

Regional staff will continue to consult with the local municipalities and the development industry to develop Regional policies and procedures for additional aspects of contaminated site redevelopment, such as contamination under Regional roads and contamination on Regionally-owned lands. Based on these consultations, we will develop a Regional "Objectives and Priorities Guideline" to provide a consistent Regional approach to these additional areas of concern.

FINANCIAL IMPLICATIONS

Implementation of the protocol will not result in direct financial implications to Peel Region as all of the costs of environmental site assessment reports, site restoration and peer review of hydrogeology studies will continue to be the responsibility of brownfield property owners. Staff resources will continue to be required to respond to Notices of Intention and to develop an "Objectives and Priorities Guideline" as noted above.

CONCLUSION

Regional staff prepared the attached Protocol for the Use of Non-Potable Groundwater Criteria in Brownfield Redevelopments in Peel Region for staff to use in responding to owners' Notices of Intention to develop on the basis of non-potable groundwater conditions (see Appendix I).

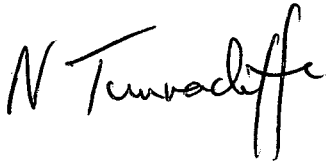
The protocol will help protect groundwater resources and reduce Peel Region's liability in brownfield redevelopments. The protocol is consistent with the City of Mississauga's Corporate Policy. Brampton, Caledon and Mississauga staff have no outstanding concerns regarding the protocol. The protocol incorporates the land development industry's concerns, especially with respect to maintaining responsibility for site conditions with their consulting QPs.

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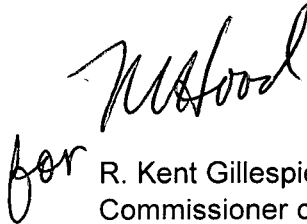
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Where brownfield owners propose to use the non-potable groundwater standard, the protocol will require them to include a supporting package of technical information including Phase I and Phase II Environmental Site Assessment Reports, a Record of Site Condition, a groundwater impact statement or hydrogeological study and statement of reliance from the QP.

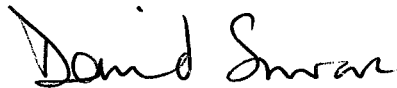


Nick Tunnacliffe
Commissioner of Planning



for R. Kent Gillespie *W*
Commissioner of Corporate Services
and Regional Solicitor

Approved for Submission:



D. Szwarc, Chief Administrative Officer

Authored By: B. Criger T.S.

c. Legislative Services *jd*

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**Protocol for the Use of Non-Potable Groundwater Criteria in Brownfield Redevelopments
in Peel Region**

**1.0 Development Applications Outside the South Peel Servicing System Area
(Rural Area)**

- 1.1 When a brownfield owner submits a Notice of Intention to remediate a site that is located outside of the South Peel Servicing System Area in accordance with the non-potable groundwater standard, Regional staff will respond with a standard objection letter within the 30-day period that is allotted by O.Reg. 153/04.
- 1.2 Owners then have the option of either re-applying to use the non-potable standard by completing and submitting to Peel a hydrogeology study, Phase I and Phase II Environmental Site Assessment Reports (ESARs) and a letter of reliance for the site or alternatively, using the potable groundwater standard for site remediation and/or development.
- 1.3 Peel Region will only consider sites eligible to be remediated to the non-potable groundwater standard where the hydrogeology study shows that the site is not situated within Peel Region's groundwater sensitive 'high risk' areas or a capture zone/wellhead protection area for a water supply well. Groundwater sensitive areas, capture zones/wellhead protection areas are defined by Peel Region and may be revised from time to time based on new Provincial standards.
- 1.4 Hydrogeology studies must forecast the impacts of site remediation and/or development on nearby groundwater resources. Hydrogeology studies must conclude that there will be no degradation to local groundwater resources or private wells.
- 1.5 Hydrogeology studies will be peer reviewed at the owner's expense.
- 1.6 Phase I and II ESARs, hydrogeology studies and reliance letters must be prepared by a Qualified Person (QP) as defined by O.Reg. 153/04.
- 1.7 Where the Phase I and II ESARs, hydrogeology studies or reliance letters are not submitted, Peel Region will maintain its objection to the use of the non-potable groundwater standard as noted in 1.1 above.
- 1.8 All sampling locations referred in the Phase II ESAR(s) must be GPS referenced.
- 1.9 In situations where groundwater on the site contains elevated concentrations of petroleum hydrocarbons (F1 to F4); these concentrations must be compared to the default Ministry of the Environment (MOE) potable standards (Table 2 Standards) for petroleum hydrocarbons, or alternatively, compared to risk-derived concentrations through a risk assessment process.
- 1.10 Based on receipt of the technical information and a letter of reliance stating that no future degradation to water resources is anticipated, Peel Region will consider withdrawing its objection to the use of the non-potable groundwater standard for sites

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outside of Peel Region's groundwater sensitive "high risk" areas or a capture zone/wellhead protection area for a municipal water supply well and allowing the non-potable standard to be used for site remediation and/or development.

- 1.11 Withdrawal of the objection may be conditional, with conditions to be applied on a site-by-site basis. For example, in some cases, based on site sensitivity considerations, the applicant may be asked to provide financial or other assurances to the Region.
- 1.12 Where a Risk Assessment has been completed in accordance with O.Reg. 153/04, Peel Region will rely on the Risk Assessment report as approved by the Ministry of the Environment.
- 1.13 In all cases where the Region's objection to the use of the non-potable standard is withdrawn, supporting ESAR documentation must indicate that future degradation of groundwater quality from existing conditions will not occur from the proposed future land use on the subject lands.

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Use of Non-Potable Groundwater Criteria in Brownfield Redevelopments in Peel Region

**2.0 Development Applications inside the South Peel Servicing System Area
(Urban Area)**

- 2.1 When a brownfield owner submits a Notice of Intention to characterize and/or remediate a site that is located in an area inside the existing South Peel Servicing System Area in accordance with the non-potable groundwater standard, without the required supporting documents noted in 2.2 below, Regional staff will respond with a standard objection letter within the 30-day period that is allotted by O.Reg. 153/04.
- 2.2 Owners have the option of re-applying to use the non-potable standard by submitting Phase I and Phase II Environmental Site Assessment Reports (ESARs), a groundwater impact statement and a letter of reliance prepared by a Qualified Person as defined by O.Reg. 153/04 or of using the potable groundwater standard for site remediation and/or development.
- 2.3 In situations where a site is located inside the South Peel Servicing System Area but where piped water and sanitary sewer services are not available, the owner's request to use the non-potable groundwater standard will be processed in accordance with the Region's protocol "Development Applications Outside the South Peel Servicing System Area."
- 2.4 Where Notices of Intention do not include the supporting ESAR reports, a groundwater impact statement and a reliance letter as noted above, Regional staff will send a standard letter requesting that the missing materials be submitted to the Region.
- 2.5 Where the Phase I and II ESARs, groundwater impact statement or reliance letters are not submitted, Peel Region will maintain its objection to the use of the non-potable groundwater standard as noted in 2.1 above.
- 2.6 All sample site locations referred in the Phase II ESAR(s) must be GPS referenced to the satisfaction of Peel Region.
- 2.7 In situations where groundwater on the site contains elevated concentrations of petroleum hydrocarbons (F1 to F4), these concentrations must be compared to the default Ministry of the Environment (MOE) potable standards (Table 2 Standards) for petroleum hydrocarbons, or alternatively, compared to risk-derived concentrations through a risk assessment process.
- 2.8 Preparation of a groundwater impact statement will require the owner to complete the following three-step process:
- 2.8.1 Completion of a search of Ministry of the Environment (MOE) well records to determine whether there are water supply wells within 500 metres of the site boundaries or within the calculated zone of influence that extends from the site boundaries to the site. If the calculated zone of influence is less than 100m from the site boundaries, all requirements concerning water supply wells within 100m of the site boundaries as noted below shall apply.

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- 2.8.2 If water supply wells are identified within 500 metres or within the zone of influence as described in 2.8.1 above, then a survey of water supply wells within 100 metres of the site will be required, and
- 2.8.3 If water supply wells are identified within 100 metres of the site, Peel Region will process the Notice of Intention in accordance with the Region's protocol "Development Applications Outside the South Peel Servicing System Area." If wells are identified within 500 metres but beyond 100 metres of the site or within the zone of influence, then the Qualified Person must include reference in his reliance letter that the water quality of the water supply wells outside within 500 metres but beyond 100 metres of the site or zone of influence will not be impacted or degraded over time.
- 2.9 Where the owner has submitted the required information and where the groundwater impact statement concludes that there are no wells within 100 metres of a brownfield site and where a letter of reliance is received stating that site development/remediation to the non-potable standard will not degrade groundwater resources, Regional staff may withdraw their objection. Withdrawal of the Regional objection will be conditional upon the owner filing a Record of Site Condition where it is required to do so and on maintaining compliance with O. Reg. 153/04.
- 2.10 Where a Risk Assessment has been completed according to O.Reg. 153/04, Peel Region will rely on the Risk Assessment report as approved by the Ministry of the Environment.
- 2.11 In all cases where the objection to the use of the non-potable groundwater standard is withdrawn by the Region, the supporting ESAR documentation must indicate that future degradation of groundwater quality from existing conditions will not occur from the proposed site use.