



CORPORATE SERVICES DIVISION
Environment Section

TO: Chair and Members of the Community and Corporate Services Committee
SUBJECT: Staff Guideline for Managing Contaminants on City Property

Report Number: CORPSERV5-05 Report Date: January 24, 2005
Author(s): Lynn Robichaud Date to Committee: February 8, 2005
Telephone: 905-335-7600 Ext. 7931 Date to Council: February 21, 2005
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APPROVALS: Department Head General Manager City Manager

To be completed by the Clerks Department

Committee Disposition & Comments

01- Approved 02 - Not Approved 03 - As Amended 04 - Referred 05 - Deferred 06 - Received & Filed 07 - Withdrawn

Council Disposition & Comments

01- Approved 02 - Not Approved 03 - As Amended 04 - Referred 05 - Deferred 06 - Received & Filed 07 - Withdrawn

1.0 RECOMMENDATION:

THAT council endorse the attached Staff Guideline for Managing Contaminants on City Property (Appendix A).

2.0 PURPOSE:

The purpose of this report is as follows: 1) to update council on the Region of Halton's ENV-DATA database; 2) to obtain council endorsement of the attached Staff Guideline for Managing Contaminants on City Property; and 3) to advise council on a pilot project to determine the probability of sites where contaminants are suspected to have migrated onto public property.

### **3.0 BACKGROUND AND RELATIONSHIP TO STRATEGIC PLAN:**

There have been occasions where contaminants have been confirmed on city property during municipal infrastructure installation projects and the review of Phase I and II environmental site assessments submitted to the city as a condition of development approval. The source of the contamination is often linked to a former commercial or industrial use, particularly petrochemical handling facilities or dry cleaning establishments. These situations are often complex and must be dealt with on a site by site basis. There is currently a regional protocol to deal with on-site contamination related to development applications, previously endorsed by council (report CD-54-03), but it does not deal with the off-site migration of contaminants.

The city's previous strategic plan, *Future Focus V*, included the following actions related to these issues:

*Develop a policy for dealing with the migrated contamination of road allowances and other City owned lands from adjacent sites.*

*Develop an inventory of potentially contaminated sites across the City for use in assessing development applications or responding to property information requests.*

A team of staff representing environment, planning & building, engineering, parks and recreation, and legal departments, and the region have been working together to research best practices for dealing with the migration of contaminants onto public property. As well, the region has developed a database of sites that may be, based on current or historic land use, Ministry of the Environment records, and information in Regional planning files, potentially contaminated. This information has been shared with city staff for internal use only.

### **4.0 DISCUSSION:**

#### **ENV-DATA**

The primary data sources for the region's Hazardous Land Use and Chemical Occurrence Inventory include records from the Ministry of the Environment, the Technical Standards and Safety Authority, and Halton Region. The region has provided a Geographic Information System based version of the database to city staff entitled ENV-DATA.

The ENV-DATA database is available to staff through the city's GIS maps showing various indicators of potential contamination. The information is confidential and not to be shared with third parties. External requests submitted to staff for environmental property information are redirected to regional staff. This process was described in a previous staff report (CD-54-03).

It is anticipated that this inventory will assist staff to be better prepared in highlighting potential problems related to development applications or during the planning stages for municipal infrastructure works. The region will be responsible for the data, including maintenance and updates.

## **Staff Guideline for Managing Contaminants on City Property**

Contamination migrating onto city property is usually confirmed through the development review process or the implementation of municipal infrastructure projects. There have been occasions where staff are appraised of these situations through third parties, such as the Ministry of the Environment.

This is a very complex area and every case must be assessed individually. The purpose of the attached guideline (see Appendix A) is to provide direction to staff dealing with these situations. Staff involved with these issues should be familiar with Ontario Regulation 153/04, the new brownfields regulation that replaced the provincial *Guideline for Use at Contaminated Sites in Ontario* as of October 1, 2004. The new regulation includes requirements for:

- Conducting environmental site assessments;
- Soil and groundwater standards; and,
- The qualifications for individuals who oversee site clean-up and certification that the site meets the appropriate standards.

A compendium guide to Regulation 153/04 has been published by the ministry (*Records of Site Condition – A Guide on Site Assessment, the Clean-up of Brownfield Sites and the Filing of Records of Site Condition*).

During the review of development applications, the planning stages for municipal infrastructure projects or acquisition of land, staff are advised to refer to two sources of information that may highlight potential environmental issues. One source is the city's AMANDA electronic property files, where staff have recently started to input contaminated site and borehole information into the database. Electronic files of the full technical reports are available to staff in Image Site. The other source of information is the ENV-DATA. The use of the ENV-DATA and environmental information in AMANDA will provide options for staff to be more proactive when dealing with the migration of contaminated sites.

### **Proactive Testing on City Property**

There has been discussion on how proactive the city should be to search for, confirm and remediate (if required) contaminants on city road right-of-ways. A proactive program would involve costs for drilling boreholes and laboratory testing of soil and groundwater samples, professional analyses of samples, and legal resources to pursue responsible party if required (depending on test results).

The cost/benefits of the city looking for contamination on city property are unclear. There is no guarantee that contaminants will be found on road right-of-ways and if they are, to what extent? Any results from physical tests should be considered a 'snap-shot' in time as conditions could change the next day. It should be noted that contaminant plumes can be narrow and can sometimes be difficult to find, short of excavating a site. If an investigation fails to confirm contamination, there is the potential for false risk. In many situations, the environmental risks of contaminants found under a road right-of-way are low. A proactive program would require the assistance of a qualified consultant to oversee this specialized work.

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Based on these factors, staff recommend a cautious, phased approach. Step one would include a prudent review of the data on hand by a qualified individual. Regulation 153/04 defines the requirements for a qualified person to do this type of work. The consultant (qualified person) would be retained to determine the probability of whether the city has a significant number of sites where contaminants may have migrated onto public property.

Staff would consider the results of the step one analyses to determine whether it is prudent to proceed to step two to search for contamination on city property. Prior to making a decision on step two, staff will undertake further research on the cost/benefits of this approach.

If a decision is made to proceed, it is anticipated that step two as a pilot project would involve the identification of two to three sites where borehole testing could be undertaken on city property. It is estimated that at least three boreholes would be required for each property to provide basic information (depending on the size and location of the property). If contamination is found, the levels and extent of contaminants would have to be confirmed to determine whether to proceed with the investigation and remediation (if required). At this point, legal resources would likely be required.

There are a variety of options for dealing with contaminants found on city property during these situations, including:

- Remediation at the cost of polluter/property owner.
- Acquisition of an insurance policy by the applicant to cover the possible migration of contaminants onto a third party site;
- Cash requirement where it is determined that remediation should be coordinated with future road/utilities work;
- Litigation;
- Consultation with senior levels of government;
- Completion of a risk assessment;
- Negotiation with polluter to resolve the case.

Determining the most appropriate course of action depends on a cost/benefits analysis considering the type, level and extent of contamination, the cost of remediation and anticipated disruption of services. The origin of the contaminants may involved a lengthy investigation and the course of action may also depend on the level of cooperation by the party that caused the pollution and/or current property owner.

This prudent review of data by a qualified individual may provide staff with a better understanding of the potential risks in the city where contaminants may have migrated onto city property.

### **5.0 FINANCIAL MATTERS:**

There has been no cost to the city to obtain the ENV-DATA from the region.

Retaining a consultant to review data to determine whether there is a significant probability where contamination has migrated onto city property has an estimated cost of \$10 - \$15,000,

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which will be covered by the 2005 engineering current budget. If recommended by the consultant, step two is estimated to cost \$5,000 minimum per site investigation by a qualified individual. If necessary, staff will include a proposal for additional funding to be considered during the 2006 capital budget deliberations for step two.

It is difficult to estimate the costs of further investigation due to the unknowns, such as levels, extent and source of contamination, and the willingness of the responsible party to cooperate.

**6.0 ENVIRONMENTAL MATTERS:**

Staff are committed to ensuring that environmental risks of contaminants found on city property are minimized and remediated appropriately.

**7.0 COMMUNICATION MATTERS:**

Staff involved in situations where contaminants have been confirmed on city property are responsible for updating their director. The director will be responsible for providing details to the senior management team and council at significant milestones:

- Contaminants pose public health and safety risks;
- Significant resources required (staff, financial, etc.); and/or,
- Remediation activities will cause a disruption in services.

**8.0 CONCLUSION:**

The ENV-DATA is a new tool for staff enabling them to be more proactive to appropriately deal with concern of migrating contamination onto city property. Furthermore, the review of the ENV-DATA by a qualified individual should provide staff with an understanding of the significance of this issue in Burlington.

Respectfully submitted,

Lynn Robichaud

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**Appendices:**

Appendix A: Staff Guideline for Managing Contaminants on City Property
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**Staff / Others Consulted:**

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**Notifications:**

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**Special Instructions:**

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## APPENDIX A

### City of Burlington

## Staff Guideline for Managing Contaminants on City Property

### *Introduction*

Site contamination is a very complex area and every case must be assessed individually due to the type, nature and extent of contamination. Surrounding land uses, particularly sensitive land uses such as residential and institutional, add to the complexity. As well, the geological characteristics of each site must be considered, which can affect how far the contaminants have spread and how the area can, if possible, be remediated. Remediation standards and options will also vary depending on the characteristics of the contaminants.

The purpose of this guideline is to provide direction to staff dealing with situations where contaminants have been discovered or may be suspected, on city property. It provides information on various guidelines, regulatory requirements, and standards used in Ontario to deal with contaminated sites. The first section of this guideline outlines three scenarios where the existence of contaminants on city property may be confirmed. Section two outlines details for site remediation or risk assessment processes. Section three provides information related to communications and how these situations will be reported. Appendix I provides a glossary of various terms that are relevant in this field. Appendix II includes flow charts identifying the processes to deal with the migration of contaminants onto city property during the development process and municipal infrastructure/land acquisition projects.

### *Ontario Regulation 153/04*

Staff involved in this issue should become familiar with the provincial Brownfields Regulation 153/04, under the *Environmental Protection Act*. As of October 1<sup>st</sup>, 2004, this regulation replaced the former *Guideline for Use at Contaminated Sites (revised Feb. 1997)*. The regulation details requirements for site assessment and clean-up, including Records of Site Condition, Qualified Persons, Environmental Site Registry, Phase One and Two Environmental Site Assessments, Site Condition Standards and Risk Assessments.

### **I. Confirmation of Contaminants**

A contaminant means any solid, liquid, gas, odour, heat, sound, vibration, radiation or combination of any of them resulting directly or indirectly from human activities that may cause an adverse effect.<sup>1</sup>

Contamination, in relation to a phase one or phase two environmental site assessment of a property, includes the presence of a contaminant in soil, sediment or ground water at the property, in concentrations that exceed the maximum concentrations set out in the applicable site

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<sup>1</sup> Sec. 1(1) *Environmental Protection Act*, RSO 1990, CE 19

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condition standards prescribed under Part IX (EPA - Site Condition Standards and Risk Assessments).<sup>2</sup>

Contaminated soil may be discovered/confirmed via different circumstances.

- Development Review Process
- Municipal Infrastructure & Land Acquisition Projects
- Outside Information

### ***Development Review Process***

Under the Halton Region's *Protocol for Reviewing Development Applications with Respect to Contaminated Sites*, Phase I Environmental Site Audits (ESAs) are required for all planning applications, with the exception of a minor variances, zoning amendments toward a less sensitive land use, or site plan approvals for an addition to an existing building. The Protocol requires that when a Phase I ESA shows evidence of contamination, the proponent will be required to conduct a Phase II ESA. If contamination is confirmed, the Phase II ESA will determine the type, nature and extent of contamination. It is important to note that this protocol does not deal with off-site contamination.

If contamination is confirmed at the property boundary, the city requires additional tests and studies on city owned land to determine off-site migration. The applicant is responsible for the cost of additional studies, which must be completed by a Qualified Person. These studies should also examine whether contamination has migrated from city property onto a third party property. If this occurs, the city's insurance agent must be notified.

The city will hire an expert to complete a peer review of results and provide advice on next steps. The cost of the peer review will be charged to the applicant.

### ***Land Acquisition & Municipal Infrastructure Projects***

Contaminated soil may be discovered on road right-of-ways during municipal infrastructure maintenance or installation projects. Land may also be required by the city for a project (eg. road widening) outside of the development review process and, depending on the history of adjacent land uses, contaminated soil may be an issue.

In an effort to avoid these situations, staff should review records of adjacent properties prior to the infrastructure project or land acquisition to determine risks of contamination, particularly in high risk areas (eg. history of industrial use or petrochemical handling). Sources of information may include the city's AMANDA electronic property files, the Engineering Department's contaminated site and borehole records, and the region's ENV-DATA.

If it appears that there is a possibility that contaminants have migrated onto city property, staff should arrange for a Phase I audit to be completed. The results of the Phase I audit should determine if a Phase II audit is necessary, which should confirm the existence and possibly the origin of contaminants. It should also confirm whether contamination has migrated onto a third

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<sup>2</sup> Ontario Brownfields Regulation 153/04

party property. If this occurs, the city's insurance agent must be notified. The costs will be charged back to the owner of the site where the contaminants originated wherever possible. All studies must be completed in accordance with prescribed standards.

### ***Outside Information***

In certain situations staff may receive notification from outside agencies, such as the Ministry of the Environment or utility companies, that contaminants have migrated onto city property. This may occur when a site has changed hands in a real estate transaction where a Record of Site Condition has been filed with the MOE. In these cases, MOE will generally provide staff with detailed information regarding the type, nature and extent of contamination. Staff will determine the appropriate action to be taken with the assistance of a Qualified Person.

## **II. Site Remediation & Risk Management**

The steps taken to address confirmed contamination will vary and will require a site-by-site investigation. At the time of writing this guideline, Regulation 153/04 is the current applicable regulation to be referred to when determining whether or not restoration is required and the kind of restoration needed to allow the continued use or reuse of the site.

A Qualified Person must be retained by the responsible party (proponent or city) to develop a plan to either remove, treat or manage the contamination on the site. Restoration standards will be determined on a site by site basis. There may be situations where the severity of the adverse effect needs to be balanced against other factors, such as a significant disruption of public services (eg. prolonged road closure).

Although the *Guideline for Use at Contaminated Sites in Ontario* has been replaced by Regulation 153/04, the following information taken from that guideline should be considered.

*Restoration is necessary if the contamination at a site is causing, or is likely to cause, an adverse effect. An adverse effect, or the likelihood of an adverse effect, associated with the presence of contamination in soil, groundwater or sediments may warrant use of the site assessment process and criteria provided in this guideline. The specific environmental conditions at a site must always be considered when evaluating whether site contamination will, or is likely to, cause an adverse effect.*

If the contamination found during a Phase II ESA is at levels greater than appropriate MOE criteria, the next step is to proceed to a site restoration process, which may include remediation or other management of the soil, groundwater or sediment so that the site will be suitable for the intended use. In the situation where contamination is confirmed on a road right-of-way, restoration may be required to manage any risk, and prevent the migration of the contamination back onto the original site or a third party site. Other measures to manage risk may include installing monitoring wells to determine the extent and level of contamination over time.

It should be noted that confirmation of the origin can be difficult without a lengthy investigation given that there may be several potential sources. The following courses of action will vary depending on the situation and the extent, level and origin of the contaminants:

- Acquisition of an insurance policy by the applicant to cover the possible migration of contaminants onto a third party site (a contingency option);
- A site management agreement between the city and applicant/responsible owner (any study required to estimate remediation costs will be at the expense of the applicant);
- Cash requirement; remediation will be coordinated with future road/utilities work;
- Litigation;
- Consultation with senior levels of government;
- Completion of a risk assessment and/or;
- Negotiation with previous owner to resolve the case.

All contaminated waste must be managed to meet the requirements of the Ontario *Environmental Protection Act* and Regulation 347 (General – Waste Management).

### **III. Communications**

Staff must notify their director when they become aware that contaminants have been found on city property. The director will be responsible for providing details (significant milestones or when decisions are required at a senior level) to the senior management team and council at significant milestones, including:

- Contaminants pose public health and safety risks;
- Significant resources required (staff, financial, etc.); and/or
- Remediation activities will cause a disruption in services.

## APPENDIX I

### **GLOSSARY:**

#### **ENV-DATA**

A GIS based database of known and potential contaminated sites in Halton, administered by the Region of Halton. The objective of the inventory is to identify and geographically locate all known and potential contaminated sites in Halton by GIS. The database contains information on sites that use and/or store hazardous materials including industrial/commercial facilities, spill, licensed generators, carriers, and receivers of hazardous waste, PCB storage sites, pesticide licenses, and registered underground petroleum storage tanks.

Information is also provided related to site investigation reports, including sites that were proven to be contaminated, sites that were once contaminated but have since been remediated, and sites that were investigated and found to be free from contamination. For each site, the database identifies location, current and past land use, current and past companies located on the property, and potential or known hazardous materials.

#### **Records of Site Condition – A Guide on Site Assessment, the Clean-up of Brownfield Sites and the Filing of Records of Site Condition**

A compendium guideline to Ontario Regulation 153/04.

#### **Phase I Environmental Site Assessment**

Refer to Ontario Regulation 153/04, Sections 23 to 26 for Phase I ESA requirements.

#### **Phase II Environmental Site Assessment**

Refer to Ontario Regulation 153/04, Sections 27 to 33, for Phase II ESA requirements.

#### **Protocol for Reviewing Development Applications with Respect to Contaminated Sites**

A protocol adopted by city and regional councils for reviewing development applications with respect to contaminated sites, which outlines the steps that must be completed and conditions that must be met by a proponent when submitting a development application. (Refer to staff report CD-54-03)

#### **Qualified Person (for completing Phase 1 and 2 ESA's and Risk Assessments)**

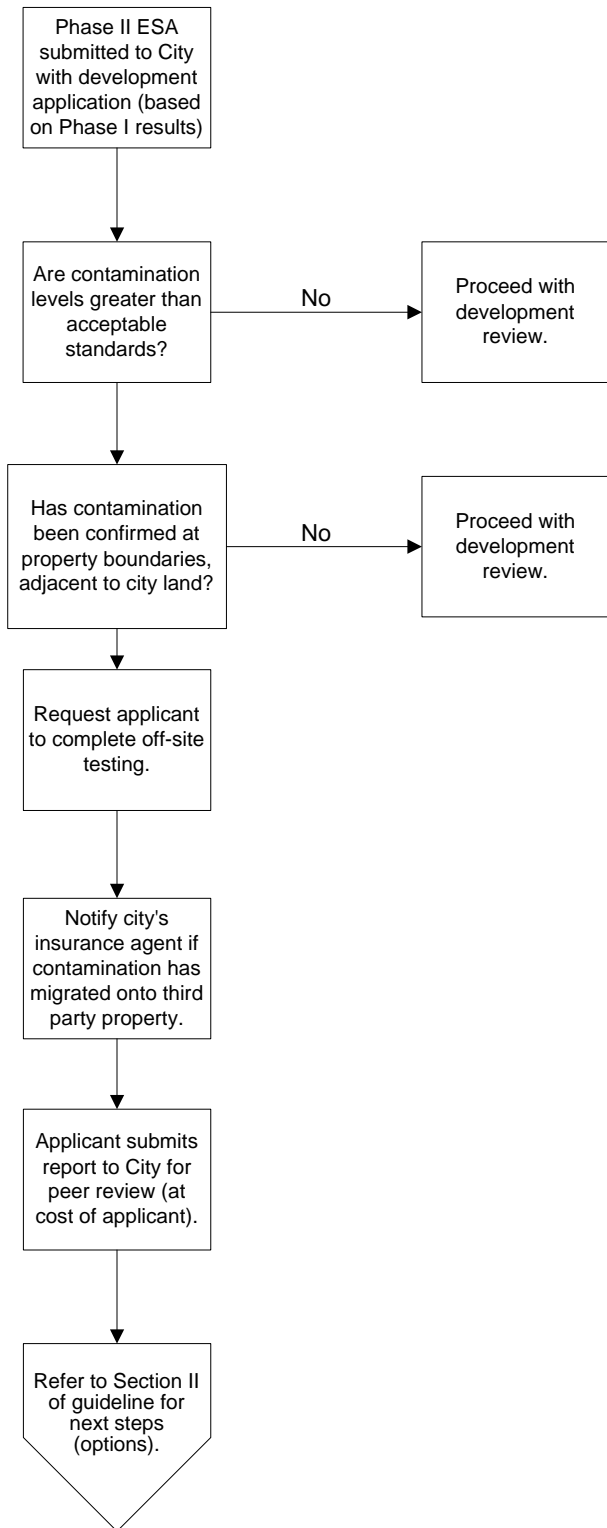
Refer to Ontario Regulation 153/04, Sections 5 to 6, for definitions.

#### **Record of Site Condition**

Refer to Ontario Regulation 153/04, Part V and Schedule A, for RSC requirements.

APPENDIX II

Development Review Process - Migration of Contaminants onto City Property



Municipal Infrastructure/Land Acquisition Projects - Migration of Contaminants onto City Property

