

## **Soil Assessment Guide for New City Allotment and Community Gardens**

<b>Date:</b>	April 21, 2011
<b>To:</b>	Board of Health
<b>From:</b>	Medical Officer of Health
<b>Wards:</b>	All
<b>Reference Number:</b>	

### **SUMMARY**

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Urban gardening is gaining momentum as a way to increase the availability of low cost, nutritious, culturally appropriate food; increase physical activity; improve mental health and community cohesion; and reduce carbon footprints. Many of the lands readily available in Toronto to create new community and allotment gardens were previously used for purposes other than food production. One of the identified barriers to opening new gardens in the City of Toronto is the potential for soil contamination from previous land uses. Staff were directed to work to remove barriers to urban gardening by City Council in 2007 and 2009.

This report proposes a new approach for the City to assess the soil on sites being considered for urban gardens and recommends the adoption, in principle, of the soil assessment guide for new City allotment and community gardens. The guide was developed by Toronto Public Health (TPH), in collaboration with Parks, Forestry and Recreation (PF&R), and in consultation with the Toronto Environment Office (TEO).

The guide in this report will streamline and improve current City practice when staff are planning new allotment and community gardens on City parkland. A future report will explore the possibility of extending the use of this guide for new gardens on other City properties, other public lands and on private properties.

## **Recommendations**

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### **The Medical Officer of Health recommends that the Board of Health:**

1. adopt in principle the soil assessment guide for new City allotment and community gardens outlined in Attachment 1;
2. request the Medical Officer of Health and the General Manager of Parks, Forestry and Recreation (PF&R), in consultation with the City Solicitor, to develop policies and procedures, including a manual, for the implementation of the guide for new community and allotment gardens in City parkland;
3. request the Medical Officer of Health and the General Manager of Parks, Forestry and Recreation, in consultation with the City Solicitor and the Director of the Toronto Environment Office, to consult with appropriate stakeholders and explore the feasibility of implementing the guide for new community and allotment gardens in other publicly-owned lands, and to report back to the Board;
4. request the Medical Officer of Health to consult with appropriate stakeholders and to explore the use of the guide for new urban gardens on private land to meet the needs of diverse communities in Toronto, especially people who are food insecure, and to report back to the Board;
5. forward this report to the Parks and Environment Committee for information; and,
6. forward this report to the Toronto District School Board, Toronto Catholic School Board, Conseil scolaire de district du Centre-Sud-Ouest, Conseil scolaire de district catholique Centre-Sud, Build Toronto, Waterfront Toronto, Waterfront Secretariat, Toronto Regional Conservation Authority, Ontario Minister of Health and Long Term Care, Ontario Minister of Health Promotion and Sport, Ontario Minister of the Environment, Ontario Minister of Municipal Affairs and Housing and Ontario Minister of Agriculture, Food and Rural Affairs.

### **Financial Impact**

There are no net financial implications for the City of Toronto as all funds required for implementation of the guide are included in PF&R's approved 2011 Operating Budget.

### **DECISION HISTORY**

In 2007, City Council directed City staff to promote local food production and remove barriers to urban gardening. The Decision Document can be viewed here:

<http://www.toronto.ca/legdocs/mmis/2007/cc/decisions/2007-07-16-cc11-dd.pdf>.

In 2009, City Council adopted a recommendation to support strategies and initiatives that will achieve the overall goal of expanding opportunities for local food production and

other urban agricultural activities

(<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2009.PE24.2>).

## ISSUE BACKGROUND

TPH has been spearheading the Toronto Food Strategy since 2008. In June 2010, the Board of Health adopted the report, “Cultivating Food Connections”, which urged Toronto to take the next steps in championing a healthy and sustainable food system. The report indicated that TPH would lead the development of a guide to address soil contaminants in urban gardens.

TPH developed this guide using a risk-benefit approach, literature reviews, guidance from other jurisdictions, consultations with internal and external experts, information on soils in the City of Toronto, and a pilot study on five proposed gardens. The detailed methods, rationale and evidence that informed the development of the guide are summarized in the report: *Assessing Urban Impacted Soil for Urban Gardening: Decision Support Tool Technical Report and Rationale*, available at: [www.toronto/health.ca](http://www.toronto/health.ca).

PF&R currently manages a seven-acre urban farm, 51 community gardens (communal gardens maintained by volunteers), and 12 allotment gardens comprised of 1,674 individual plots (communal garden maintained by permit holders who pay a seasonal fee to the City). There is an increasing demand for spaces to grow food in the City: there are over 80 outstanding requests for new community gardens, and 503 individuals on the waiting list for allotment plots.

Currently, the implementation process for new gardens in City parkland involves PF&R staff conducting a site history, site visit and, testing for soil metals. Sites that are identified as having the potential for soil contamination are not considered further for an urban garden, unless an alternative location cannot be found. The time and uncertainty associated with this current process, in addition to concerns about contamination, the associated cost of assessing the soil, and the implementation of exposure reduction measures, have been identified as barriers to meeting the requests for more gardens in Toronto.

## COMMENTS

### Health Risks of Gardening in Contaminated Urban Soils

Numerous studies show that urban soils have higher concentrations of many contaminants than rural soils. International public health agencies note safety concerns with gardening on contaminated soils. We have very little information on contaminant concentrations in Toronto’s soils but the available data suggest the presence of a wide range of concentrations. At the higher range of concentrations, gardening in these soils could pose a health risk unless actions are taken to minimize exposure to contaminants in the soil. Simple and inexpensive actions are available that will allow gardeners to reap the health, economic and social benefits of urban gardening in the City while reducing their exposures to soil contaminants. The soil assessment guide for urban gardens (see

Attachment 1) describes the steps to be taken to assess sites for contamination and to identify the appropriate actions gardeners can take to reduce their exposures to soil contaminants.

## **Identifying and Comparing Options**

Several approaches were explored to address the concerns with gardening on potentially contaminated urban soils. These included:

Option 1: Adopt or adapt existing soil assessment guidance and compare the results to readily available soil quality standards.

Option 2: Restrict gardening to raised bed or container gardening regardless of site history and site conditions.

Option 3: Follow guidance designed specifically for urban gardening in Toronto.

Option 1 was not considered the best approach because of the following disadvantages:

- Soil testing and analysis using standard soil assessment guidance for an average-sized community garden are cost prohibitive (greater than \$5,000 per garden);
- The standard guidance used to assess the degree of contamination does not consider all of the relevant exposure pathways and thus does not accurately reflect the risks to a gardener from exposure to the soil and from eating food grown on the site;
- Soil quality standards and guidelines that are used in Canada and elsewhere have been developed for different purposes. Therefore they cannot be used directly when assessing potential health risks when assessing soils in urban gardens in Toronto.

Option 2 applies the most restrictive mitigation measures on all potentially contaminated lands that would be used for urban gardening. The cost of creating a raised-bed or container garden for an average-sized community garden is estimated at \$4,000 – \$12,500. Therefore this approach would increase the cost of setting up new community and allotment gardens even in areas where such measures are not needed and would unnecessarily reduce the number of new gardens in the City.

To address the high cost of Options 1 and 2, TPH developed a guide for assessing soils in urban gardens, designed to facilitate urban gardening in Toronto and reduce gardeners' exposure to soil contaminants. The use of the guide will reduce the cost of soil analysis (\$250 to \$500, based on the size of the garden) and optimize the use of City resources by streamlining the data collected and the analysis required to make decisions on the appropriate actions to be taken on a specific parcel of land. The recommended approach is Option 3, which is summarized in Attachment 1.

## **The Steps of the Soil Assessment Guide for New City Allotment and Community Gardens**

The guide provides step-by-step instructions on the following:

1. conducting a site visit and researching the history of the garden site,
2. determining if soil testing is required, and how to test the soil,
3. interpreting the soil testing results (where necessary), and
4. determining the appropriate level of exposure reduction for the garden site.

The guide will help the City assess urban soils for sites identified for new urban gardening initiatives. The guide provides an easy to follow framework for identifying sites that require no and low cost exposure reduction actions. The guide optimizes the use of City resources by streamlining the information required to make decisions about urban gardening while improving the protection of public health by reducing exposures to soil contaminants.

## **Moving Forward**

To help in the implementation of the soil assessment guide, TPH will work with PF&R and consult with the City Solicitor to develop appropriate policies and procedures, including a manual. Staff will also consult with other stakeholders to explore the feasibility of using this guide on other City properties, such as those of Toronto Community Housing, and other public lands such as hydro corridors and schools. The needs and perspectives of urban gardeners will be explored through stakeholder consultations and integrated into further iterations of the guide and associated materials for private lands. These efforts will be focused on meeting the needs of the diverse communities in Toronto, especially those that are food insecure and living in neighbourhoods with potential issues of historical soil contamination.

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## **SIGNATURE**

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Dr. David McKeown  
Medical Officer of Health

## **ATTACHMENTS**

Attachment 1: Soil Assessment Guide for New City Allotment and Community Gardens  
– Summary.