Submission to
the 2015 Co-ordinated Review
of the
Growth Plan, the Greenbelt Plan, the Oak Ridges Moraine
Conservation Plan, and the Niagara Escarpment Plan

Soil Dumps Don’t Belong in the Greenbelt

Ontario Soil Regulation Task Force
2015-05-27
info@osrtf.ca    http://osrtf.ca
Recommendation

*Because of the demonstrated potential for contamination and the large-scale industrial nature of large-scale fill operations, it is recommended that large scale fill operations be prohibited from all of the greenbelt areas and that the dumping of smaller amounts of fill be adequately monitored.*
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The Problem of Excess Soil

Not long after the establishment of the three greenbelt plans - the Greenbelt Plan, the Oak Ridges Moraine Conservation Plan, and the Niagara Escarpment Plan - these protected areas saw cavalcades of dump trucks bringing in and dumping soil. This excess soil has come from condo excavations, transit projects, and redeveloped industrial lands. Aside from the nuisance of heavy traffic, dust, and noise from hundreds of trucks per day at each dumpsite, the dumped soil alters the natural landform and is possibly contaminated. If the contamination leaches into the aquifers, the groundwater becomes unusable. The soil dumping and commercial fill operations were never considered when the three greenbelt plans were developed. They must be considered now. This report provides general (page 8) and specific (page 10) recommendations.

The Greater Toronto Area is experiencing some of the most rapid growth in North America with highway expansions, new subway projects, and condo developments. More soil is being excavated than ever before. Just one excavation project could produce 150,000 truckloads of dirt to be dumped somewhere.

Some of it may be virgin soil but in 2001 the Brownfield Act reduced the environmental liabilities for the redevelopment of potentially polluted land. The Brownfield Regulations (O. Reg. 153/04) specify the degree of soil contamination permissible for the proposed new use of the brownfield. Any soil contaminated above this limit is dug out and disposed of. The soil may be contaminated with petroleum, heavy metals, or other toxins. (Examples are provided in the following pages.) The regulation does not require the excavated soil to be tracked to a suitable disposition. Some of this contaminated soil is added to the stream of dirt leaving the cities.

The GTA produces 25 million cubic tonnes of excess dirt per year. That’s two and half million truckloads heading out looking for a place to dump. Enough soil to build a hill almost 300 meters high every year or, at one metre deep, covers 2500 hectares each year. At a single commercial fill dump site there has been a truck every minute of the workday.

Fig. 1 Trucks leaving Tottenham site after dumping their loads of soil
Although protected from development, the Oak Ridges Moraine and Greenbelt have become a popular destination for this dirt alarming residents, municipalities, and Conservation Authorities. The natural rolling landscape is becoming dotted with dead level sites affecting surface water runoff. Groundwater recharge can be affected by covering permeable sands and gravels with clays.

There is no federal or provincial regulation that specifically tracks, assesses and enforces the movement and disposal of this dirt. The dumping of “clean fill” is regulated by municipalities, usually through their site alteration by-laws. The Ministry of the Environment will step in to order monitoring or removal when an adverse effect can be demonstrated or there is evidence to suspect it. However, there are no monitoring mechanisms to assess if the dirt is “clean” or not. It is left to vigilant neighbours and a few proactive municipalities. Even then, there is not a defensible legal definition of “clean fill”. There are strong incentives to label any dirt as “clean fill”. “Clean fill” can be dumped in a field for $50 a load or less. It would cost more than $750 a load to dump it at an approved landfill.

A commercial fill operation may take place in a farmer’s field or in an old gravel pit one metre above the water table accepting hundreds of truckloads each day with the attendant traffic, road wear, noise and dust that may go on for several years. Yet, in many cases, they are approved with a simple over-the-counter site alteration permit at the municipal office, without public notice or soil testing. That site alteration application may have a tick box to indicate that that all aspects of the applicable greenbelt act will be followed but our experience is that neither the applicant nor the municipal official are sufficiently knowledgeable of the Acts. A review of the by-laws in the area surrounding Toronto found only a handful of the municipalities monitored dumped soil for environmental quality or considered the impact on neighbours of hundreds of trucks a day coming to a commercial fill site. A small rural municipality does not have the technical expertise in this new area to draft an effective by-law nor have the resources to enforce it properly.

Some dump site operators say that they are building an aerodrome to accept private aircraft. They contend that as an aerodrome regulated by the federal Aeronautics Act they are exempt from any municipal or provincial regulation. In two individual cases, court decisions have ruled in favour of municipal regulation of the incoming dirt.
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and Transport Canada supported this in an advisory circular. Not all municipalities are aware of their rights to regulate the parts of an aerodrome that are not integral to aviation.

Municipal by-laws, conservation authority policies, and Ministry of the Environment and Climate Change regulations were, and generally still are, ill-equipped to manage and control these operations. At site after site where soil reports from the source site indicated that the soil should be safe, sampling at the dumpsite found the soil to be unsafe. The non-homogeneity of the soils, the point-source nature of some pollution sources, and the high cost of testing makes it very difficult to guarantee that any load of soil is completely safe. A volume of soil that would fill a room or a house is meant to be represented by a teaspoon sized sample in a $1000 lab test.

The high cost of dealing with contaminated soil creates a very strong incentive to pass it off as clean fill. The legal firm of Loopsstra Nixon quotes¹ "...every load of hazardous soil dumped illegally is worth as much as $6000 in saved tipping fees." Soil brought in to reform an old gravel pit in Kawartha to agricultural use was tested by MOE to be contaminated. One dumpsite neighbouring the Natural Core Area of the Oak Ridges Moraine has, amongst other

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1 Site Alteration By-Laws and the Dirty Business Of “Clean” Fill; Charles M. Loopstra; International Municipal Lawyers Association (IMLA) Conference; Toronto; 2014
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exceedances, free cyanide at 3000 times the limit\(^2\). The reports from the source sites indicated that the soil had been independently assessed to be within the limits. Remediated soil brought in to a sheep farm turned out to be toxic to sheep\(^3\). After accepting a few loads of clean fill for a parking pad, a homeowner found his well contaminated with a carcinogen\(^4\) and he no longer drinks from it. He had obtained the proper permits from the municipality and the source sites had been checked. One site of over a million cubic meters of soil in the Greenbelt’s Protected Countryside was found, when tested\(^5\), to have contaminants of potential concern, with some concentrations not protective of the soil to groundwater pathway. The site had been well-monitored with professional oversight by a reputable third party, a public liaison committee, published source site reports, a scientific monitoring study, the full attention of the municipality, and a cooperative owner. Several had said it was a model of how commercial fill sites are to be operated. However, borehole testing found 22 of 45 samples over the limits for contamination. I reiterate, the non-homogeneity of the soils, the point-source nature of some pollution sources, and the high cost of testing makes it very difficult to guarantee that any load of soil is completely safe.

How can it be possible that soil deemed by the provincial government’s environment department to be too polluted to sit under a parking lot in the city ends up on farmer’s fields that grow our food and over groundwater aquifers that supply our drinking water?

Ontario Soil Regulation Task Force

Volunteer community action groups have sprung up across the Greenbelt with complaints to their mayors and members of parliament about witnessing debris in soil, petroleum smells, the daily barrages of trucks, the noise and dust and a real fear of their well water being contaminated. Many of these groups and others have joined forces and created the Ontario Soil Regulation Task Force (OSRTF) dedicated to highlighting this issue on behalf of all the citizens of the Province for their health and safety. Industry associations and government agencies are also acknowledging (such as at a symposium held in January of 2013) that the problem needs solutions. OSRTF takes an active part in excess soil discussions with the Residential and Civil Construction Alliance of Ontario, and the Ontario Environment Industry Association. OSRTF is promoting a model by-law to municipalities, calling for a provincial Clean Soil Act, and pressing for Transport Canada regulations on public consultations for fill operations at aerodromes. However, whether or not those measures succeed in better regulation and monitoring of soil dumps, the Greenbelt lands require extra protection as described in the following pages.

For more information on the issue and the OSRTF please consult its website at http://osrtf.ca

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\(^2\) Supplementary Phase II Environmental Site Assessment Report - Earthworx Industries Inc.; D.L. Services Inc.; 2012-02-15
\(^3\) Provincial Officer’s Report - Order Number 8312-8V6LSG; Ministry of the Environment; 2012-07-25
\(^4\) Groundwater sampling investigation - project G023256 E1; Geo-Logic Inc.; 2012-08-29
\(^5\) Limited Subsurface Environmental Investigation - Greenbank Airport; Golder Assoc.; April 2015
The Greenbelt Deserves Better Protection

Unsafe soil is not compatible with the protective nature of the greenbelt plans. Municipal and provincial regulation and enforcement may develop in the future to better control these soil dumps, but sampling and testing cannot guarantee that all the dumped soil is completely safe. This leads to the conclusion that the greenbelt plans require special prohibitions against the dumping of soil, whether it is by commercial fill operations, site alterations, farm practices, etc. The precautionary principle must be applied to protect the soil and the water, and the businesses, ecosystems, and people that rely on them.

The importation of soil can be an essential aspect of permitted and beneficial uses and activities. A sod farm would be one example. A raised septic bed would be another. An outright ban would not be defensible nor desirable. The balance must be set to allow beneficial uses with low environmental impact but prohibit non-beneficial uses with the potential for undesirable impacts upon the natural or human environment. The balance must also be set for the appropriate levels of monitoring for different types of soil dumping activities.

The plans speak of uses as being permitted or prohibited. However, it is unclear within the realm of land use planning if the dumping of large quantities soil is, or is not, a use of land and is, or is not, subject to planning and all
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that that entails. Therefore, the plans must expressly state if the importation and dumping of soil is permitted or prohibited activity in each of the specific situations.

Large-scale commercial fill operations receiving hundreds of trucks a day for several years are large industrial operations that are not consistent with the protective nature of the plans. The volume of excess soil from the GTA looking for places to be dumped has been estimated by industry\(^6\) at 25 million cubic meters per year, enough for many fill sites. Citizens have located and reported over 30 sites within the greenbelt areas. Active sites generate traffic and dust and the noise from banging tailgates can be heard a kilometer away. In a few years they can earn their owners many times more than the original value of the land, but provide very little local employment. Future land use might be restricted, e.g. contamination too high for residential or agricultural use. Large-scale commercial fill operations should be treated as a large-scale industrial land use. As such, it would be appropriate to prohibit them from all of the greenbelt areas.

**Recommendation**

*Because of the demonstrated potential for contamination and the large-scale industrial nature of large-scale fill operations, it is recommended that large scale fill operations be prohibited from all of the greenbelt areas and that the dumping of smaller amounts of fill be adequately monitored.*

In considering the broader economic impact on urban development costs if large-scale fill operations are banned from the greenbelt, the government may decide to allow them. If that does occur, they must be properly restricted and monitored. The following pages provide suggestions for restrictions and monitoring for both large-scale and small-scale fill operations.

\(^6\) QUANTIFICATION of Excess Construction Soils in Ontario; Residential and Civil Construction Alliance of Ontario; 2012
Protection of the Greenbelt Plan – Protected Countryside
The Greenbelt plan protects a significant portion of Canada's Class 1 farmland. The top soil produces our fruits and vegetables and feeds the animals that provide us with meat and milk. This valuable productive resource must not be polluted with contaminated soil. It must not be buried under meters of inert fill. The Greenbelt Plan permits only certain uses within its Agricultural System and its Natural System but commercial fill operations and soil dumps are not expressly defined as a use or activity that is not permitted. This loophole must be closed.

Protection of the Oak Ridges Moraine Conservation Plan
The Oak Ridges Moraine is the source of streams that flow north and south from the moraine into the Protected Countryside and several thousand square kilometers of southern Ontario. The groundwater aquifers recharged in the Oak Ridges Moraine supply drinking water to many homes, towns, and farms on and off the moraine. This sensitive area requires explicit protection from soil dumps because of their impact upon the recharge rates and the potential to contaminate the surface water and groundwater. For example, the ORMCP prohibits snow dumps in areas of High Aquifer Vulnerability but is does not prohibit soil dumps. This must be remedied, especially considering that commercial fill operations appear to be attracted to gravel pits that have been excavated to within one meter of the water table.

The ORMCP protects its characteristic rolling hills landform with limits on the percentage of a property that can be altered. A commercial fill operation typically leaves the land as a flat plateau with steep uniform sides very un-characteristic of the area. This is not compatible with the moraine.

Protection of the Niagara Escarpment Plan
The Niagara Escarpment Plan’s objectives include protecting the water supplies and the landscape character. The NEP Commission protects the escarpment by only allowing certain permitted uses and their incidental site modifications. The plan must be strengthened by expressly prohibiting large-scale fill operations and ensuring that permitted site modifications are not cover for soil dumping.

The NEP realizes the economic importance of aggregate extraction but emphasizes the need for progressive rehabilitation into a permitted use. If soil must be imported for rehabilitation, it must be limited and compatible with the protected nature of the Niagara Escarpment.
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Proposed Plan Amendments
The following proposed plan amendments assume that the three greenbelt plans will remain essentially as they are and that the government decides to not follow the recommendation to prohibit large-scale soil dumps from all the greenbelt areas.

Definition: A large-scale fill project (LSFP) is the importation of soil that would exceed the limit of 250 m³ of soil to a parcel of land over the lifetime of the greenbelt plan. A LSFP shall be deemed a land use as well as a site alteration.

Definition: A small-scale fill project is the importation of less than 250 m³ of soil.

1. Conditions for Large-Scale fill projects

1.1 Common to all three plans
In all three plans a LSFP shall be prohibited from:

1. Municipal Source Water Protection Areas,
2. Well Head Protection Areas,
3. Provincially Significant Wetlands,
4. The Regulated Areas of Conservation Authorities, and
5. Significant Groundwater Recharge Areas of Watershed Plans

as they may be defined by the municipalities and the province.

In all three plans any LSFP that is permitted shall;

1. Be governed by a fill agreement contract with the municipality,
2. Follow the MOECC Best Management Practices for Excess Soil, and
3. Rehabilitate the surface to the landform and vegetative cover of the surrounding area, except where that would interfere with a development or use that has been approved.

1.2 Greenbelt Plan - Protected Countryside
In the Greenbelt Plan Protected Countryside LSFP shall be prohibited from;

1. Specialty Crop Areas, and
2. Prime Agricultural Areas,

except for LSFPs that have been expressly approved by the Normal Farm Practices Protection Board, and prohibited from;

3. Key natural heritage features, and

7 Municipalities in southern Ontario have defined the large-scale fill amount as 100 m³ to 10,000 m³ with a mode of 1000 m³. A lower value is suggested for the greenbelt.
4. Key hydrologic features.

**1.3 Oak Ridges Moraine Conservation Plan**
In the Oak Ridges Moraine Conservation Plan LSFPs shall be prohibited from;

1. Natural Core Areas,
2. Natural Linkage Areas,
3. Key Natural Heritage Features,
4. Hydrologically Sensitive Features,
5. Areas of Natural and Scientific Interest,
6. Landform Conservation Areas, and
7. High Aquifer Vulnerability Areas

as defined in the plan.

**1.4 Niagara Escarpment Plan**
In the Niagara Escarpment Plan, LSFPs shall be prohibited from all areas of the plan.

**2. Conditions for Small-scale fill projects for all plans**
In all three plans small-scale fill projects are permitted only if;

1. The small-scale fill project is a component of a project or use otherwise expressly permitted,
2. The supplier guarantees in writing that the soil is acceptable for agricultural use and potable groundwater according to standards set by MOECC, i.e. Table 1 or 2, and
3. The imported soil has been tested (and lab reports provided) to meet that condition at the rate of one sample\(^8\) if less than or equal to 160 m\(^3\) and two if greater.

The testing described in 3. above does not apply to;

1. Top soil for lawns, gardens, and agriculture less than 15 cm average thickness over the area of application, or
2. Backfill and aggregate for foundations, trenches, septic systems, and driveways that are part of approved construction projects.

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\(^8\) The rate of at least one sample for each 160 m\(^3\) of imported soil as defined in O. Reg. 153/04 for RSC properties to be applied here.
3. Applicability to the Aggregate Resources Act
Where the rehabilitation of a gravel pit or quarry is governed by the Aggregate Resources Act and requires large scale soil importation for rehabilitation, and that pit or quarry is within an area where LSFPs is otherwise prohibited, the imported soil shall be Table 1 as defined by Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act and shall be limited to the minimum amount required for rehabilitation.

4. Government exemptions
LSFPs undertaken by municipalities, conservation authorities, and the provincial government shall be permitted in otherwise prohibited areas for the purposes of flood and erosion control and for transportation, infrastructure, utilities, and Green Energy projects only if the need for the project has been demonstrated and there is no reasonable alternative, and only if:

1. Approved by a publicly available environmental assessment of the impact of the fill,
2. The incoming fill is monitored and tested as if it were covered by O.Reg. 153/04, and