

# **Best Practices for Temporary Sites *Class 2 Soil Management Sites***

*On-site and Excess Soil Management  
O. Reg. 406/19*

*January 2021*

# Context and Background

**Ontario Regulation 406/19: On-Site and Excess Soil Management** was announced in December 2019, in order to:

- Reduce soil management costs
  - Reduce costs of transportation
  - Reduce costs of landfilling excess soil
- Protect human health
- Protect the environment
  - Eliminate illegal dumping of excess soils
  - Reduce amount of clean soil going to landfills
  - Reduce greenhouse gas emissions



# Excess Soils Regulatory Documents

## O. Reg. 406/19

- Required by law
- Exempts low-risk soil management activities from waste Environmental Compliance Approvals (ECAs)
- Implemented in phases from Jan. 1, 2021 to Jan. 1, 2025, some grandfathering provisions

## Rules for Soil Management and Excess Soil Quality Standards

- Outlines further details for implementation of assessment of past uses, sampling and analysis plans, excess soil characterization reports, soil storage and processing, tracking, soil quality standards and reuse rules
- Required by law:

# Excess Soils Supporting Documents

## Fact Sheets

- Still in development by the Ministry (coming soon)

## Best Practices

- Developed by industry stakeholders, project led by ONEIA
- Recommended, not required
- Outlines regulatory requirements
- Outlines and clarifies how stakeholders can best implement the requirements
- Not universally applicable, stakeholders are encouraged to review and integrate where useful

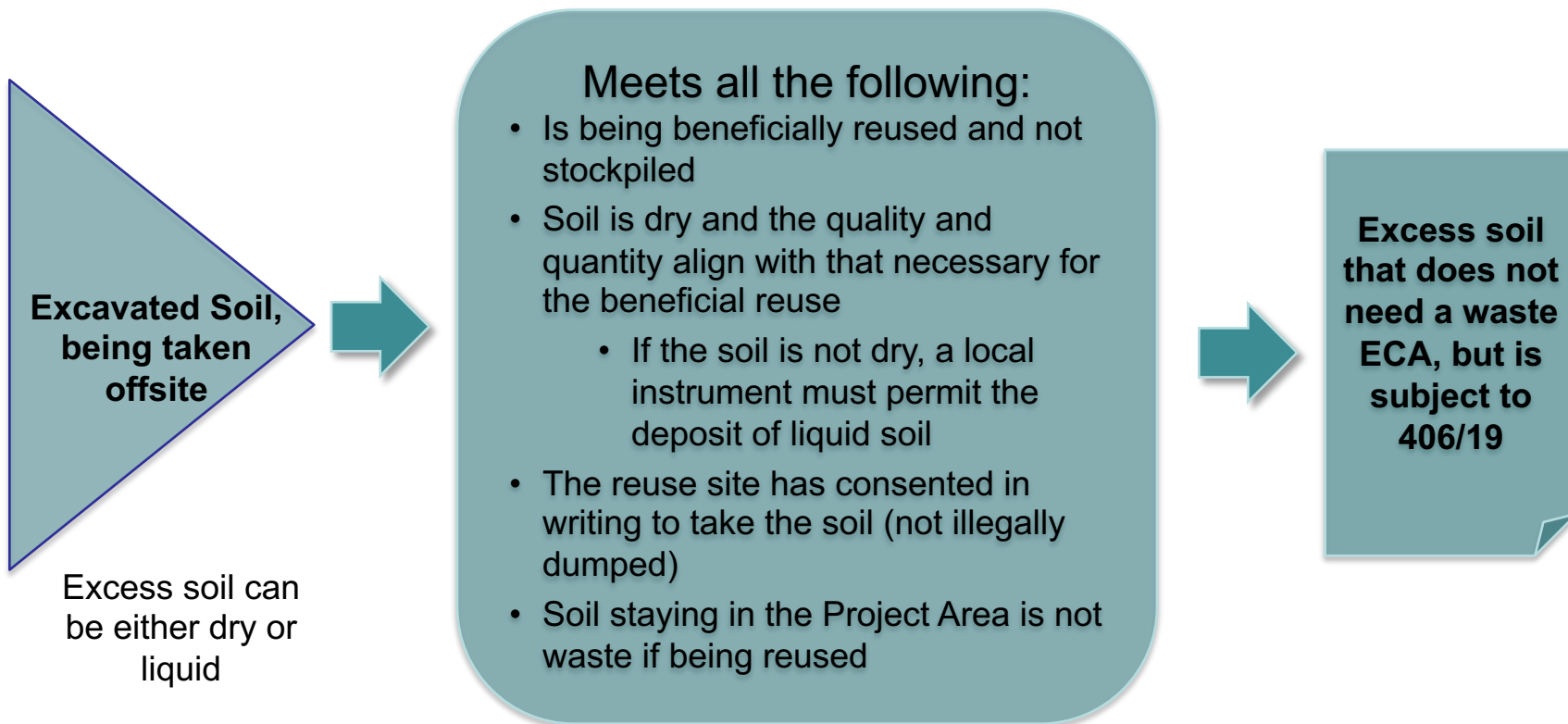
Additional Best Practices documents by ONEIA cover Hauling, Qualified Persons and OSPE is developing BPs for Pits and Quarries reuse

Municipal Bylaw Tool being updated by Canadian Urban Institute

# What soil does 406/19 apply to?

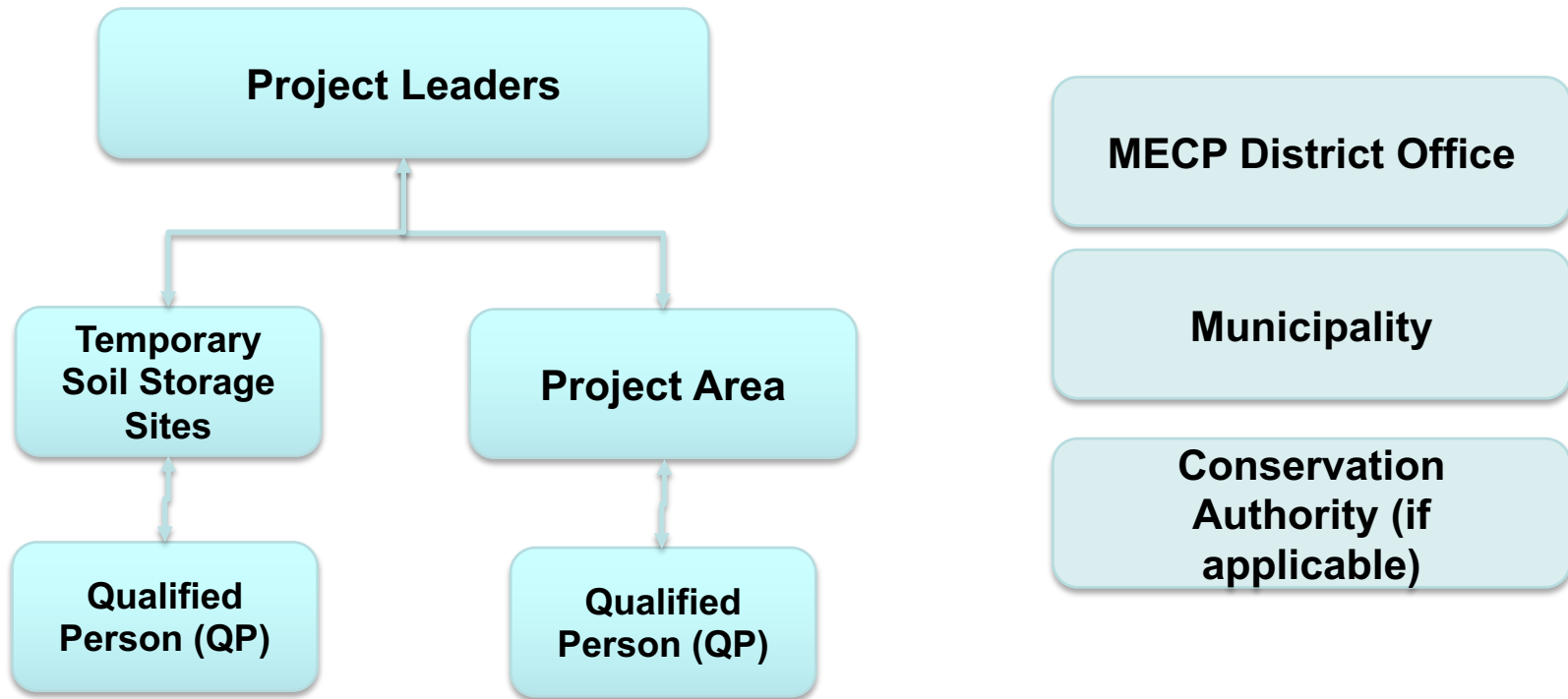
“Soil” means unconsolidated naturally occurring mineral particles and other naturally occurring materials resulting from the natural breakdown of rock or organic matter by physical, chemical or biological processes that are smaller than 2 millimetres in size or that pass the US #10 sieve.

Excess soil is designated as waste (and regulated under O. Reg. 347) unless it meets ALL the conditions outlined below.



# Stakeholders Overview

The parties listed below all have a role to play in meeting regulatory requirements and implementing best practices for temporary sites under O. Reg. 406/19.



## What is a temporary site?

A temporary site, referenced in the regulation as a Class 2 Soil Management Site is a waste disposal site where excess soil is managed on a temporary basis that is located, owned or operated by the Project Leader of the site where the soil was excavated from.

- These sites do not require an Environmental Compliance Approval to operate;
- Must be operated by public body or the Project Leader from the excavating site
- Soil can only be stored for two years, can be extended up to five years with special approval from the MECP Director
- Site cannot exceed 10,000 m<sup>3</sup> of soil at any one time

# Eglinton Crosstown LRT Case Study

October 2019 – July 2020

**Volume of Material Received: 96,150 m<sup>3</sup>**

**Volume of Backfill saved on the Project: 20,300 m<sup>3</sup>**

**# of rain days mitigated (potential delay days): 26 Days**

**# of after-hour operation days (schedule acceleration):  
161 Days**

**Estimated reduced truck travel distance:**

- Average haul distance saved per load of reused backfill = 90Km
- Total travel distance saved by reusing native soil = 182,700Km

# Eglinton Crosstown LRT Case Study

“The implementation of a temporary soil storage site has allowed the Eglinton Crosstown Project to not only de-risk excavation schedules but also store native soil onsite, managing disposal fees - all the while ensuring the natural environment is not compromised by our activities. I would recommend the implementation of a temporary soil storage site for any project moving a significant volume of excess soil as long as the required real estate can be secured.”

– *Deputy Director of Alignment*

# Best Practices for Temporary Sites

Site Selection & Permits

Operations

Site Closure & Rehabilitation

Soil Processing





## Practices for Site Selection

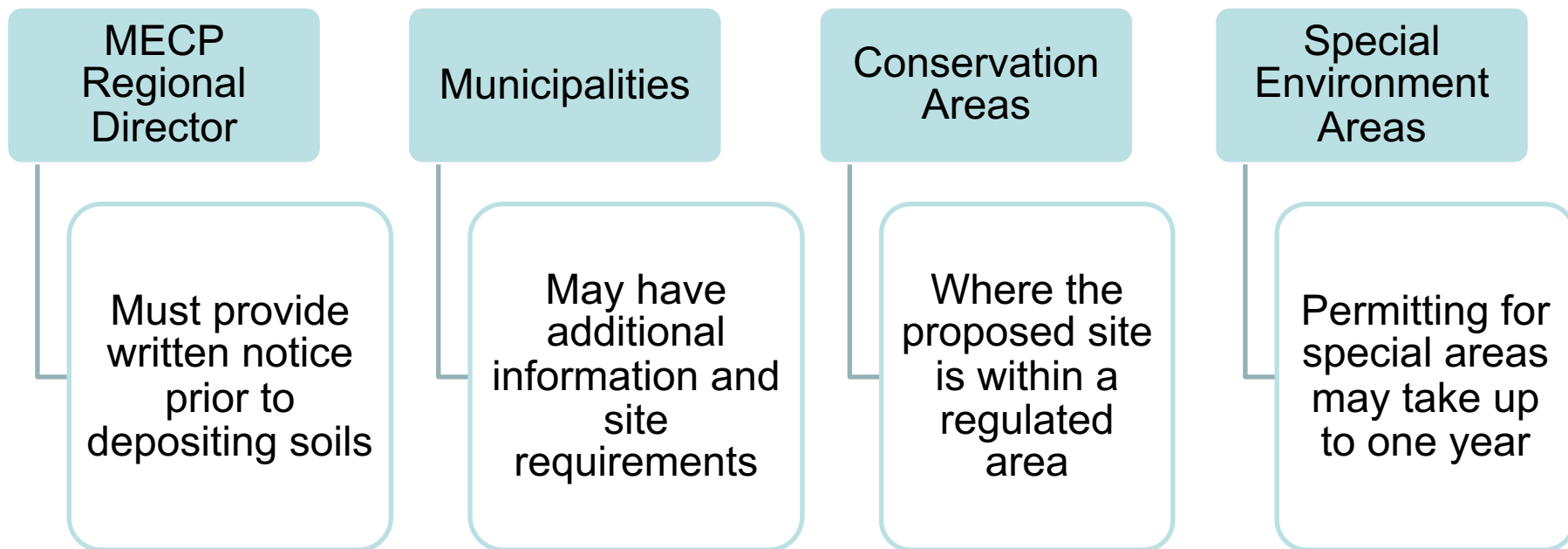
When selecting a site location Project Leaders should consider:

- Municipal zoning by-laws
- Reducing risks to health and safety
- Limiting complaints
  - Consider keeping sites away from residential areas, industrial areas are less likely to receive complaints
- Special environmental protection areas enacted through provincial plans or conservation authorities
  - Eg. Niagara Escarpment Commission, Simcoe Watershed

Project Leaders should contact their local MECP District office for further guidance.

# Practices for Permits and Approvals

When selecting a site Project Leaders should **begin the consultation process as early as possible** and identify other key stakeholders.



## Qualified Persons (QPs)

**Temporary sites should be operated in consultation with a Qualified Person.**

They can assist in ensuring Temporary Sites are constructed, operated and maintained in a manner that ensures the health and safety of all persons and prevents adverse effects within the meaning of the [EPA](#) or impairment of water quality within the meaning of the [Ontario Water Resources Act](#).

## Practices for Site Preparation

When preparing a site, where applicable, Project Leaders should generate the following:

- Pre-condition and environmental survey
- Site grading report
- Traffic and Transportation Management Plan
- Nuisance Management Considerations (air, noise, dust, odour)
  - Review noise by-laws and other zoning requirements
  - Employ preventative procedures and practices

# Temp Site Operations: Soil Rules

Requirements under the Soil Rules Document ([Rules for Soil Management Section C 1.](#))

## 1. SOIL STORAGE RULES

For the purposes of section 24 of the regulation, soil stored at a...Class 2 soil management site...must be stored in accordance with the following:

### (1) General

1. Soil shall be managed in such a way as to prevent any adverse effects associated with the receiving, processing, storage and movement of soil, including management of:
  - i. noise;
  - ii. dust;
  - iii. mud tracking;
  - iv. leaching;
  - v. run-off and erosion; and
  - vi. potential outdoor air impact(s), including odour issue(s).
2. The soil must be stored in stockpiles and the maximum size of each stockpile shall not exceed 2,500 cubic metres.
3. Soil from a project area that is required to complete sampling and the soil has not been sampled, must remain segregated from soil from another project area. Any soil that is sampled and analysed must be kept segregated from other soil and soil of different qualities intended for different beneficial uses must also be kept segregated.
4. The soil stored must not be stored at a location:
  - i. within 30 metres of a waterbody; and
  - ii. within 10 metres of the property line (boundary).
5. Soil shall be stored in a manner that prevents any contaminants from the soil from leaching into the ground water.

## Soil Rules, Explained

In general, any soil that is stored at a Temporary Storage Site needs to be stored in a manner that does not cause an adverse effect.

1. Temporary Soil Storage Site can store up to 10,000 m<sup>3</sup> at any one time.
2. Soil stockpiles must not exceed 2,500 m<sup>3</sup>.
3. Soil received at a Temporary Soil Storage Site that has not been sampled, must remain segregated from soil from another project area. QA/QC protocols should be adhered to with QP supervision.
4. It is not acceptable to mix soils from different sources unless they meet the same excess quality standard and will be used for the same beneficial reuse.

## Soil Rules, Explained

5. Soil stockpiles must not be placed within 30 metres of a waterbody.
6. Soil shall be stored in a manner that prevents any contaminants from the soil from leaching into the ground water. This may require placement on impermeable surfaces or placement of liners, drainage and containment and covering of piles.
7. Proponents and operators of sites should be aware that there is a two year time limit from when it first arrived at the temporary site to when it is finally deposited at a reuse site. This can be extended up to five years as long as the operator can prove that the timeline is necessary to reuse the soil and there is no adverse effect resulting from the soil staying on-site. The MECP Director must be notified and accept the terms for this extension to be granted.

# Considerations for Site Operations

- Storage & Placement
- Traffic Management
- Quality Assurance and Quality Control
- Site Security
- Load Tracking
- Emergencies





## Storage and Placement

The operations of receiving, processing, and storage of soil may need to address the following, depending on site characteristics:

### Air and Noise

Active dust control

Odour control

### Leaching

Surfaces and liners

### Erosion and Sedimentation Controls

Stockpile control

Site drainage infrastructure management

Site operations require regular monitoring and inspection to ensure compliance and address deficiencies.

# Traffic Management

Owners and operators should have a *Traffic and Transportation Management Plan* that should address the following concerns and considerations:

## On-Site Traffic

Traffic Flow

Truck Queuing  
& Idling

## Mud Tracking

Municipal  
requirements

Implement  
Reduction  
Methods

## Haul Routes

Trucking routes  
and restrictions

GHG  
Reductions

## Quality Assurance and Quality Control

It is important that operators of Temporary Soil Storage Sites have a Quality Assurance and Quality Control program to assess soil quality and management of soil on site.

- Audit sampling
- QP Role
- Excess Soil Destination Report

Soil quality and characterization should take place prior to the soil arriving at the Temporary Site. In some circumstances the Temporary Site may be used for as a holding area to confirm quality as long as it is tested within a reasonable time.

## Rejected Loads

In some instances, it is possible that off-spec or unsuitable loads are received at the site. It is important that the Operator and QP develop a “Rejected Load Procedure” to address:

- Load inspection
- Quarantining loads
- Communications between applicable parties, such as the Project Leader from the Project Area on how to manage rejected loads
- Training of staff on how to identify, document and appropriately manage non-compliance loads



# Site Security



Fencing



Jersey barriers



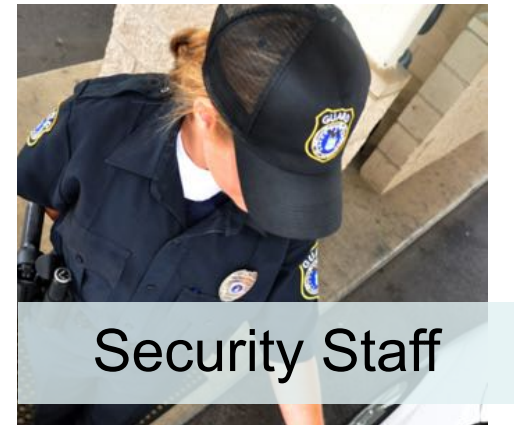
Indoor Storage



Signage



Security Cameras



Security Staff

# Load Tracking

**It is a requirement under the regulation that all excess soil is tracked from the Project Area to its final destination.** Temporary Soil Storage Sites are part of the tracking process and need to ensure they are operating in compliance with the Regulation. Operators should be aware of these tracking systems and ensure receiving of soil loads are properly documented.

# Record Keeping

## Quiz Time!

How long do you need to keep records on temporary sites?

- a. I don't have to keep it, it's the responsibility of the hauler
- b. Two Years
- c. Seven years
- d. Forever!

**SEVEN YEARS**

From the date of delivery, **TWO YEARS** for the hauling records

# Paper vs. Electronic Records

TYPE	PROS	CONS
PAPER	<ul style="list-style-type: none"> <li>- No special technology required</li> <li>- No energy or power to operate</li> <li>- Easy to use</li> </ul>	<ul style="list-style-type: none"> <li>- Easier to lose</li> <li>- Administration costs around filing, scanning, and record keeping</li> <li>- Legibility can become an issue</li> </ul>
ELECTRONIC	<ul style="list-style-type: none"> <li>- Can integrate information sharing to reduce administration</li> <li>- Easy look-up and reference</li> <li>- Reduce need for filing</li> </ul>	<ul style="list-style-type: none"> <li>- May require additional training</li> <li>- For companies with many sub-contractors it may be more difficult to get them all on the same system</li> </ul>

Though not required it is recommended that hauling management companies and independent operators investigate the use of electronic systems.



# Emergency Planning

Sites should prepare:

- **Emergency Response Plan**
  - Emergency contacts and communications
  - Emergency Response Team
  - Regular site inspections
- **Spill Response Plan**
  - Response equipment like spill kits
  - Notification contacts
    - Spills Action Centre
    - Canadian Transport Emergency Centre
    - Municipal or local agencies

# Community Engagement

*“The best offence is a good defence.”*

Implementing best practices in site selection and nuisance reduction will help limit complaints.

Communicate information to the community and provide them a point of contact.

# Complaints Response System

Each site should have a system in place for responding to complaints. Sites should consider implementing the following practices where applicable:

- Create a communication and outreach plan to the community
- Site signage should include contact information or other information for communicating complaints
- Site signage could state that the site is a temporary rather than permanent site and include projected dates of operation
- Develop a complaints response policy including:
  - who is responsible for responding to complaints
  - what is the timeline for responding
  - a process for recording and tracking complaints

## Approved Soil Processing Activities

The Regulation allows for low risk processing of soils at Temporary Soil Storage Sites on dry soils. These activities are exempt from Sections 27, 40 and 41 of the Environmental Protection Act (waste approval requirements). It is important to note that these activities do not exempt the processing activities from Air or Water approvals that may apply depending on the process.

The Soil Rules state that soil processing needs to manage and limit nuisances such as dust, odour, air pollution, erosion, run-off, etc.

## Approved Soil Processing Activities

Passive processing is allowed at a Class 2 soil management site without waste approval requirements as long as the methods used conform to the Soil Rules and listed methods in the regulation.

### *Passive aeration*

The introduction of oxygen to the soil to provide air-flow or in some cases accelerate oxidation for biological and chemical processes.

### *Mixing*

soil from projects that have the same project leader, and of similar quality and not for the purpose of diluting the concentration of contaminants in the soil.

## Approved Soil Processing Activities Cont.

### *Soil turning*

Rotating the soils to assist with passive aeration, drying or mixing.

### *Size-based sorting*

Mechanical separation of larger particle sized soils from smaller ones for engineering and reuse opportunities.

### *Sorting it for the purpose of removing debris*

Mechanical separation of debris (such as asphalt, brick, concrete, wood, metal) for reuse or recycling opportunities.

**Liquid soil processing is not permitted at Temporary Sites.**

# Site Closure and Rehabilitation

There are no regulatory requirements for site closure and, but there may be other requirements under other regulations, by-laws and or industry standard practices. To limit liability it is recommended best practices for site closure and rehabilitation be applied as appropriate. Since Temporary Soil Storage Sites are just that, temporary, it is important for Proponents and Operators consider site closure and rehabilitation plans for the site once activities cease. Certain elements to include in such plan are:

- Post-Condition Survey of site (with comparisons to the Pre-Condition Survey)
- Reinstatement of services that may have been temporarily suspended for site operations, when necessary
- Post-Environmental monitoring and reporting (i.e. soil and groundwater monitoring);
- Final grading plan
- Restoration of natural features
- Closing of site entrances
- Notifications to the appropriate agencies of closure (MECP, Municipality)

# On-Demand Training

**BEST PRACTICES FOR HAULERS**

CONTEXT

SAFE CONTAINMENT & SHIPPING

LOADING & TRANSPORTING

DELIVERY

HAULING RECORD

SPECIAL CONSIDERATIONS

ADDITIONAL RESOURCES

HOW TO USE THIS TRAINING

On-site and Excess Soil Management  
O. Reg. 406/19  
October 2020

**ONEIA**  
ONTARIO ENVIRONMENT  
INDUSTRY ASSOCIATION

[www.oneia.ca/excess-soil](http://www.oneia.ca/excess-soil)



# Thanks to our Steering Committee

## Working Group Leads:

Ellen Greenwood, *Greenwood & Associates*

Grant Walsom, *XCG Consulting*

JP Marini, *Terra Nova Environmental*

## Steering Committee Members:

Kathryn Beaton, EllisDon

Eric Cameron, Central Lake Ontario  
Conservation Authority

Cary Clarke, City of Burlington

Lesley Clarke, Walker Industries

Michael Collins, Waste Management of Canada

Jeff Evenson, Canadian Urban Institute

Paul Fleischer, Curran Recycling

Kris Gaal, KGS Environmental Group

Rick Gibson, City of Toronto

Steve Grace, Town of Halton Hills

David Hatton, Toronto Region Conservation  
Authority

Ashley Herman, Intelligent Soil Recycling

Karim Hosny, Metrolinx, Eglinton-Crosstown

Peter Ipema, Terrapure Environmental

Meggen Janes, Waterfront Toronto

Francine Kelly-Hooper, Stantec

Dave Kenth, Town of Whitchurch-Stouffville

Pamela Kraft, Toronto Transit Commission

Debbie Leroux, Town of Uxbridge

OJ MacDonald, Niagara Escarpment Commission

Eveline McKee, Metrolinx

Ian McLaurin, Ontario Soil Regulation Task Force

Ryan Moniz, GFL Environmental - PATH

Monisha Nandi, Kilmer Brownfields

Fred Natolochny, Grand River Conservation Authority

Erin Nolan, Enbridge

Leslie Rich, Conservation Ontario

# Best Practices Documents & Training



## **Haulers Best Practices**

Access the best practice document and more resources.



## **Qualified Persons**

Info Session

Thurs. Jan. 28, 12:00-1:00

[www.oneia.ca/excess-soil](http://www.oneia.ca/excess-soil)

## ONEIA is here to help

- Our subcommittees regularly meet to discuss emerging issues and broader industry concerns
- We help companies work together to address issues of common concern
- Feel free to reach out to the office to connect with a committee, sign up for our e-newsletter, or follow our social media channels



Alex Gill  
*Executive Director*  
agill@oneia.ca



Janelle Yanishewski  
*Operations Manager*  
info@oneia.ca



## Thank you for joining us!

To become an ONEIA member and connect to our network, please visit [www.oneia.ca](http://www.oneia.ca) or call 416-531-7884 x212 or e-mail [info@oneia.ca](mailto:info@oneia.ca)



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