Excess Soil Webinar Series

7. Qualified Persons and Excess Soil Planning

Date and Time: November 24th, 2021
9:00am to 11:00am

Ontario

Excess Soil Webinar Series - Schedule

Topic Areas	Date and Time
1. Project Area - Source Sites	Wed October 27th, 2021 9:00am to 11:00am
2. Reuse Sites	Fri October 29th, 2021 9:00am to 11:00am
3. Transportation of Excess Soil (Dry and Liquid)	Wed November 3rd, 2021 9:00am to 11:00am
4. Infrastructure Projects	Fri November 5th, 2021 9:00am to 11:00am
5. Excess Soil Registry - Regulatory Requirements	Fri November 12th, 2021 9:00am to 11:00am
6. Vac Trucks and Liquid Soil Management	Fri November 19th, 2021 9:00am to 11:00am
7. Qualified Persons (QP) and Excess Soil Planning	**Wed November 24th, 2021 9:00am to 11:00am**
8. Soil Depots and Storage/Processing Sites	Fri November 26th, 2021 9:00am to 11:00am

Ontario

Presentation Overview

- Welcome to Webinar Series - 7 - Qualified Persons and Excess Soil Planning
- Overview of Regulatory Requirements
- Best Practices
- Frequently Asked Questions and Answers
- Health Break
- Open Discussion, Additional Question and Answer Period
- Additional Resources and Opportunities

- Appendix A: Waste Designation Flow Chart
- Appendix B: Exemptions for Soil Planning Requirements
- Appendix C: Soil Storage Rules

Your MECP Excess Soil Team

Some of our MECP team members include:

Policy
Chris Lompart
Laura Blease
Karan Jandoo
Reema Kureishy

Legal
Hayley Valleau
Jamie Flagal

Approvals
Andrew Neill

Standards
Brigid Burke
Chi Hoang
Paul Welsh

RSCs and Brownfields
Dean Therrien
Michelle Zehr

Operations
Lisa Tanaka

Environment, Conservation, and Parks

Overview of Regulatory Requirements Relevant to Qualified Persons and Excess Soil Planning

Toronto Waterfront, Don River
Project Filling - MECP, Jan. 2019

DISCLAIMER

This presentation is intended to be a brief summary of some of the requirements of Ontario Regulation 406/19 On-Site and Excess Soil Management (the regulation) made under the Environmental Protection Act and the Rules for Soil Management and Excess Soil Quality Standards - a document incorporated by reference in the regulation. This is for information purposes only and should not be construed as legal advice or substitute for seeking independent legal advice on any issues related to the regulation. Any person seeking to fully understand how the regulation may apply to any of the activities they are engaged in must refer to the regulation. In the event of any inconsistency between the regulation and this presentation, the regulation will always take precedence.

Ontario

Overview of Regulatory Requirements

- Regulation titled **O. Reg. 406/19: On-Site and Excess Soil Management** (Excess Soil Regulation) under the Environmental Protection Act (EPA), was finalized in December 2019, supported by:
  - Rules for Soil Management and Excess Soil Quality Standards
  - Beneficial Reuse Assessment Tool (BRAT)
  - Complementary provisions in O. Reg. 153/04 (Brownfields Remediation Regulation), O. Reg. 347 and O. Reg. 351/12 (Waste Management Regulations)

Phased Regulatory Implementation	Timing
Reuse Rules and Waste Designation Clarification - Including excess soil reuse standards	January 1, 2021

Excess Soil Reuse Planning Requirements
- For larger or riskier generating projects (some exemptions)
  - Assessment of past uses, and if required sampling and characterization
  - Destination assessment report
  - Tracking and registration
- Hauling record
- Larger reuse site registration
	January 1, 2022

Restriction on the deposit of clean soil at landfill sites	January 1, 2025

Qualified Persons Role in O. Reg. 406/19

- The Excess Soil Regulation provides a new framework for project leaders and other parties involved in how various excess soil activities should be planned and managed, Qualified Persons (QPs) play a key role including:

1. Oversight of various soil management planning activities at a project area (sometimes referred to as the source site generating excess soil)
2. Oversight of a reuse site (a site with an undertaking that requires excess soil) if site-specific excess soil quality standards are developed for the reuse site, including use of the Beneficial Reuse Assessment Tool or a Risk Assessment
3. Oversight of other soil management activities e.g., management of liquid soil that is dewatered or solidified by mixing with natural or synthetic polymer additives

- The Excess Soil Regulation applies to the management of excess soil, which may include liquid soil and/or crushed rock as defined in this regulation
- It does not apply to hazardous waste, asbestos waste or other types of waste within the meaning of Regulation 347 or to hauled sewage managed under O. Reg. 351/12, existing regulatory rules for the management of these materials continues to apply

Who Qualifies as "Qualified Person"

- A Qualified Person or QP is a professional engineer or professional geoscientist for the purpose of completing or supervising requirements under the Excess Soil Regulation, as defined in the Record of Site Condition Regulation (O. Reg. 153/04)
- Various activities under the Excess Soil Regulation require oversight of a QP or a supervisee of a QP as it relates to section 5 and/or 6 of O. Reg. 153/04
- A number of activities can be conducted by a "supervisee", which means "an individual who is supervised by a QP" (e.g., the development and application of site-specific excess soil quality standards, undertaking an assessment of past uses, etc.)
- Outside of the regulatory requirements, QPs may be retained by project leaders of the project area, or owners and operators of reuse sites or interim sites to provide additional oversight on excess soil management activities such as:
    - Sampling and management at temporary soil storage and/or processing sites
    - Project area due diligence sampling where the Excess Soil Regulation does not trigger the planning requirements for the project area, such as the preparation of a sampling and analysis plan
    - Confirmatory sampling, processing and/or assessments at the reuse site

What Activities Apply to Which QPs

The following table summarizes which type of QP (section 5 and/or 6 as defined in O. Reg. 153/04) is required for various elements of the Excess Soil Regulation:

Activity and Location	Relevant Sections and Date	Regulatory Reference
Project Area - Planning Requirements	Section 5 - Jan 1, 2022	Sections 8 to 16
Project Area - Registry	Section 5 or 6, as applicable - Jan 1, 2021	Section 13 of Schedule 1
Reuse Site - Use of BRAT - Site-Specific Standards	Section 5 and 6 - Jan 1, 2021	Subsections 5 (2) to (5) and section 20
Reuse Site - Use of RA - Site-Specific Standards	Section 6 - Jan 1, 2021	Soil Rules - Part 1 - Section D - 4
Reuse Site - Larger Sites	Section 5 and 6 - Jan 1, 2022	Paragraph 7 of subsection 19 (4)
Any Site - Dewater/Solidify with Natural/Synthetic Polymers	Section 5 and 6 - Jan 1, 2021	Subsection 6 (4)
Any Site - Waste Designation, Processing and Storage	Section 5 - Jan 1, 2021	All remaining sections of O. Reg. 406/19

Excess Soil Reuse Planning Requirements

- The excess soil reuse planning requirements apply to the following types of projects which are, generally, larger in scale or more likely to generate excess soil with some contaminants:
    1. Projects generating 2000m³ or more of excess soil and that are in a settlement area (such as cities and towns); this trigger does not apply to projects in rural areas
    2. Projects for which part of the project area has a past or present use that is a gas station, garage, used for the operation of dry-cleaning equipment, or industrial use (uses associated with an "enhanced investigation project area" as defined in O. Reg. 406/19)
    3. Projects for which the primary purpose is to remediate contaminated lands (note that if a new property use cannot proceed without completion of soil remediation, such as soil removal, this should be considered a primary purpose)
- Sediment cleaned out from stormwater management (SWM) ponds is liquid soil and therefore subject to the Excess Soil Regulation, accordingly the same planning rules that require QP oversight apply to SWM sediments
- To read more about the key requirements associated with these reuse planning requirements, see sections 8-16 of the Excess Soil Regulation and Part I, Section B of the Soil Management Rules. A number of exemptions from the planning requirements exist that can be found in Schedule 2 of this regulation, see Appendix B for details

Excess Soil Planning Requirements and QPs

- To help ensure reuse of excess soil from a project area is being planned and undertaken appropriately, the Excess Soil Regulation includes planning requirements as of January 1, 2022, for some projects generating excess soil
- Generally, the responsibility for the proper management and disposal of excess soil is on the generator of the excess soil - the project leader / the owner/operator of the project area
- The excess soil reuse planning requirements include the following, those bolded require QP oversight:
    1. Registration of a notice in the Excess Soil Registry for the project
    2. **Completion of an assessment of past uses and, if necessary, a sampling and analysis plan and a soil characterization report**
    3. **Completion of an excess soil destination report**
    4. Application of a tracking system
- Planning requirements requiring QP oversight, can be completed by either a section 5 or 6 QP, as defined in O. Reg. 153/04

Assessment of Past Uses

- The assessment of past uses (similar to a Phase One ESA in O. Reg. 153/04) helps the QP determine the likelihood that contaminants have affected soil within the project area, where the soil is to be excavated
- This includes activities such as reviewing available records, undertaking interviews and site reconnaissance to determine the likelihood of the presence of any contaminants in the soil that is planned to be relocated as excess soil
- The assessment of past uses identifies the following within the project area:
    - Areas affected by a potentially contaminating activity (PCA),
    - Any contaminants of potential concern (COPCs), and
    - Areas of potential environmental concern (APECs)
- This information is then reviewed and a conceptual site model is prepared to inform any future sampling and analysis that may be required
- These efforts summarized in a report will help to inform the sampling and analysis plan, if one is required
- Sediments cleaned out of SWM ponds are exempt from the assessment of past uses requirements, but are subject to the sampling and analysis plan

Assessment of Past Uses - QP Flexibilities

- If the QP is of the opinion that it was not necessary, in preparing the assessment of past uses report, to comply with the applicable requirements of Schedule D to O. Reg. 153/04, the QP or supervisee must, in the report:
    1. Identify every applicable requirement of Schedule D to O. Reg. 153/04 that was not complied with,
    2. Describe the rationale for the opinion,
    3. Identify and describe any information gaps in that component as a result of the non-compliance, and
    4. Describe how the information gaps shall be addressed in the preparation of the sampling and analysis plan to ensure that the general objectives of the excess soil characterization report can be satisfied
- Use of existing assessments and reports that are current and accurate (e.g., phase one ESA under O. Reg. 153/04) is permitted if the work was completed no later than 18 months before filing a notice in the Registry for the project or the commencement of work on a sampling and analysis plan
- See Section B of Part 1 of the Rules for Soil Management for further details on the assessment of past uses requirements

Sampling and Analysis Plan - Objectives

- A sampling and analysis plan is warranted if the assessment of past uses or Phase One ESA identifies a PCA, identifies that any part of the project area is, or has ever been, an enhanced investigation project area (e.g., a gas station, garage, dry cleaner, and/or an industrial use), or if the project involves the excavation and removal of excess soil from a SWM pond
- If a sampling and analysis plan is required, it must achieve both the general and specific objectives outlined in the Rules for Soil Management and it will be informed by the results of the assessment of past uses

The sampling and analysis plans General Objectives:

1. Identify each location where soil or crushed rock is to be excavated as defined by the area of potential environmental concern (APEC) that will be subject to sampling and analysis, based on the assessment of past uses
2. Ensure an appropriate level of sampling and analysis is carried out to determine the concentration of contaminants in the excavated soil or crushed rock to identify:
    i. Which soil or crushed rock may be reused within the project area, with or without processing at the project area, and which excess soil that may be deposited at a Class 1 soil management site or at a landfill or dump, and
    ii. The potential reuse sites at which excess soil from the project area may be deposited for final placement, having regard to the excess soil quality standards

- Some of the specific objectives of the plan include identification of those areas of the project area that must be investigated using sampling and those which are not subject to sampling (with rationale why no sampling is needed), as well as determining the location, concentration and distribution of contaminants in the soil and stockpiles

Sampling and Analysis Plan - The Details

- A sampling and analysis plan is not required if the soil to be excavated is to be deposited at a Class 1 Soil Management Site
- A sampling and analysis plan is always required for any volume of sediments leaving a SWM pond as excess soil or liquid soil
- If a project area has completed a Phase Two Environmental Site Assessment under the O. Reg. 153/04, this may be acceptable for use in the preparation of a sampling and analysis plan under the Excess Soil Regulation

<u>Additional Details</u>

- See Section B of Part 1 of the Rules for Soil Management for further details on the sampling and analysis plan requirements
- O. Reg. 153/04 also provides additional details on the requirements of the sampling and analysis plan and should be referred to accordingly e.g., QP shall ensure that requirements of section 47 (Analytical Procedures) of O. Reg. 153/04 are complied with in relation to handling and storage of samples, use of an accredited laboratory, use of the ministries Analytical Protocol, etc.

Sampling and Analysis Plan - QP Responsibilities

When preparing a sampling and analysis plan the QP is responsible for ensuring:

- Soil samples are collected using professionally acceptable soil collection methods and shall be taken by or under the supervision of the QP
- Precautions are taken to minimize the potential for cross-contamination
- The number of soil samples collected and analyzed is sufficient to determine the subsurface stratigraphy at or under the project area, as well as the location of contaminants in soil, on, in or under the project area
- In cases where the assessment of past uses identified a contaminant of potential concern (COPC) for which there is no standard (i.e., the contaminant is not listed, or a cell in a table of the excess soil quality standards contains “NV”), if the QP is of the opinion that a site-specific standard needs to be developed, the QP shall ensure the samples are analyzed for the COPC by an accredited laboratory
- The soil samples for analyses are representative of the maximum concentration of a contaminant in each project area to be investigated including evidence of the presence of a contaminant and its associated maximum concentration
- A rationale for the sampling design used is provided outlining sufficient number of soil samples collected from representative depths and locations
- A sufficient number of soil samples shall be collected and analyzed to determine the representative pH of soil in the project area
- Other key information such as field logs and documentation of any free flowing products encountered in the project area are to be properly documented

Soil Sampling - Minimum Parameter List

- At a minimum, every soil sample required to be taken must be analyzed for all of the following parameters:
  1. Petroleum hydrocarbons (F1 through F4) including benzene, toluene, ethylbenzene, xylenes,
  2. Metals and hydride-forming metals (antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, silver, thallium, uranium, vanadium and zinc),
  3. Sodium adsorption ratio (SAR) and electrical conductivity (EC) if the soil is excavated from an area where a substance has been used for the purpose of keeping the area safe for use under conditions of snow or ice, unless the soil is to be finally placed at a location referenced in subsection 1 (3) of Section D of the Soil Rules,
  4. Any contaminant of potential concern (COPC) identified during the assessment of past uses, and
  5. Leachate analysis for certain contaminants as outlined in subsection 2 (5) in Section B of Part I of the Soil Management Rules document

In Situ Sampling - Minimum Number of Samples

The following rules apply to samples collected using an in situ sampling approach (in relation to the area identified where sampling is required):

1. A minimum of three soil samples shall be analyzed if less than 600 cubic metres of soil will be excavated,
2. If more than 600 cubic metres of soil will be excavated, at least one soil sample shall be analyzed for each 200 cubic metres of soil for the first 10,000 cubic metres of soil to be excavated,
3. At least one soil sample shall be analyzed for each additional 450 cubic metres after the first 10,000 cubic metres of soil to be excavated, and
4. At least one soil sample shall be analyzed for each additional 2,000 cubic metres after the first 40,000 cubic metres of soil to be excavated

Stockpile Sampling - Minimum Number of Samples

The following rules apply to samples collected using a stockpile sampling approach:

1. A sufficient number of samples shall be collected at different depths within a stockpile to characterize the depth profile and the spatial variation, laterally and vertically, of the contaminant of potential concern (COPC) within the stockpile,
2. Soil samples shall not be collected from the surface of the stockpile; rather, techniques and equipment need to allow for collection of samples from the entire stockpile, including the core, and
3. Unless section 17 applies (stormwater management pond sediment), the sampling frequencies specified in Table 2 of Schedule E, to O. Reg. 153/04, Minimum Stockpile Sampling Frequency shall be followed

<u>Leachate Sampling</u>

- The Soil Management Rules also includes additional details on sampling for in-situ and stockpile leachate analysis including a minimum number of samples, location of sampling, appropriate procedure for extraction, etc.

Sampling and Analysis Plan - SWM Pond Sediments

- Unless otherwise specified in an Environmental Compliance Approval, the Rules for Soil Management includes requirements unique to sampling of SWM pond sediments, including a similar but modified minimum parameter list, tailored sampling frequency of stockpile sediment, etc.
    - For example, the minimum parameter list for SWM pond sediments includes polycyclic aromatic hydrocarbons (PAHs) which are sometimes found when cleaning out sediments for maintenance of ponds
- Reduced sampling frequencies are provided for SWM pond sediment that is removed, dewatered or solidified and segregated into stockpiles by zone (from the ponds inlet, center and outlet)
- For further information on how the Excess Soil Regulation applies to SWM pond sediment management please see section 2 (3) 17 of Section B of Part 1 of the Soil Rules document

Soil Characterization Report

- If sampling and analysis is required under the Excess Soil Regulation, a soil characterization report must be prepared
- The original signatures of the QP who conducted or supervised the preparation and implementation of the sampling and analysis plan and the preparation of the soil characterization report must be included within the report
- The QP must also provide a statement that confirms the findings and conclusions of the report, this report will cover information on each of the APEC(s)
- Details on how sampling was undertaken (e.g., investigation methods, number and location of samples, etc.) and on the characteristics of the site (e.g., stratigraphy from ground surface to the depth of the deepest planned excavation, depth to water table etc.) are also important elements of the soil characterization report
- Information on soil quality data and related laboratory certificate of analysis are also required components of this report

Excess Soil Destination Assessment Report

- The final component of the planning requirements that requires QP oversight involves the development of an excess soil destination assessment report
- This report takes into consideration the applicable assessment of past uses report, the sampling and analysis plan and the soil characterization report
- The goal of the excess soil destination assessment report is to list the reuse site(s) at which the excess soil is intended to be deposited
- The excess soil destination assessment report should include comprehensive information related to soil quantity, quality, and applicable locations (including reuse sites, interim sites, local waste transfer facilities and landfilling sites or dumps) at which the excess soil will be deposited
- Finally, the excess Soil destination assessment report must identify contingency measures in the event that the excess soil cannot be deposited at an intended reuse site
- The QP may assist in the development and implementation of these contingency measures

Exemption Considerations

Completed Assessments Exemption

- The Excess Soil Regulation recognizes past use assessments, sampling and analysis plans and soil characterization reports completed for a specific project before January 1, 2022 as assessments, plans and reports under this regulation for that project
- This ensures these studies do not have to be repeated for a project continuing based on those studies - this would not apply to a different project
- Other aspects of reuse planning , e.g., registration, continue to apply

Existing Contract Exemption

- The Excess Soil Regulation exempts soil management contracts entered into before January 1, 2022 from the reuse planning requirements (i.e., registration, assessment of past uses, sampling and analysis, tracking, etc.)
- If a contract has not been completed by January 1, 2026, it would be required to complete the excess soil reuse planning requirements in relation to excess soil movements from that date forward
- Other regulatory rules would continue to apply, including provisions specifying excess soil reuse rules, waste designation, excess soil quality standards, etc.
- Additional exemptions from the planning requirements can be found in Appendix B

Heavily Impacted Soils and Polymer Additives

Heavily Impacted Soil

- There are flexibilities provided in the Excess Soil Regulation to allow for QP discretion when determining the appropriate amount of sampling required to demonstrate impacted soil is only practical for disposal at a Class 1 Soil Management Site or to a landfill or dump
- Where a QP determines based on limited sampling and analysis that soil within an area of potential environmental concern (APEC) contains concentrations of contaminants exceeding the Table 3 small volume excess soil quality standards for Residential/Parkland/Institutional property uses, and deriving site-specific excess soil quality standards (e.g., via the BRAT) is not a viable option for reuse, then the QP may depart from the sampling and analysis requirements
- This can only occur if the QP has determined that the only practical disposal option for the impacted soil is to transport it to a Class 1 Soil Management Site or to a landfill or dump

Natural and Synthetic Polymers

- If liquid soil is being dewatered or solidified through mixing with natural or synthetic polymer additives, QP oversight is required
- This includes the QP developing written procedures to ensure the appropriate and safe use of the substance or other material within the project area during the dewatering or solidification process, including consideration of the direction and guidance supplied by the producer of the substance that is to be added and sharing appropriate documentation with key parties

Project Area - Visual and Olfactory Observations

- Section 23 of the Excess Soil Regulation provides rules to follow if unexpected contamination is discovered during excavation
- The project leader or the operator of any project area is required to develop and apply procedures if any person working in the project area makes an observation, including any visual or olfactory observation, that suggests that the soil being excavated may be affected by the discharge of a contaminant
- At a minimum this shall include:

1. All soil excavations in the project area must immediately cease upon the observation being made, until such time as the project leader directs that soil excavations may be resumed
2. The project leader or the operator of the project area must immediately be notified of the observation

(Continued on next slide)

Visual and Olfactory Observations - Continued

3. The project leader or the operator of the project area, upon being notified of the observation, must, before directing that soil excavations may be resumed, ensure that all necessary steps are taken to ensure that:
   i. all excavated soil that is affected by the discharge of a contaminant is identified and is segregated from other excavated soil in the project area,
   ii. the portion of the project area that is affected by the discharge of a contaminant is determined, and
   iii. any excess soil from that portion of the project area is disposed of in accordance with the Excess Soil Regulation
4. If a project leader was required to ensure that a QP prepared or oversaw the preparation of documents under the Excess Soil Regulation, the project leader shall, before authorizing any soil to be removed from the project area where the observation was made:
   i. obtain the advice of a QP regarding what steps are necessary in order to ensure the outcomes mentioned in subparagraphs 3 i, ii and iii, and
   ii. request that the QP advise on whether any of the documents required under the Excess Soil Regulation require revision as a result of the observation

Qualified Persons at the Reuse Site

- QPs may also be required to oversee certain activities on behalf of a reuse site e.g., development and application of site-specific excess soil quality standards, to account for local conditions and characteristics that are specific to a given reuse site
- The Excess Soil Regulation provides a framework QPs to develop site-specific excess soil quality standards at the reuse site, through the use of the Beneficial Reuse Assessment Tool (BRAT) or through the use of alternative Risk Assessment (RA) approaches
    - If a QP uses any of the six site use characteristics in the BRAT or if the BRAT is used to generate standards that exceed the maximum threshold, a site-specific instrument must be in place authorize the site-specific standards developed
    - The BRAT model itself includes a user guide embedded in the excel spreadsheet - for further direction and guidance
- The Soil Management Rules allow for exceedances due to local background concentrations at a reuse site, if a QP demonstrates that the excess soil contains a parameter that is typically naturally occurring at the site, documented evidence of the naturally occurring concentrations must be provided to the reuse site owner/operator
- In addition to the requirements outlined in the Excess Soil Regulation, some reuse sites that are also governed by a site-specific instrument such as a municipal by-law or permit, or a licence under the Aggregates Resources Act - these instruments may also require varying levels of QP oversight at the reuse site

QP Declarations

- If a QP was required to prepare or oversee the preparation of documents under the Excess Soil Regulation including documentation related to the assessment of past uses, sampling and analysis plan and/or soil characterization report - a declaration by the QP is required for each report
- This includes documentation that the project leader or operator of the project area have provided the QP or an individual supervised by the QP with all necessary information and access to the project area, employees and agents in their work
- The declaration includes sign-off from the QP that they have prepared or overseen the preparation of the documents
- This also includes confirmation that the reports are complete and accurate and meet the requirements of the Excess Soil Regulation and the Soil Rules to the best of the QP's knowledge

QP Conflict of Interest Considerations

- The Excess Soil Regulation provides details on QP conflict of interest considerations, these are outlined in Section 26 of this regulation
- This includes rules to prohibit QPs from preparing or supervising the preparation of documents under the Excess Soil Regulation in respect of a project in which the QP holds a direct or indirect interest
- This also clarifies that QPs are prohibited from developing and applying site-specific excess soil quality standards under the Excess Soil Regulation in respect of a reuse site in which the QP holds a direct or indirect interest
- However, despite these two rules, a QP may act in respect of a project or reuse site in which his or her employer holds a direct or indirect interest
- Nothing in this section of the Excess Soil Regulation shall be construed so as to derogate from any obligations imposed on the QP under the *Professional Engineers Act* or the *Professional Geoscientists Act*

Key Definitions

Excess Soil: soil, crushed rock, or soil mixed with rock or crushed rock, that has been excavated as part of a project and removed from the project area for the project

Crushed Rock: a naturally occurring aggregation of one or more naturally occurring minerals that is mechanically broken down into particles that are smaller than 2 millimeters in size or that pass the US #10 sieve

Liquid Soil: soil that has a slump of more than 150 millimetres using the Test Method for the Determination of "Liquid Waste" (slump test) set out in Schedule 9 to Regulation 347

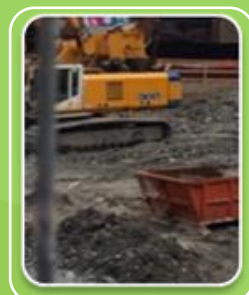
Qualified person: means,

(a) subject to clause (b), a qualified person within the meaning of section 5 of Ontario Regulation 153/04, and

(b) for the purposes of subsections 5 (2) to (5), 6 (4), paragraph 7 of subsection 19 (4), section 20 and section 13 of Schedule 1, a qualified person within the meaning of section 5 or 6 of Ontario Regulation 153/04

Supervisee: an individual who is supervised by a qualified person

Best Practices

Best Practices

QP Competencies

- It is recommended that QPs undertaking soil management activities have previous experience in managing and relocating excess soil and/or experience in contaminated site remediation
- A QP who is retained should be someone who can exercise professional judgment based on his or her experience in order to advise on appropriate reuse or disposal options for the excavated soil or excess soil, based on relevant information, and if applicable, analysis and characterization of the soil
- The QP should use a risk-based approach and take into consideration the effects of loading associated with the concentrations of individual contaminants in soil and the impacts on the pre-existing, ambient conditions at the reuse site

Best Practices

QP Oversight

- QPs may have a role outside of the Excess Soil Regulation when owners or operators of sites involved in soil management activities would like to voluntarily have some additional oversight at their project area, reuse site, temporary storage and/or processing sites
- Depending upon the intended beneficial reuse of the excess soil, the QP may need to consult with others to make decisions on the appropriateness of the excess soil for reuse, such as an agrologist if soil is to be used for an agricultural purpose
- Early adoption of QP oversight before planning requirements will be in effect in January 1, 2022 is encouraged to provide assurance to those generating excess soil on the quality of excess soil they are managing

Best Practices

Early Planning and Onsite/Local Reuse

- Maximize the onsite reuse of excess soils or crushed rock at the project area through use of innovative design (e.g., berms, new paths or roads) to reduce the regulatory rules while achieving a number of economic and environmental benefits e.g., reduced hauling and reuse/disposal needs
- Reusing excavated soil or crushed rock within the project area also limits the need to import excess soil from other project areas
- If onsite reuse is limited, seek local reuse opportunities through liaison with your soil community and by checking out the new online registry once launched, reuses between local infrastructure projects are also promoted within the Excess Soil Regulation
- Early planning at the design stage of the project (e.g., integrate soil reuse into project design, sub-division or site planning, or site alteration permits) to maximize reuse potential
    - Large scale planning initiatives, like district or secondary plans, should be able to plan for a balance of cut and fill and soil reuse across the planning area
- Under the oversight of a QP, develop an excess soil management plan for your project to lay out the key roles, responsibilities and details for delivery of your project

Best Practices

Soil Sampling

- Sampling requirements are in place for larger and risker project areas; however, all sites are recommended to consider hiring a QP to undertake sampling of your soil, particularly if the soil is going to a reuse site; assessing past and current uses may be sufficient in lower risk sites

Involvement of a QP at the Reuse Site

- Reuse sites generally are not required by the Excess Soil Regulation to involve a QP, unless the BRAT or a RA is used to develop site-specific standards
- However, the owner/operator of a reuse site should consider retaining the services of a QP to help ensure requirements are met and best practices are undertaken
- The QP can assess the current site conditions of soil and ground water at the reuse site and can also confirm the appropriate quality of excess soil to be received, giving thought to the reuse site conditions and future use of the property
- They can also develop procedures for receiving excess soil at a reuse site and can develop complete fill management plans - this is particularly advisable for reuse sites receiving larger amounts of excess soil or sites receiving excess soil from many different project areas

Environment, Conservation, and Parks

Frequently Asked Questions and Answers

Ontario

Frequently Asked Questions and Answers

1. Is there any flexibility for the QP to modify the minimum sampling requirements?

- Sampling frequencies represent the minimum number of samples required to characterize the excess soil - the minimum parameter list (plus any additional parameters identified during the assessment of past uses) must also be covered, for every sample required to be taken
- There is no opportunity for QP's to reduce the sampling frequency or minimum parameter list, except for heavily impacted soils destined for a Class 1 Soil Management Site or landfill
- However, QPs may need to use their professional judgment to increase the number of samples and list of parameters required to be sampled to satisfy themselves that the soil has been properly characterized and is suitable for a beneficial reuse

Frequently Asked Questions and Answers

2. Do you have to sample if there are no potentially contaminated activities (PCAs) or areas of potential environmental concern (APECs)?

A sampling and analysis plan is required if any of the following 3 circumstances apply to your project:

1. The assessment of past uses or phase one environmental site assessment identifies a potentially contaminating activity within the meaning of Ontario Regulation 153/04
2. Any part of the project area is or has ever been an enhanced investigation project area e.g., a gas station, garage, used for the operation of dry-cleaning equipment, or industrial use, or
3. The project involves the excavation and removal of excess soil from a stormwater management pond

Frequently Asked Questions and Answers

3. Is sampling required if all the excess soil is going to landfill?

- A sampling and analysis plan may be required if the planning requirements are triggered under the Excess Soil Regulation, this may include excess soil that is destined for landfill
- Sampling would be triggered for sites where the assessment of past uses or phase one ESA identified a potentially contaminating activity (PCA) or for soils moving from an enhanced investigation project area or from a stormwater management pond
- For excess soil that has triggered the planning requirements, including the sampling and analysis plan requirements, these sampling requirements may be modified/reduced with QP discretion for soil that is heavily impacted and not suitable for reuse, these soils would be destined for landfill or a Class 1 Soil Management Site

Frequently Asked Questions and Answers

4. Is the QP required to sample all soils or just those impacted?

- Sampling is required in all areas of potential environmental concern (APECs) that are known and/or that were identified through the assessment of past uses
- Sampling outside of the APEC concern is not required under the Excess Soil Regulation
- Although not required for areas outside of the APECs or soil movements with no past of present known contamination, some due diligence sampling outside of the regulatory requirements may be desired to ensure appropriate excess soil quality standards are selected

Frequently Asked Questions and Answers

5. Is the minimum number of samples for the project area as a whole or for each APECs?

- The minimum number of samples required applies to each APEC within the project area separately
- This is because each APEC will have its own unique contaminants of potential concerns and associated contaminant distribution for which the minimum number of samples would be required to appropriately characterize
- It is recognized that APECs may overlap and sampling in areas where APECs overlap may be shared

Frequently Asked Questions and Answers

6. Can sampling take place offsite from the project area?

- In general, the Excess Soil Regulation requires sampling to take place at the project area, before excess soil is moved offsite
- However, it is recognized that sometimes it is not practical or feasible to sample at the project area, as such the Excess Soil Regulation provides flexibility for sampling to occur “promptly” upon arrival at a temporary site (either a class 2 soil management site or a local waste transfer facility are permitted)
- The requirements on who must conduct this sampling is the same regardless of where the sampling takes place, this must be undertaken by or under the supervisions of a QP

Frequently Asked Questions and Answers

7. Can other types of QPs deliver work under the Excess Soil Regulation?

- Under the Excess Soil Regulation, QPs required to oversee specific tasks refers to section 5 and/or section 6 QPs from the Records of Site Condition Regulation (O. Reg. 153/04)
- Other professionals such as an agrologist, environmental technicians or environmental technologists may undertake some work under the supervision of a QP, but these other professionals cannot do work on behalf of the QP required in the Excess Soil Regulation

Frequently Asked Questions and Answers

8. Can multiple project owners have one shared project area? How would this work?

- If a project is being undertaken on one or more distinct properties, the project area includes that entire property
- The project area may span more than one property provided they are being used as part of the project and are contiguous, they would also have either common ownership or control by the project leaders
- Therefore, yes multiple project owners can work together on one shared project area with common ownership or control

Frequently Asked Questions and Answers

9. Can a QP act as a project leader?

- A project leader means, in respect of a project, the person or persons who are ultimately responsible for making decisions relating to the planning and implementation of the project
- They are the person or person(s) who is the proponent for a project
- Under the Excess Soil Regulation, contractors and/or QPs would **not** become the project leader, as the responsibility for key decisions and compliance ultimately rests with the project leader
- Examples of project leaders for a project:
    - A municipality or public body responsible for an infrastructure project
    - The owner of a property or a developer of a property that may own or lease the property for the purposes of development
    - An employee of a corporation that has the responsibility and authority to bind the corporation

Frequently Asked Questions and Answers

10. Can QPs fill in the registry requirements on behalf of the project leader?

- Yes, if the project leader decides to delegate the registry requirements of the soil management planning to a QP this is permitted
- However, it is important to note that although there is nothing prohibiting QPs from completing registry requirements on a project leaders' behalf, QP qualifications are not required to complete the registry requirement on behalf of the project leader

Frequently Asked Questions and Answers

11. Please discuss scenarios where the QP does not work directly for the Project Leader and instead works for a contractor or subcontractor.

- The project leader is ultimately responsible for the management of the excess soil leaving their project area
- However, the project leader / owner of the project area may decide to enter into contractual arrangements with other parties to deliver excess soil requirements on their behalf
- For larger projects this could include a few layers of contractual arrangements, regardless of this, the ultimate responsibility for the excess soil management activities from the project area rest with the project leader / owners of the project area
- Regardless of which parties are involved, clear roles and responsibilities should be outlined in contractual arrangements

Frequently Asked Questions and Answers

12. When importing excess soil to an RSC property does it need to meet the O. Reg. 406/19 standards or are site-specific standards required to be developed?

- If excess soil is imported to an RSC property, the generic standards in the Excess Soil Regulation would apply and the applicable site condition standards (for the RSC property) would be deemed to have been met
- Site-specific standards developed using the BRAT (or RA) under the Excess Soil Regulation cannot be used to derive Property Specific Standards in an RSC - however, the BRAT (or other) model can be used to support the completion of a Tier 3 RA
- When excess soil is subject to both the O. Reg. 406/19 and O. Reg. 153/04 requirements, care should be taken in ensuring both regulatory rules are met when planning your soil management activities

Frequently Asked Questions and Answers

13. Will there be templates available for the type of reports (e.g., assessment of past uses) that QPs have to complete, as there is variability amongst these reports?

- The ministry does not intend to provide report templates for QPs to meet the requirements of the Excess Soil Regulation
- The requirements under the Excess Soil Regulation and the Rules document outline how the reports should be prepared, along with giving some flexibility for the QP to use their judgement to decide which requirements are not adhered to, and to provide a rationale when that is the case

Bio Break - Health Break

Open Discussion, Additional Question and Answer Period

Additional Resources

Additional Resources

For additional information, including a variety of guidance and tools developed by external partners:

- Ontario Government Excess Soil Page: ontario.ca/page/handling-excess-soil
- Ontario Provincial Standard Specification (OPSS) 180 - General Specification for the Management of Excess Materials: currently being updated by MTO
- RPRA's Excess Soil Registry: rpra.ca/excess-soil-registry
- Ontario Environment Industry Association (ONEIA) - Best Practices and Templates:
  - Hauling Best Practices and Template: https://www.oneia.ca/excess-soils/hauling-best-practices
  - Temporary Sites Best Practices: https://www.oneia.ca/Temporary-Sites-Best-Practices
  - Qualified Persons Best Practices: https://www.oneia.ca/qp-best-practices
- Ontario Society of Professional Engineers (OSPE) - Best Practices for Aggregate Pit and Quarry Rehabilitation: https://ospe.on.ca/excess-soil-reports/
- Canadian Urban Institutes (CUI) - Excess Soil By-Law Language Tool: https://canurb.org/initiatives/excess-soil-by-law-tool/
- RSC Guide (*currently in draft and to be updated soon*): https://ero.ontario.ca/notice/019-2551

Our Coordinates

For Further Contact:

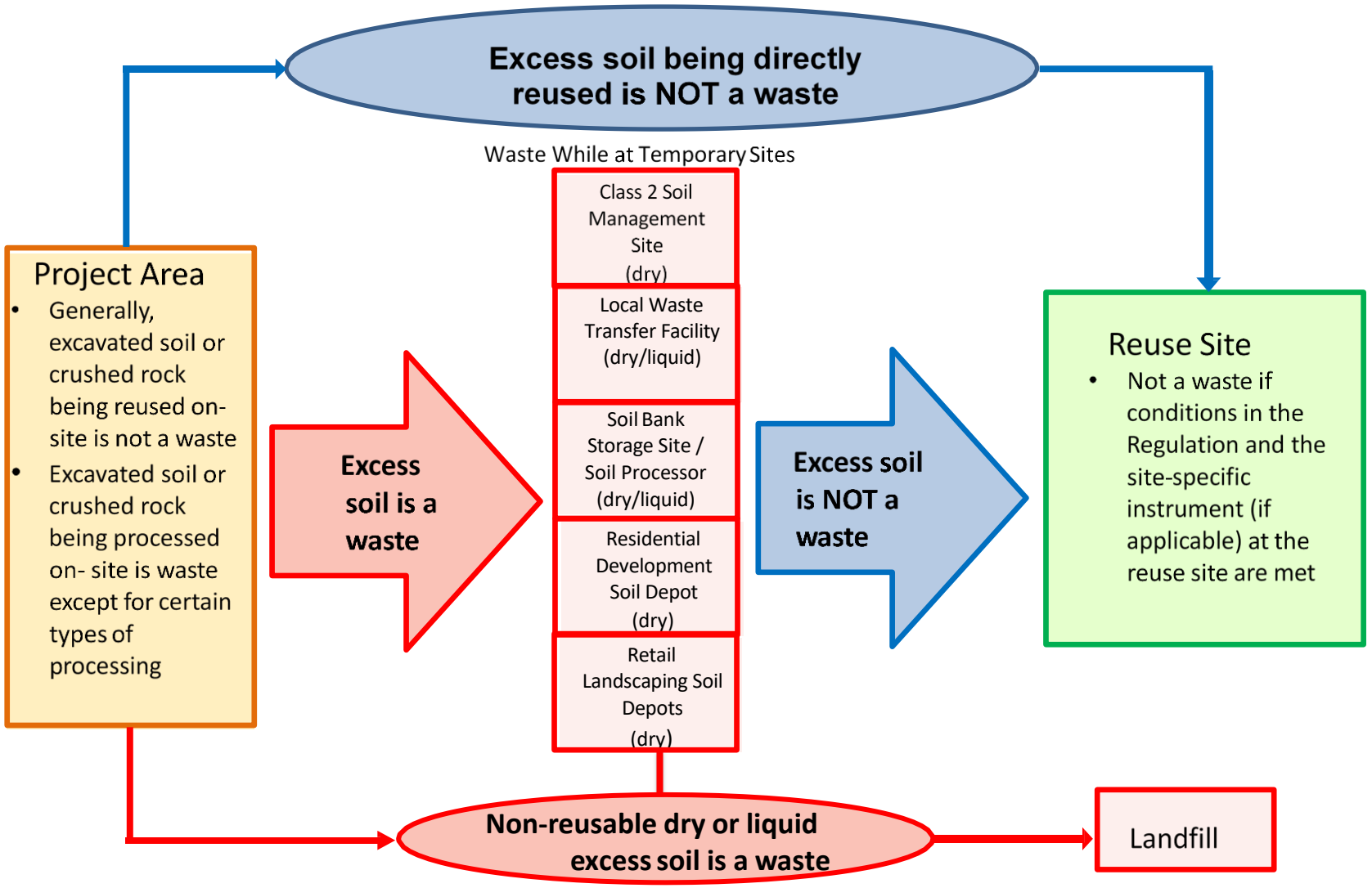
- **Policy** - Laura Blease laura.blease@ontario.ca, Karan Jandoo Karan.Jandoo@ontario.ca and Reema Kureishy Reema.Kureishy@ontario.ca
- **Regional Operations** - Lisa Tanaka lisa.tanaka@ontario.ca
- **Standards** - Paul Welsh paul.g.welsh@ontario.ca
- **Approvals** - Andrew Neill andrew.neill@ontario.ca
- **Brownfields** - Dean Therrien dean.therrien@ontario.ca

THANK YOU!

Appendices

Ontario

Appendix A: Waste Designation Flowchart



Ontario

Appendix B - Exemptions from Planning Requirements

- The Excess Soil Regulation includes several exemptions from all or some of the planning requirements related to soil reuse planning
- These exemptions reflect some low risk scenarios, some scenarios where responsibility for the soil is not changing, and some scenarios to help encourage reuse in similar projects:

1. If 100 m^3 or less of excess soil is being removed from the project area and being directly transported to a waste disposal site, such as a landfill (this does not apply a Class 2 soil management site)
2. The reason for removal of excess soil is to respond to an emergency, such as an existing danger to the health or safety of any person, a serious risk of injury or damage to any property or to any plant or animal life, or to respond to a spill
3. Projects that are related to maintaining infrastructure in a “fit state of repair” other than excavation of excess soil from a stormwater management pond
4. The excavation of topsoil which is transported directly for reuse as topsoil at a reuse site, and there is a low risk of contamination (the project area has never been an enhanced project investigation area, and the primary purpose of the project where the excess soil was removed from was not the remediation of contaminated land)
5. The excess soil is excavated as a part of an infrastructure project and after removal from the project area, the excess soil is being reused (finally placed) as part of an undertaking related to another infrastructure project with the same project leader or a public body
6. The excess soil is being deposited at a local waste transfer facility and the amount of excess soil to be deposited is 100 m^3 or less

Appendix C - Soil Storage Rules

The following applies to **dry soil** stored at any site, including a project area:

- Soil to be stored and managed to prevent any adverse effects associated with its receiving, processing, storage and movement - to manage noise, dust, mud tracking, leaching, run-off and erosion as well as any potential air or odour impacts
- Soil must be stored in stockpiles and the maximum size of each stockpile shall not exceed 2,500m^3
- Any soil that is sampled and analysed must be kept segregated from other soil and soil of different qualities intended for different beneficial uses
- The soil must not be stored within 30 metres of a waterbody and within 10 metres of the property line (boundary), unless any of the following apply:
    - 500m^3 or less of excess soil will be stored at any one time at the project area
    - Excess soil storage at the project area for a week or less
    - The storage location has a physical barrier (e.g., concrete wall) between the excess soil and the property boundary
    - The storage is taking place in a public road right-of-way
- Soil shall be stored in a manner that prevents any contaminants from the soil from leaching into the ground water

Appendix C - Soil Storage Rules Continued

The following applies to **liquid soil** stored at either a project area or a local waste transfer facility:

- All storage and processing locations of liquid soil, processed or dewatered or solidified soil and process residues shall be readily accessible for inspection by a provincial officer
- No more than 10,000m³ of liquid soil, processed or dewatered or solidified soil and process residues may be present at the site at any one time
- All liquid soil, processed or dewatered or solidified soil and process residues that are liquid shall be stored in a leakproof container on an impermeable surface in a manner sufficient to contain and prevent the material from escaping into the natural environment