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FORMAL COMMENTS
PROPOSED AMENDMENTS TO REGULATION 406/19

Further to the recently proposed amendments to O. Reg 406/19 I take this opportunity to provide formal comments. These comments are provided in my professional capacity as a Qualified Person [QP] under the Regulation, and experience providing consulting services for soil management to a range of clients and projects, including land development for residential, commercial and industrial uses, municipal infrastructure projects, institutional projects, and others.

These comments are offered to the current proposed amendments, as well as to our experience with the use and implementation of the Regulation to date.

REMOVING REUSE PLANNING REQUIREMENTS FROM LOW-RISK PROJECTS

This is an overall positive and appropriate amendment. Such low-risk sites do not reasonably warrant the same concern or need for extensive assessment and characterisation of soil. Including properties that have been agricultural, residential, parkland or institutional use is appropriate.

I would recommend that there should still be a mechanism for review and confirmation by a QP of a site satisfying the low-risk exemption. This would be addressed with an appropriate Assessment of Past Uses, or could be a simple Site Characterisation Report prepared by a QP. This would establish a site as low-risk, or not, as well as determine if a possible low-risk site would in fact be considered an enhanced investigation project area, and thus not considered low-risk.

This concept should be extended to sites or portions of sites that are deemed low-risk. Understanding that in many cases development properties generating surplus soil are often a combination of parcels assembled to create a larger development site, or involve excavations to much greater depths than would have been affected by most prior uses.

- A property that is low-risk but a portion of the site might be considered enhanced, or have other specific PCA/APEC as determined by the QP. Where the QP establishes that a PCA/APEC is only of concern to a specific portion of the site, consistent with the Phase One and Two ESA process, then the reuse planning requirements would reasonably only apply to that portion of the site that is specifically identified as a concern.
    - For example, a parcel that is entirely agricultural or other and/or residential but there is an immediate off-site retail fuel outlet, or on-site AST associated with the farm buildings. In such case the need for the full reuse planning requirements, most notably the need for rigorous sampling and analytical testing, should apply only to the portion of the property that would reasonably be potentially impacted by the noted PCA. The majority of the site would be considered low-risk and thus exempt.
- A development parcel that has a small portion that has been a commercial use, but is otherwise agricultural or other, and/or residential. The QP should be able to identify the portion of the parcel that would be considered low-risk, and thus not warrant the full reuse planning requirements, and the portion of the site that would warrant reuse planning [specifically sampling and analytical testing].
- Recognizing that the generation of surplus soil for many development projects extends to greater depths, well below what might be affected by the land use at surface, the QP should be able to identify a depth below which a property could be considered low-risk.
    - For example, a commercial plaza being redeveloped to a multi-storey building with underground parking levels. The plaza is a commercial use, but otherwise has no significant PCAs, and has had an RSC filed and acknowledged. The depth of excavation for basement levels is well below the depth of any prior activity on the site, and established to be entirely native soil. It would be appropriate for the QP to establish a depth below which the native soil would be reasonably considered low-risk and thus not warrant the full reuse planning requirements. Perhaps 2 to 3 metres below depth of prior structure or infrastructure? Of course that might vary based on soil type and other site specific conditions.
        - A specific case example involved a commercial slab on grade building, not an enhanced site, with a filed RSC for residential redevelopment. Limited Phase Two ESA scope was warranted to support the RSC filing and identified no environmental concern for soil or groundwater on the site. Soil conditions were fill and disturbed native soil in upper about 1 to 3 metres for foundations and services, and then native silty clay below to shale bedrock at depth. Following the current reuse planning requirements and sampling frequency called for testing of 136 soil samples for the minimum required parameters [metals, PHC]. With roughly 95%

of these samples being previously undisturbed native soil. Results showed all soil to be within the Table 1 Standards, with the exception of elevated EC and/or SAR generally in the upper levels. The environmental condition of the surplus soil in this case could have been just as well and confidently characterised with testing much fewer samples, and focusing on the upper levels of the excavation depth. The reality is that the undisturbed native soil at depth is low-risk, as prior to the commercial plaza the land was agricultural and there were no historical nearby industrial uses that would be cause for environmental concern, as borne out by the testing. The testing of 136 samples did not improve the soil characterisation, but certainly added significant cost. The ability to apply the low-risk exemption concept would be appropriate for such cases.

SOIL STORAGE AMENDMENT

A temporary stockpile limit of 10,000 m3 is more practical for most cases than the prior 2,500 m3 limit.
In some cases, such as sites requiring a large volume of import, it may be more practical for larger temporary stockpiles. It would be helpful for the QP to have the ability to assess a given site and project plan to establish specific appropriate temporary stockpile limits, timelines, etc.

REUSE SITES – SALT-IMPACTED EXCESS SOIL

The available exemption for salt-impacted soil is useful, and largely appropriate. However, some amendment or clarification would be helpful in certain cases to help facilitate effective beneficial reuse of surplus soil.

Rural properties for both residential and commercial development. Such properties may need fill to adjust grading for development. Such construction projects would likely satisfy item i.a) under the exemption, however is complicated by the need to considered the potable groundwater conditions. More specifically, item ii.b) that salt-impacted excess soil not be placed within the 100 metres of a potable water well. This restriction may be appropriate, however in many cases a simple hydrogeological assessment of the potable water well(s) will show them to be deep drilled bedrock wells, isolated from the surface soil and shallow unconfined aquifer. In such case, there would be no potential risk to the potable water quality by acceptance of salt-impacted soil.

- As an example, a case of a rural residential development requiring a sizeable screening berm to an adjacent rail line. This requires the import of soil to satisfy the volume. Numerous relatively convenient source sites are considered, meeting the Table 2.1 RPI Standards with the exception of EC and/or SAR. As the rural lots are to be service with private water wells, a strict interpretation

would not allow acceptance of this soil for use to construct the berm due to potable water well within 100 metres. This makes sourcing suitable fill more difficult, looking at sources from further distance, which is less efficient. Given the fill would be placed within a berm, the native soil conditions are low permeable silty clay, and the potable water wells will be drill bedrock wells at depths of greater than 20 metres, there would be hydrogeological isolation of the potable aquifer. Thus, there is no actual risk to the site or regional groundwater due to acceptance of the soil.

The exemption also allows for placement of salt-impacted soil at least 1.5 metres below surface. This depth appears to be rather arbitrary, and does not account for the soil type, groundwater conditions, etc. It would be reasonable for the QP to have the ability to assess the potential for a lesser depth of cover, considering the soil type, intended use [crop, pasture, hay field, etc.]. Of note in this regard the discussion on the EC and SAR parameters within Regulation 153/04 indicates that these Standards are not developed considering the ability of soil to support crop growth or quality of crop growth. This is then at odds with the concept that salt-impacted soil is considered a significant hazard to any agricultural use if not placed at least 1.5 metres deep.

I appreciate the opportunity to provide input and feedback on the Regulation. I feel the above comments would be appropriate to incorporate into amendments to the Regulation, as they would support more efficient assessment and management of soil for beneficial reuse.

Please feel free to contact our Office if you have any questions, or we may be of further service to you.

Yours very truly,
Soil-Mat Engineers & Consultants Ltd.

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