



Environmental risk bulletin

Best Management Practices: Soil re-use for construction activities

Regardless of the amount of construction and redevelopment activity in a region, at any time there are always projects that generate excess soils due to excavation or sites that are in need of “clean fill” to backfill areas. It is an on-going buy/sell/trade industry. Some site contractors maintain a separate division just to market and manage this business.

Because there are no widely-accepted standard operating procedures associated with soil re-use in the construction industry, these activities can result in pollution and professional liabilities and third party claims. These exposures become a particular concern when excess soil and fill originates from a property with an industrial or unknown history. This document outlines some basic controls and best management practices that should be considered to minimize these exposures. End users must also consider geotechnical characteristics and suitability of fill material; however, this guidance does not delve into these areas.

Regulations associated with soil re-use are primarily limited to standards that help define “clean fill” and those aimed at preventing improper disposal of contaminated materials. Therefore, in order to effectively manage this exposure, contractors must implement additional risk management protocols to ensure they are not selling or accepting any materials that contain pollutants or could be classified as “contaminated.”

Materials bought and sold as “fill” can consist of natural soil (top soil and sub-soils), clay, sand, organic matter, sediment, gravel, rubble, even brick, ceramics, asphalt, or concrete. “Clean” is a relative term, but generally means environmentally clean (i.e. free from contaminants, including corrosive, combustible, noxious, toxic, reactive, or radioactive materials). Clean fill is understood to be virtually inert and pose neither a pollution threat nor a fire hazard due to the presence of a regulated material.

Contractors purchasing or selling clean fill must consider what risk management measures they might take to limit their liability in the event the fill is subsequently found to contain contaminants after a transaction. If the contractor is selling the fill material, the process of a visual/smell test accompanied by documentation may be common practice, but in some cases, analytical documentation and certification that the fill is environmentally clean may be needed.

Most state and provincial environmental protection agencies provide some guidance to help define clean fill and/or the required testing and certification documentation necessary for a “clean fill” determination. Restrictions may be applicable depending on whether the fill material will be used at a residential, commercial or industrial property. Fill used for residential, schools, day care centers and more sensitive site uses may have more stringent requirements depending on the jurisdiction. Environmental agencies may also establish restrictions on clean-fill quality for use as final cover versus sub-grade only use.

Best Management Practices: Preparing soils for re-sale and reuse

Source Information – Know the past usage of the source site. Was fill obtained from a site that previously utilized hazardous materials or that is undergoing environmental clean-up? Request site assessments conducted of the site, or conduct independent research on past usage of the site if no historical information is available from the client. Determine if there is any indication of a release of contamination or a regulated substance at the site.

Inspection – Visually inspect materials as they come out of the ground and/or prior to acceptance for odor, color change, and any abnormalities.

Documentation – This should include a source location and site description, removal date and time, type of project generating fill, excavation contractor information, temporary spoil pile location (if applicable), transportation vehicle information (if available at time of removal), observations made upon removal and by whom, and signatures/contact information.

Analysis – If there is no indication of release of contamination at the project site and the visual assessment appears satisfactory, there are typically no requirements for sampling or laboratory analysis and the soils can be classified as “clean fill.”

However, if the contractor is selling fill materials and they are discovered to contain a pollutant, the remediation and liability expenses will most likely be the responsibility of the contractor that provided the fill. Therefore, risk management programs may need to incorporate additional controls based on additional cost/benefit analysis. Controls may include:

- Enhancement of pre-project source investigation and documentation protocols;
- Conducting random spot analysis of materials through hand-held instantaneous reading devices, such as a PID (photoionization) or XRF (x-ray fluorescence) detection equipment, depending on contaminants or concerns associated with the site or surrounding area;
- Sampling and formal laboratory chemical analysis, based on state and/or local regulations and/or concerns associated with previous source site history. When possible, samples should be obtained before the soil is removed from the site.

The approach taken will depend on the location, source property use, surrounding property use, client requirements, regulatory requirements, and potential future use of the site utilizing the fill. In some cases, the purchaser may require a certificate from the seller attesting to the quality of the fill.

Regulatory guidance

Some regulatory agencies have specific requirements regarding clean fill testing and/or related guidance, while others may have specific requirements dictated by the intended end use. Various US state approaches are provided as referenced examples under Additional Resources. Some agencies are more prescriptive than others.

Canadian provinces have followed a similar path with regard to guidance. In 2020, Ontario enacted formal regulations pertaining to on-site and off-site reuse of soil. Ontario’s ExcessSoil Regulations rely on a Qualified Person to affirm soil conditions for proper application and use on- and off-site. Implementation of various aspects of the regulations will be phased in starting in 2021.

It is important to identify any materials that may have usage limitations, (i.e., may not be approved for use at certain sites such as schools, playgrounds, etc.). Regulatory requirements are also of particular importance if materials are transported over state or provincial lines with different standards.

Transportation Documentation – Delivery of fill should include a load ticket that contains the time, date, location, and a statement that the receiver has evaluated, accepted and approved the load for their use. The contractor should maintain copies of the documentation as part of the project. If a problem is later encountered, this type of documentation may be helpful in determining the source and potential liability.

Contract – The first line of defense is for the contractor to execute a written contract with the site owner that establishes responsibility for the testing and classifying of all soils being removed from the site, including indemnification for re-use/disposal of soils that have been subjected to appropriate testing and classification protocols.

Additionally, a contract or purchase order should be in place for each transaction that clearly identifies not only the requirements of the seller, but also the requirements and responsibility of

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the buyer of the materials. The buyer must assure that the fill meets the criteria for the planned use of the soils, including standards that may be applicable for the protection of surface water or groundwater. The transaction document should include appropriate indemnification and hold harmless liability language for both parties.

Best Management Practices: Clean fill material acceptance checklist

Obtain Permits and Approvals – Ensure that any regulatory approvals for the intended use of the fill are obtained (areas near wetlands and surface waters may require additional approvals).

Review Supplier Credentials – Ensure that the supplier has an experienced organization, controls and the financial strength to provide a quality clean fill product. Request certificates of insurance for general liability and/or pollution liability coverage.

Verify Fill Sources – Never accept fill from unknown sources. Ask for the site address and consider inspecting the site prior to accepting the fill. Ask about past site activities and if any environmental assessments are available for the site. During the inspection, make sure the fill does not contain any other waste, debris, staining, discoloration or odor.

Verify Fill Quality – Ask suppliers to prove that the fill isn't contaminated. If you have any concerns about the quality of the fill, request that the material be sampled and analyzed for potential contaminants before accepting. Ask to see the original laboratory results. Alternatively, have samples analyzed independently to ensure the fill is clean.

Supervise and Inspect all Loads – Supervise delivery of all loads of fill onto your property. Be aware that one load of contaminated fill could contaminate all other loads.

Record Transporter Details – Ask all transporters for documentation that shows the address and owner of origin of the fill. Ask drivers for proof of identity or employment, such as driver licenses or employment identification.

Maintain Records – It is important to keep copies of all documents and records about the fill you receive, including the name and address of the supplier and transporter.

Additional Resources

California Environmental Protection Agency, Department of Toxic Substances Control: Information Advisory - Clean Imported Fill Material. October 2001. <https://dtsc.ca.gov/information-advisory-clean-imported-fill-material-fact-sheet>

CleanFILL website: About CleanFILL.net and Frequently Asked Questions. September 2020. <https://www.cleanfill.net/about>

Connecticut Department of Energy and Environmental Protection (CTDEEP): Management of Contaminated Environmental Media Frequently Asked Questions. February 2020. <https://portal.ct.gov/DEEP/Waste-Management-and-Disposal/Remediation-Waste/Management-of-Contaminated-Environmental-Media>

Cornerstone Earth Group. Cornerstone Outlook: Environmental and Geotechnical Obstacles to Importing and Exporting Fill. September 2010. <https://cornerstoneearth.com>

Maryland Department of Environment website. Facts about VCP (Voluntary Cleanup Program) – Clean Imported Fill Material. September 2020. [https://mde.state.md.us/programs/LAND/MarylandBrownfieldVCP/Documents/www.mde.state.md.us/assets/document/Clean%20Imported%20Fill%20Material\(2\).pdf](https://mde.state.md.us/programs/LAND/MarylandBrownfieldVCP/Documents/www.mde.state.md.us/assets/document/Clean%20Imported%20Fill%20Material(2).pdf)

New Jersey Department of Environmental Protection website. Alternative and Clean Fill Guidance for Site Remediation Program Sites. August 2011. https://www.nj.gov/dep/srp/guidance/srra/fill_protocol.pdf

Pennsylvania Department of Environmental Protection website. Management of Fill Policy. January 2020. <http://www.depgreenport.state.pa.us/elibrary/>

Ontario Ministry of Environment, Conservation, and Parks website. Handling Excess Soil. June 15, 2020. <https://www.ontario.ca/page/handling-excess-soil>

Oregon Department of Environmental Quality website. Clean Fill Determinations. February 2019. <https://www.oregon.gov/deq/Filtered%20Library/IMDcleanfill.pdf>

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Exton, PA 19341
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