

Reduce the Cost, Delays, Risks of Transferring Soil from Developments

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Environmental Planners and Professionals prove their worth as states enforce higher environmental standards on developers.

North American developers and contractors are well aware of the high costs associated with transferring soil from developments. These costs only increase when some or all of that soil contains regulated contaminants such as petroleum hydrocarbons or metal concentrations. Due to past activity on properties, soil contaminants can test above safe background levels.

Keith Etchells discusses assessing and managing regulated waste soil and “clean” or inert soil to avoid additional expenses, risks, and delays when moving soil on your project is necessary. Using his expertise and California regulations as context, he covers the regulatory framework and legal requirements regarding proper soil transport and disposal, with best practices to avoid risk and liability.

Proper Planning – From Phase I ESA to Soil Sampling to Soil Management Plan

The [California Water Code](#) and Titles 23 and [27 of the California Code of Regulations](#) are often interpreted to mean any soil with detectable concentrations of hazardous substances or metals above interpreted background levels to be a “waste” upon excavation and export from a job site.

Based on the characterization of exported soil as waste, developers must discharge it to a waste management unit licensed and permitted for treatment or a disposal facility. These select facilities treat, store, dispose of, or reuse soils under appropriate local, state, and federal regulations.

Proactively and efficiently complying with regulations and minimizing the risks of improper disposal helps avoid project delays and uses a progressive assessment process. Assessment starts with completing a Phase I Environmental Site Assessment (ESA) report to identify the recognized environmental concerns (RECs) that may exist. Move to a second step if a Phase I ESA report indicates RECs or environmental concerns of possible soil impact.

What Constitutes Hazardous Waste?

Using soil sampling and analyses, complete a Phase II ESA. The findings of the Phase II ESA may indicate the presence of soil impacts from chemical constituents such as petroleum hydrocarbons, solvents, and pesticides.

Additionally, naturally occurring metals such as arsenic can be elevated from regional geologic sources at levels that exceed regulatory screening levels and disposal standards. Are these hazardous wastes? That depends on the concentrations and elevations of the chemical constituents or metals in the soil. Properties with previous land use often show concentrations of these constituents below hazardous waste levels but high enough to designate certain soils as regulated “non-hazardous” waste. Dispose of or recycle this waste at a properly licensed facility.

Whether profiling waste soil for off-site disposal at a licensed receiving facility or characterizing the extent and composition of “clean” or inert soil for transportation to another nearby construction site that needs fill soil, guide the process and action using the soil sample

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collection and analyses for various constituents of concern. These are identified in the Phase I ESA report to facilitate approval for the various soil waste types at the appropriate disposal facilities.

Waste Profiling Data Requirements

Most landfill and treatment facility operators generally want waste profiling completed with no more than a year-old data. However, justifications can be made for using older data if it demonstrates that the soil samples still represent current site conditions. Proper design and completion of soil sampling plans by qualified professionals should provide sufficient data to answer important questions:

- How much waste soil do we have, and what disposal facilities can we send it to?

If you need to move clean soil:

- Does our clean soil proposed for export meet local criteria for clean fill?

Minimizing Cost Overruns and Project Delays

Early characterization of contaminated and inert soil provides much more confidence in disposal cost ranges used in project planning. Characterization also helps determine the feasibility of disposal strategies to limit the exported amount of impacted soil. They minimize potential litigation associated with toxic tort and improper waste disposal practices.

While some contaminants may not be present in concentrations below applicable screening levels, any detectable chemical constituents or metals above background concentrations are regulated waste, which costs more to export. Facilitating better communication between the selected grading contractor and your trusted environmental consulting company facilitates earlier soil characterization. Waiting until grading starts to test soil can cause project delays and increase the cost of rushed laboratory analyses and unexpected additional disposal costs to meet construction schedule needs.

With the help of your environmental consultant and consultation with design and construction team members, you can employ value-added strategies to reduce soil disposal costs. When requiring soil export on a job, one strategy involving soil with relatively low levels of

contaminants below human health risk screening criteria but still considered a regulated waste entails the preferential reuse or burial of that soil on site.

Soil Reuse – Savings and a Lower Carbon Footprint

Reuse typically results in significant savings since it allows the preferential disposal of inert soil as opposed to the costlier disposal of impacted soil. This can be completed if the limits of the impacted soil versus inert soil are adequately delineated through prior soil sampling and analysis, which provides the confidence of knowing which soils are inert and which soils are impacted when it comes time to grade and export soil.

A qualified environmental professional with a proven background servicing the construction sector will guide you through the nuances of applying the appropriate regulatory guidance. These professionals can design various strategies to reduce soil disposal costs, often covering the cost of soil sampling and analysis while providing additional risk management and liability protection to your project.

The Benefits of a Soil Management Plan

The Soil Management Plan covers all aspects of properly handling and managing waste soils during development. Your consultant works with your design and, or construction team to develop the feasibility of soil management strategies best engineered to reduce soil disposal costs.

During the grading process, the environmental professional oversees the Soil Management Plan during the movement of impacted soil to minimize environmental risks from improper disposal during grading. Improper disposal can result in costly fines or recourse from an import site. Your project professional and plan will minimize delays that would otherwise result from the discoveries during grading of previously unknown soil impacts, such as underground fuel tanks or previous dumping areas.

Environmental oversight during grading and having a soil management plan in place are often required with regulatory oversight, whether through voluntary oversight programs or when regulatory oversight is a condition of obtaining a grading permit.

Clean Soil Export Considerations

Exporting fill material from a previously listed contaminated site may require local Regional Water Quality Control Board approval in California. Failure to properly assess whether these requirements govern your site could lead to costly fines from your state. The receiving facility may also need Regional Board approval. In my experience, the land owner and contractor could face liability in both scenarios.

Documentation for Large Developments

SCS Engineers supports a large infill development project requiring more than a million cubic yards of clean fill to achieve the final grade. Using a project-specific environmental and geotechnical import specification, we've identified potential sources from nearby construction projects and supply facilities to meet import requirements. It details the number of soil samples and laboratory analyses based on design and regulatory standards.

Whether the export site provides soil sample analytical data or the cost of soil sampling an export site is taken on by our client, SCS reviews the soil analytical data before soil import for adherence to import specifications. A "Clean" or Inert Soil letter documents the vetting process and quality of the imported soil. The developer avoids the risk of project delays due to inadequate sources of clean soil available or increased costs associated with importing soil if finding an acceptable local clean fill source proves difficult.

The Fine Print - Additional Fees May Apply

For example, any generator site in California incurs hazardous waste generation and handling fees when disposing of five or more tons of hazardous waste soil within a calendar year. The current rate is \$49.25 per ton. The state requires that generators maintain waste manifests for each truckload of exported soil and weight tickets associated with any hazardous waste disposal so it can register and report hazardous waste disposal quantities to the California Department of Tax and Fee Administration. Failure to register and pay these state fees results in auditing and significant penalty fees. The generator will often need a temporary Environmental Protection Agency identification number.

Environmental planning for developers is often a complex undertaking. We hope this article and its explanation of soil transfer details from an environmental professional will help keep your project on time and within budget.