

Soil Blending FAQs

How much does it cost?

The cost per ton depends upon a number of factors. The largest cost is typically the cost of the amendment, followed closely by the labor and equipment to perform the blending. Costs typically range from about \$25 to \$75 per ton. Oxidation is typically more expensive than a reductive or biological approach. Clay is more expensive to blend than sand or silt. The greater the depth of the blend, the greater the cost. There is an economy of scale so that the larger the project, the lower the cost per ton. Mobilization and demobilization depends upon the distance travelled, obviously. We will provide a firm cost estimate, often with a performance guarantee.

What depth can you reach?

The reach of the blender is about 22 feet, but we can “bench down” and complete blending in lifts. If the water table is encountered, dewatering maybe necessary. By benching down and dewatering, we were able to reach a depth of 50 feet at one site, even when the water table was about 10 feet below surface.

What are typical production rates?

We typically assume about 400 tons per day. However, for shallow, sandy soil we have completed as much as 1500 tons in day. Greater depths and clay typically mean lower production rates.

Are underground utilities a problem?

Underground utilities are a major obstacle. In some cases, we have relocated utilities or worked around them. Occasionally, they prevent the project from moving forward. Remember, these same utilities will likely be an issue with a dig-and-haul approach.

What amendments have you blended?

We have blended a diverse suite of amendments, but the most common ones have been permanganate, zero valent iron and-or carbon substrate. Other amendments we have blended include: lime, portland, persulfate, calcium peroxide, hydrogen peroxide, ferrous sulfate, mulch and bentonite. We will consider all appropriate amendments.

Is the soil suitable for building afterwards?

Soil blending significantly reduces the cohesive strength and increases the pore water pressure of the soil. In general, the soil will not support structures after blending without adding stabilization amendments. In several cases, we have added either portland or lime to make the soils suitable from a geotechnical viewpoint.

Can soil blending be implemented near or under structures?

Soil blending has been conducted both inside and near buildings. However, the ability to blend near or under an existing structure will be dependent on the depth of blending, the soil type, and the construction specifics of the structure. The ability to blend near or under an existing structure is determined on a case-by-case basis. Sometimes it may be necessary to drive sheet piling, but not always.

Can I rent your blender and self-perform?

The soil blender is highly-specialized, proprietary equipment that we don't allow others to operate for safety reasons, among others. There is often other earthwork that needs to be performed as part of a soil blending operation, so the client may assist in that portion of the work on a pre-approved case-by-case basis.

Will you provide a performance guarantee?

For a large percentage of sites, we will provide a performance guarantee for a modest premium. We will also guarantee the geotechnical properties of the soil provided an allowance for geotechnical improvements have been made.

Why wouldn't I just use a track-hoe?

A track-hoe has no rotary mixing so it will be extremely ineffective if clay or silt. Also, the production rates of a track hoe versus our proprietary blender are about four to ten times less, so it will be more expensive in the end. On more than one occasion, we have completed soil blending on a site when track-hoe mixing failed.