

# Logan Development

*Gloucester County, New Jersey*

## Property Owner:

Soil Safe, Inc.

## Contact:

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## Purpose:

Capping and Development

## History:

The Logan property is a 160-acre Brownfield site located in Logan Township, New Jersey along the Delaware River. The site, together with many surrounding properties, was used by the Army Corps of Engineers as a former dredge depository for Delaware River navigation deepening projects throughout the 1950's and 1960's. This activity resulted in thick dredge deposits containing low-level contamination; rendering the property unusable from an environmental and geotechnical standpoint. Soil Safe acquired the property and obtained all the necessary permits to establish a soil recycling center at the site, and use the recycled product to cap 82 acres under a Remedial Action Work Plan and numerous other permits approved by the New Jersey Department of Environment (NJDEP). The capped area will be developed for commercial or industrial purposes, with the balance of the property remaining tidal and wetlands. Soil Safe has processed 6.3 million tons of soil at Logan. Aside from one exception where recycled product is exported off-site to a nearby county project being performed by Soil Safe, all soil received and recycled at Logan remains on-site to build the cap.



## Soil Safe Capping Concept:

Soil Safe's business model includes the recycling and beneficial use of non-hazardous contaminated soil. Through its stabilization recycling process, Soil Safe manufactures a recycled engineered Soil Product that has received Green Approved Product certification to the ICC 700 National Green Building Standard for recycled paving sub-base and other engineered soil material applications.

Soil Safe operates the Logan recycling center under 15 state and local permits. State permits were issued through the Air, Water, Class B Recycling, Site Remediation and Land Use departments of the NJDEP. The development project is funded through Soil Safe's customers who pay a fee to recycle their non-hazardous soil. Through the recycling process, Soil Safe manufactures the engineered Soil Product that is used in the construction of the cap. In Soil Safe's 25-year operating history, the company has recycled over 26 million tons of non-hazardous soil. The Soil Product has been used in hundreds of applications including landfill caps, paving, and engineered fill.

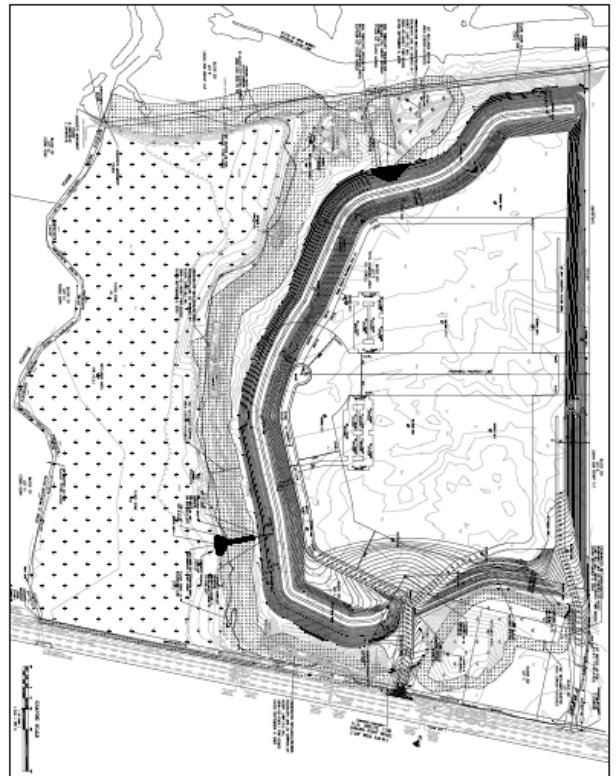
## Soil Recycling Center:



The Logan soil recycling center services the New York, New Jersey and Pennsylvania markets. The manufactured engineered Soil Product must meet strict environmental and geotechnical specifications prior to incorporation into the cap construction. All operations are supported by SoilSMART®, a state-of-the-industry Information Management System developed by Soil Safe to ensure full compliance with permits, reporting, and customer requirements. With all soil sampled and analyzed multiple times, Soil Safe ensures that the manufactured Soil Product meets all federal, state and local specifications before its use as capping and site development material, or exported off-site for use on the permitted County project.

## Permitting and Engineering:

Due to the contaminated dredge material and proximity to the Delaware River, Soil Safe followed a strict permitting and engineering protocol to gain approval from the State for the Logan operation and development. This required complete air and groundwater modeling including; AP42, AERMOD, HELP, partitioning fractions, and ModFlo Fate and Transport modeling. The low strength and drainage characteristics of the thick dredge sub-base presented several geotechnical engineering challenges in the design of the cap and the development pads for the project. The NJDEP concurred that Soil Safe's manufactured Soil Product is uniquely suited to construct a cap on this site and prepare it for development.



## Development:

Using the manufactured engineered Soil Product as the backbone for site work, Soil Safe is constructing the 82-acre cap and will prepare two large development pads on top of the cap. Soil Safe will cap and raise the grade of the site; providing a strong structural base for building construction, and an exceptional view of the Delaware River. Through the soil manufacturing process, the engineered fill material maintains uniform and consistent geotechnical properties that are superior to standard engineered fill in terms of grain size distribution, moisture-density relationship, permeability, shear and compressive strength. These characteristics are critically important for both the cap and development pads.

