CAPPING AT BROWNFIELD SITES

Capping is a type of engineered control that involves placing a protective cover over contaminated soil or waste. It is cost-effective alternative to fully removing contaminated soil at brownfield sites. It minimizes disturbance to existing contamination, reducing the risk of spreading hazardous materials. When combined with land use restrictions, capping allows for safe future reuse of the property. This approach also helps speed up redevelopment while still protecting public health and the environment. Capping is particularly useful when contaminants are located deep underground, are stable, or pose a low risk if left undisturbed.

ENGINEERED CONTROLS

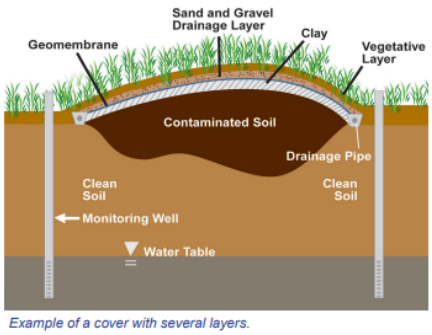
Engineered controls are physical barriers or systems designed to prevent the spread of contamination and reduce the risk of human and environmental exposure. At brownfield sites, engineered controls play a vital role in safe redevelopment.

BENEFITS

- Prevent direct contact with contaminants
- Limit water infiltration that could spread contaminants into groundwater
- Control gas or vapor release (if present)
- Prevent erosion or disturbance of the contaminated area

KEY PARTS OF A CAP

A cap contains layers to contain contaminants and protect people and the environment. Caps designs vary, but most contain one or more of the following:



Example of a cover with several layers.

LOW-PERMEABILITY BARRIER
Blocks water from seeping (e.g., asphalt, concrete)

VEGETATIVE LAYER
Prevents erosion and helps blend into the environment

DRAINAGE LAYER
Redirects water to avoid buildup

PROTECTIVE COVER OR SOIL
Shields the cap and supports vegetation

GAS VENTING (IF NEEDED)
Safely manages gases like methane or vapors

CAPPING FOR BROWNFIELD CLEANUP

PURPOSE : Restrict infiltration to the contaminated area to stop spread to other receptors

MATERIALS: Common materials: low permeability soil, liners, and other membranes. Material may depend on the type of contaminant

DESIGN: Depends on factors such as site conditions, regulations, and the type of contaminant

METHODS: Typically entails placing a layer of asphalt or multiple layers of materials

REGULATION: Regulatory requirements may dictate the type and thickness of the capping material(s) used

MORE INFORMATION

Hazardous Building Materials Factsheet
Engineered Controls Factsheet
Institutional Controls Factsheet

PFAS Factsheet
Community Guide to Capping

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