

HISTORICAL FILL

“Historical fill” – sometimes called “urban fill” – consists of human-placed materials used to fill in land or create new land area. Deposited before modern environmental regulations, historical fill is common in older developed areas and brownfields. It frequently includes wastes such as coal ash, wood ash, and construction debris. It often contains contaminants that present challenges to the redevelopment of brownfields.



STEPS TO ADDRESS HISTORICAL FILL

Addressing historical fill is a multi-stage process. Although each state has its own rules, here's a general summary of the procedure:

COMMON POLLUTANTS & HEALTH RISKS

Polycyclic Aromatic Hydrocarbons (PAHs) – Chemical compounds formed during the incomplete burning of coal, oil, gas, wood, and other organic matter; commonly found in coal, oil, and tar.

Petroleum hydrocarbons – Organic compounds that make up fuels and lubricants; widely present in gasoline, diesel, oils, and related petroleum products.

Heavy metals – Naturally occurring elements often concentrated in industrial byproducts; commonly found in ash, paints, pesticides, and contaminated soils.

Polychlorinated Biphenyls (PCBs) – Synthetic chemicals once widely used in electrical equipment, hydraulic fluids, paints, sealants, and adhesives; now recognized as highly toxic.

Asbestos – A group of mineral fibers formerly used in insulation, construction materials, machinery components, and automotive parts such as brakes and clutches.

Exposure to contaminants found in historical fill has been linked to increased cancer risk, organ damage, nervous system damage, immune system suppression, thyroid disease, mesothelioma, and reproductive and developmental issues.

ADDRESSING ASSOCIATED RISKS

Historical fill is so widespread that completely cleaning it up is often not feasible. Instead, with careful planning, these materials often can be safely left in place or reused elsewhere. Such strategies protect human health and the environment and are important tools in brownfield redevelopment.

To prevent exposure, historical fill may be “capped” with a building or a surface layer of clean soil, pavement, or “engineered control.”

Environmental restrictions, generally called “institutional controls,” are then recorded on the property’s land records to make people aware of the historical fill and the need for regular inspections and maintenance.



Conduct Environmental Site Assessments to gather data about the site's historical activities, identify and delineate contamination, and evaluate potential risks to humans and the environment.



Perform a Feasibility Study to evaluate remedial alternatives based on effectiveness, implementability, cost, and ability to meet regulatory requirements.



Prepare a Remedial Action Plan containing the cleanup design and specifications.



Implement the Remedial Action Plan including any cleanup, caps or other engineered controls, and institutional controls.



Document the cleanup and implement any required long-term monitoring and maintenance.



uconn-tab@uconn.edu



tab.program.uconn.edu