

# Environmental & Energy Advisory

An update on law, policy and strategy

## **Historic Fill at Brownfields Properties: Opportunities and Challenges for Developers**

Despite regulatory efforts to streamline the remediation process and provide liability relief to developers, the modestly contaminated fill that underlies many urban and industrial areas (“historic fill”) is one of the most common challenges to brownfields redevelopment. Brownfields developers and others involved in the remediation of urban properties should be aware of state regulations, guidance, and policies that address the reporting, cleanup, and management issues peculiar to historic fill, particularly in industrialized states. From the moment the pre-purchase environmental assessment begins through the project’s final regulatory approvals, it is critical for developers and their advisors to take a strategic approach to historic fill issues in their development plans.

In some states, flexible policies allow brownfields developers to remediate only those areas of concern that relate to specific releases and to leave historic fill in place or manage it on-site, particularly if the parcel will be restricted to industrial or commercial use in the future. Other states either impose more restrictive requirements on the investigation, cleanup, and management of historic fill, or fail to recognize the issue at all. Developers thus should be prepared to seize the opportunities afforded by those states with flexible historic fill policies and, in states with less favorable approaches, to manage the challenges posed by sites containing historic fill and associated liabilities.

This advisory identifies key aspects of the development process for contaminated properties that are affected by the presence of historic fill and provides strategic approaches to cost effectively assess, remediate, and manage sites impacted by historic fill.

### **Historic Fill Basics**

Before the 1970s, contractors routinely used wood and coal ash, building demolition material, dredging spoils, and other byproducts of industrial activities to fill and grade properties and to “reclaim” land for development, often across wide swaths of cities, such as Boston’s Back Bay and many urban waterfronts. In addition, many industries filled their land with byproducts of their production processes, such as slag and foundry sand. Consequently, historic fill in urban areas is often laced with elevated levels of contaminants such as polycyclic aromatic hydrocarbons (PAHs), heavy metals including lead, and petroleum constituents. The contaminated areas transcend current property

boundaries, and sampling of historic fill often reveals contamination that exceeds state reporting thresholds and health-based cleanup standards, but is generally at low concentrations. This low level contamination typically is relatively uniform and unrelated to any identifiable “release” or spill.

Even where the extent and nature of the contamination in historic fill has been fully characterized by soil sampling and other environmental assessment, complete remediation of historic fill to bring properties to residential cleanup standards or to statewide “natural” background levels often would require the excavation and disposal of the soil covering entire parcels, which will rarely be practical or cost-effective. The contaminants in historic fill may also threaten or have already impacted groundwater or adjacent surface waters.

### **Site Assessment**

Whether prior to purchase or in the early stages of development planning, environmental assessment of urban property requires special attention if the property is potentially impacted by historic fill.

New Jersey’s statewide survey of historic fill impacted areas of over five acres, completed in 2005, is one example of publicly available information that prospective purchasers should review to determine whether a property may be impacted by historic fill. New Jersey’s maps were compiled through analysis of aerial photography and historic maps, neither of which provides conclusive evidence of the extent or composition of the identified historic fill. In the course of conducting a complete “Phase I” site assessment, prospective purchasers should determine whether site-specific information is available concerning historic filling activities on a property.

More extensive environmental assessments on properties likely impacted by historic fill, such as “Phase II” borings and sampling during pre-purchase due diligence or post-acquisition investigations, may uncover soil or groundwater with widespread levels of contaminants that exceed state reporting thresholds. Before any round of site assessment begins, sellers and prospective purchasers should ensure that they are prepared to address the potential consequences of discovering exceedances in historic fill (or otherwise), such as any applicable requirements to report those exceedances to state agencies. Reporting exceedances in historic fill may obligate the property owner to proceed through the state’s cleanup program and to remediate the entire site to the applicable state cleanup standards.

Developers and their consultants should understand any relevant exemptions to reporting for common contaminants associated with historic fill and the practical limitations of those exemptions. For example, in Massachusetts, state regulations require notification of the state environmental agency if site assessment reveals contaminant levels above certain reporting thresholds, but provides exemptions from the notification requirement when the contaminants are solely attributable to lead paint, emissions exhaust, coal, coal ash, and wood ash. These exemptions theoretically provide a means of avoiding notification where contamination is exclusively attributed to the most common forms of historic fill. However, in practice these exemptions do not cover other common components of ash-related fill, such as lead that is unrelated to paint, certain PAHs, and petroleum residuals. Once discovered during site assessment activities, these contaminants must be reported to state regulators even if they reflect “background”

levels and are unrelated to any known release. Notification initiates the site's entry into the state-regulated cleanup process. Many states do not provide any exemptions for historic fill contaminants.

Most brownfields sites are investigated and cleaned up under state brownfields, voluntary cleanup, or mandatory site remediation programs. Where developers and other parties conduct such response actions at sites under a qualified state cleanup program as defined under the 2002 Brownfields Amendments to CERCLA, the site is generally exempt from federal enforcement actions under CERCLA. Thus, to minimize the risk of federal liability, it is important to determine that the site is eligible for such a qualifying cleanup program and to ensure compliance with the program's requirements.

If site assessment uncovers elevated levels of contaminants consistent with historic fill, developers and their consultants should attempt to limit unnecessary investigation and characterization of the contamination, especially off-site sampling. In many cases, where no identifiable release or "hot spot" has been identified on the site, the historic fill may be readily identified through historical information, soil borings, and geological profiles. The investigation should utilize targeted soil and groundwater sampling to support defensible conclusions about the types and levels of contamination in the historic fill and to distinguish it from specific on-site releases or hot spots.

Consultants may have success in controlling the costs of remedial investigations by employing the assumption that areas of similar fill generally have similar levels of contaminants. If possible, the prospective developer and its consultant should work with state agency staff – ideally in the brownfields or voluntary cleanup program office and/or the state economic development agency, rather than the "enforcement" side of the contaminated sites program – to agree on a pragmatic approach to site investigation that recognizes the widespread presence of historic fill.

There are occasional exceptions to this general advice. Some subsidies for brownfield redevelopment, such as state tax credits, may be in jeopardy if the only contamination at a site is related to mildly contaminated historic fill that extends beyond the property. In New York, the presence of historic fill at a site is a negative factor in, but does not preclude, eligibility for a site's entry into the state's Brownfield Cleanup Program, which is a prerequisite to obtaining state brownfield tax credits for a project. Instead, the program favors sites with identifiable on-site sources of contamination. Depending on the value of the tax credits, this preference may justify conducting additional environmental assessments to identify hot spots that may be inconsistent with contamination solely from historic fill. As the availability of subsidies may play a major role in the economic viability of a brownfields project, developers should understand the criteria for such financial assistance as early as possible to ensure that even the first site assessment reports support the project's eligibility.

### **Site Cleanup and Development**

After environmental investigation has adequately identified areas of the site impacted by historic fill and, if present, any material site-specific releases, limiting the scope and costs of remediation will depend on the savvy of the development team. Again, it is advisable to work with state agency staff supportive of brownfields projects to develop a mutually acceptable site remediation and fill management strategy. Developers should engage consultants and legal counsel who inspire trust in agency staff and have a track

record of effective collaboration with regulatory agencies on brownfields redevelopment projects.

In many states, remediation of contamination to “background” levels, however defined, will satisfy regulatory requirements. In those states with a statutory or regulatory definition of background that includes some impacts of human activity, regulators may have established background levels of contaminants for urbanized areas that reflect the widespread results of industrial activity, such as the historic deposition of air pollution or contaminants in stormwater runoff. For example, the Illinois Pollution Control Board has approved upward adjustments to the state-wide background standards for certain metals in urban areas. Unfortunately, these elevated background levels may not encompass the more elevated levels of contaminants in historic fill. Also, some states, such as Ohio, define background as limited to “naturally occurring” contaminants in native soils, excluding all anthropogenic sources.

Massachusetts occupies a middle ground, defining background to include levels of oil and hazardous material that are attributable to industrial or engine emissions, “coal ash or wood ash associated with fill material,” and petroleum residues from the normal operation of motor vehicles. However, to use background levels that include “fill material” as cleanup standards, the Massachusetts Department of Environmental Protection requires evidence that the site has coal ash or wood ash in the fill and that all levels of contaminants related to that material are below relatively conservative reference values in agency guidance.

Where possible, developers should attempt to demonstrate that the constituents in historic fill establish site-specific background conditions, and that no further remediation is necessary beyond cleanup of any specific hot spots on the property. Some states, like New Jersey, Illinois, and Pennsylvania, have adopted relatively simple mechanisms for the remediating party to establish that on-site soils consist of historic fill materials, providing a basis for limiting cleanup requirements. Once the reviewing agency agrees that historic fill is present at the site, the developer and its consultant may proceed with a remediation plan for the property that avoids the impractical and burdensome steps involved in conducting a typical cleanup to “natural” background levels, health-based cleanup standards, or even site-specific risk-based standards, which might require extensive excavation and disposal of all impacted soils. Specifically, the plan must actively address any identified on-site “releases” or hot spots, but may leave historic fill materials in place, often subject to engineering and institutional controls to prevent further exposure to the materials. As an example, New Jersey presumes, by statute, that capping is an appropriate remedy for soils that are shown to consist of historic fill materials.

Brownfield developers and their consultants should make every effort to tailor the cleanup process to remediate historic fill in a reasonable, cost-effective manner. Regulators may be willing to agree to institutional controls, such as land use restrictions, and/or engineering controls, such as capping, in projects that forgo or limit residential end-uses (*e.g.*, slab-on-grade multifamily buildings). Developers may have more success in obtaining agency approval for leaving historic fill in place when well-designed engineering controls are integral components of development plans that include other public benefits, including thorough cleanup of all identified releases. Above all, regulators may be receptive to thoughtful and scientifically supported proposals that

demonstrate protection of public health and the environment, particularly when they are a part of a desirable brownfields redevelopment project.

### **Fill Management**

Regardless of the level of remediation required, developers should develop a plan for managing historic fill after groundbreaking. Contractors will often need to move and dispose of substantial quantities of historic fill excavated to construct foundations, underground parking, and utilities. Depending on the degree of contamination, excavated soil may require management as a hazardous waste under federal and state law, especially if the soil is “characteristically” hazardous because of the toxicity of its metals content. If possible, the fill should be managed on-site. If the soil is to be reused elsewhere on-site or at another project off-site, contractors generally must comply with other state “non-degradation” regulations, policies, and guidelines that restrict the reuse of historic fill, as well as stringent acceptance criteria at landfills, asphalt batch plants, and other disposal facilities.

Importing off-site fill may be necessary for site grading at various stages of the project. Importing fill from off-site introduces the risk of re-contaminating the property. Many states therefore require that imported fill be accompanied by documentation of its source, and where indicated, a sampling protocol. On the local level, some cities have enacted ordinances that impose additional requirements on the use of imported fill. Developers should ensure that their general contractors and sub-contractors are familiar with and follow all applicable regulatory requirements during all phases of site work. Regardless of local requirements, developers should establish procedures for screening fill to avoid unnecessary risks and liabilities.

A well-designed and comprehensive “soil management plan” that maximizes on-site reuse and minimizes off-site disposal is critical to addressing potential environmental liability and to keeping a project on schedule. Where off-site disposal of historic fill is necessary, provision should be made in the plan for manifesting, transportation, and disposal of any hazardous soil at a permitted disposal facility in full compliance with the Resource Conservation and Recovery Act (“RCRA”) and applicable state solid waste management regulations.

Although disposal of some historic fill may be unavoidable, the plan should encourage on-site reuse of historic fill for grading and landscaping the site or placement under structures, especially where such reuse will be subject to favorable conditions from state regulators. Reuse of historic fill on-site is generally more cost-effective and less risky than off-site disposal. To the extent the fill cannot be fully reused on-site, the plan should include a process to obtain beneficial use determinations from state regulators to allow, in lieu of disposal, the reuse of historic fill as roadbed fill, landfill cover, landscaping, and on or off-site grading at industrial and commercial properties. For example, Pennsylvania’s “Clean Fill Policy” and a general “beneficial use” permit allow the use of non-hazardous “regulated fill,” including historic fill, in commercial and industrial construction projects where the fill meets state health-based standards for non-residential use and where direct exposure pathways are eliminated.

The plan should preclude contractors from using or disposing of historic fill elsewhere without careful controls and state authorization (such as a beneficial use determination), as developers may face significant environmental liability for remediating properties

impacted by improperly-used fill. If the historic fill must be removed from the site, it is critical that the developer ensure that it is taken to lawful disposal or reuse locations, and verify its destination, rather than relying on excavation contractors to determine where it goes. The latter approach can have serious liability consequences for the developer as an “arranger” for disposal under CERCLA and similar state laws. This type of risk is especially acute in states without established practices or regulations for the reuse of historic fill. In such states, contractors may have longstanding and informal practices of using historic fill excavated in the course of construction in other projects (potentially including residential developments) without precautionary environmental testing or state oversight.

## Conclusion

Brownfields developers should be aware that moderately contaminated historic fill is present in many urban and industrial areas. A successful strategy for dealing with historic fill may be the difference between a viable and profitable redevelopment and an unsustainable project beset with delays, unanticipated costs and little chance of completion. To be realistic, development plans and financial projections must take into account the presence of historic fill and the flexibility or lack thereof in state regulations and policies addressing the remediation of contaminants in such material. From the earliest planning stages through construction, such projects require the engagement of environmental consultants and legal counsel experienced with historic fill-impacted properties in the relevant jurisdiction. Their involvement throughout the redevelopment process will help control the scope of assessment and remediation required. These advisors should engage state regulators and economic development programs that are supportive of brownfields redevelopment, as opposed to agency staff that focus on environmental enforcement. After remediation and initiation of construction, it is also critical for developers to institute comprehensive but cost-effective fill management plans to comply with regulatory requirements and reuse historic fill on or off-site where feasible.

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