

Chapter 1

Introduction

Background

Many communities across the country have brownfields sites, which the U.S. Environmental Protection Agency (EPA) defines as abandoned, idle, and under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination. Concerns about liability, cost, and potential health risks associated with brownfields sites may prompt businesses to migrate to "greenfields" outside the city. Left behind are communities burdened with environmental contamination, declining property values, and increased unemployment. The EPA established the Brownfields Economic Redevelopment Initiative to enable states, site planners, and other community stakeholders to work together in a timely manner to prevent, assess, safely clean up, and sustainably reuse brownfields sites.

The cornerstone of EPA's Brownfields Initiative is the Brownfields Pilot Program. Under this program, EPA is funding more than 200 brownfields assessment pilot projects in states, cities, towns, counties, and tribal lands across the country. The pilots, each funded at up to \$200,000 over two years, are bringing together community groups, investors, lenders, developers, and other affected parties to address the issues associated with assessing and cleaning up contaminated brownfields sites and returning them to appropriate, productive use. In addition to the hundreds of brownfields sites being addressed by these pilots, many states have established voluntary cleanup programs to encourage municipalities and private sector organizations to assess, clean up, and redevelop brownfields sites.

Purpose

EPA has developed a set of technical guides, including this document, to assist communities, states, municipalities, and the private sector to better address brownfields sites. Currently, these guides in the series are available:

- *Technical Approaches to Characterizing and Cleaning up Iron and Steel Mill Sites under the Brownfields Initiative*, EPA/625/R-98/007, December 1998.
- *Technical Approaches to Characterizing and Cleaning up Automotive Repair Sites under the Brownfields Initiative*, EPA/625/R-98/008, December 1999.
- *Technical Approaches to Characterizing and Cleaning up Metal Finishing Sites under the Brownfields Initiative*, EPA/625/R-98/006, December 1999.
- *Technical Approaches to Characterizing and Cleaning up Brownfields Sites*, EPA/625/R-00/009, December 2000.
- *Technical Approaches to Characterization and Cleanup of Automotive Recycling Brownfields*, EPA/625/R-02/001, January 2001.
- *Technical Approaches to Characterizing and Redeveloping Brownfields: Municipal Landfills and Illegal Dumps*, EPA/625/R-02/002, January 2002.
- *Technical Approaches to Characterizing and Cleaning up Brownfields Sites: Railroad Yards*, EPA/625/R-02/007, May 2002.

➤ These guides are comprehensive documents that cover the key steps to redeveloping brownfields sites for their respective industrial sector. In addition, a supplementary guide contains information on cost-estimating tools and resources for brownfields sites (*Cost Estimating Tools and Resources for Addressing Sites Under the Brownfields Initiative*, EPA/625/R-99-001, January 1999).

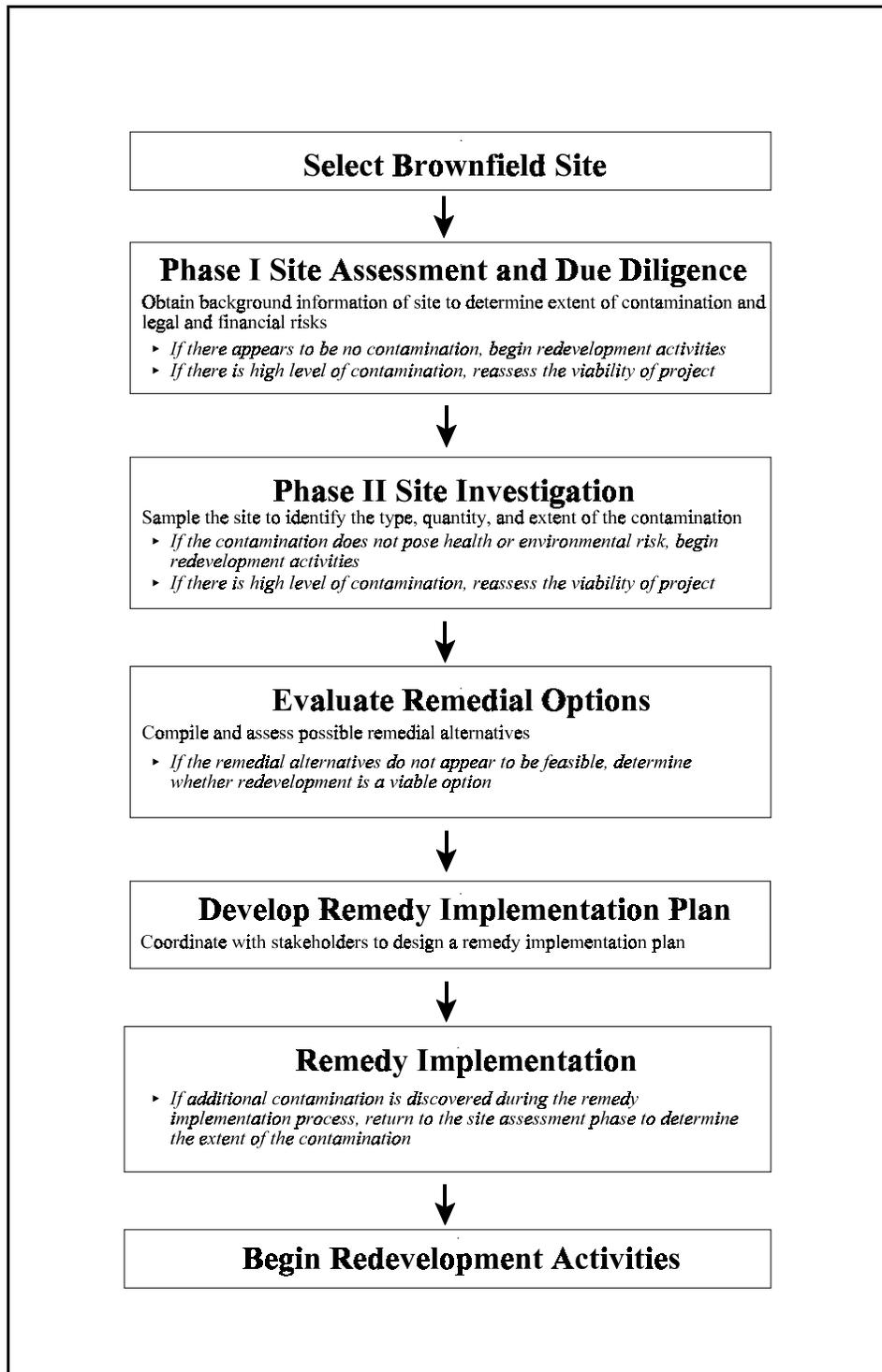


Exhibit 1-1. Flow Chart of the Brownfields Redevelopment Process

Typical Brownfield Redevelopment Process

The typical brownfields redevelopment process begins with a Phase I site assessment and due diligence, as shown in Exhibit 1-1. The site assessment and due diligence process provides an initial screening to determine the extent of the contamination and possible legal and financial risks. If the site assessment and due diligence process reveals no apparent contamination and no significant health or environmental risks, redevelopment activities may begin immediately. If the site seems to contain unacceptably high levels of contamination, a reassessment of the project's viability may be appropriate.

A Phase II site investigation samples the site to provide a comprehensive understanding of the contamination. If this investigation reveals no significant sources of contamination, redevelopment activities may commence. Again, if the sampling reveals unacceptably high levels of contamination, the viability of the project should be reassessed.

Should the Phase II site investigation reveal a manageable level of contamination, the next step is to evaluate possible remedial alternatives. If no feasible remedial alternatives are found, the project viability would have to be reassessed. Otherwise, the next step would be to select an appropriate remedy and develop a remedy implementation plan. Following remedy implementation, if additional contamination is discovered, the entire process is repeated.

This document is organized as follows:

- Chapter 2 – Industrial Processes and Contaminants at Pulp and Paper Mill Sites
- Chapter 3 – Phase I Site Assessment and Due Diligence
- Chapter 4 – Phase II Site Investigation
- Chapter 5 – Contaminant Management
- Chapter 6 – Conclusion
- Appendix A – Acronyms
- Appendix B – Glossary
- Appendix C – Testing Technologies
- Appendix D – Cleanup Technologies
- Appendix E – Works Cited