



## Service Areas

- Planning
- Owner Representation and Advisory Services
- Liability Assumption Facilitation
- Regulatory Compliance
- Remediation
- Building Materials Management
- Environmental Insurance
- Beneficial Reuse and Sustainability
- Construction Management

## Brownfields and Redevelopment Services

Integral Consulting specializes in managing remediation and redevelopment needs, regulatory requirements, and stakeholder priorities to develop cost-effective, sustainable solutions for brownfields projects.

Our team has led many high-visibility brownfields projects involving diverse stakeholders and challenging regulatory and technical conditions. By integrating a broad range of technical services, we have created significant savings for our clients, maximized efficiency, and helped return underutilized and contaminated properties to productive use.

### Planning

Our approach begins with understanding our clients and their transactional needs. We work together to generate a framework to evaluate required environmental work and ensure sustained stakeholder involvement and commitment. Integral's technical expertise includes preparing environmental impact statements, performing site assessments, developing remediation plans, and providing regulatory support. The long-term local experience and agency relationships of our key staff, combined with national remediation and risk management project experience, support effective negotiations, permitting, cleanup, and overall project redevelopment.

### Owner Representation and Advisory Services

Throughout the process of impaired asset redevelopment, we support property owners on due diligence needs, environmental risk management, insurance and financing options, remediation, and construction. Cost-benefit analysis of technical and regulatory matters is paramount to the understanding and management of environmental risk during redevelopment. These risks can then be managed by environmental insurance and performance-based contracting strategies for added protection. Integral also helps clients position for and obtain local, state, and federal funding and/or tax benefits as applicable to specific properties and consistent with client goals.

### Liability Assumption Facilitation

Integral has relationships with proven brownfields developers and contractors who can be brought into our client teams. In many cases, these land developers will evaluate and purchase brownfields properties including environmental liability assumption to provide Integral's clients with as full a release of liability as possible under existing statutes. Integral acts on behalf of clients to facilitate and structure these programs, which include review of client asset portfolios to best select candidate properties for liability transfer. Our national experience in this area includes contracting support and connections to contractors willing to take on performance risk to ensure the best client outcome.

## *Brownfields and Redevelopment Services*

### Regulatory Compliance

Many brownfields sites remain undeveloped because of the complex technical and regulatory framework surrounding them. At Integral, we have a sound understanding of federal, state, and local regulatory programs across the country. We excel at evaluating and integrating the regulatory needs of each involved agency with the redevelopment needs of the client based on site end use and the unique risk profile of each project—and we use this integrated information to drive the investigation, remediation, and overall risk management of redevelopment sites.

### Remediation

When remediation is required, Integral has national expertise in all facets of engineering design and implementation. This includes remedial actions completed ahead of redevelopment and longer-term complex remedial programs designed and implemented to dovetail with redevelopment activities and post-redevelopment site operations. Integral has extensive experience in preparing tailored design documents, bid packages, and specifications for all stages of remediation and redevelopment. In addition, our resume includes extensive design/build and performance-based contracting experience. We carry years of implementation experience and risk management lessons learned to keep remediation programs on track before, during, and when needed, after redevelopment.

### Building Materials Management

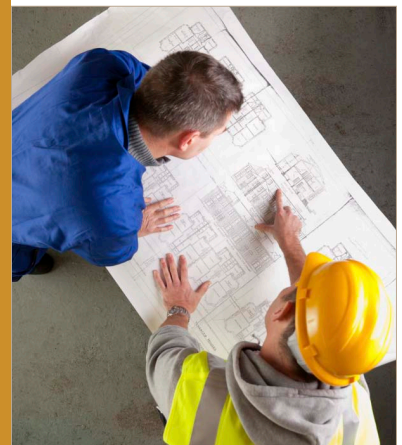
Integral performs pre-demolition building surveys to properly quantify building materials that will require abatement or other specialized management before or during building demolition. Post-survey, we manage and oversee the abatement and demolition processes for complex sites with multiple media requiring specialized handling and permit sequencing.

### Environmental Insurance

We assist clients in navigating the complexities of obtaining environmental insurance when considering a brownfields redevelopment project or when claims assistance is needed. We also support clients in evaluating the proposed or existing environmental insurance and construction liability coverage of potential property purchasers.

### Beneficial Reuse and Sustainability

Our credentialed consultants assist developers in planning and designing sustainable construction projects. For more than 15 years, our staff have worked with state regulators to create and implement sustainable fill material reuse policies. The practice has saved clients millions of dollars by reducing roadway and infrastructure wear, fossil fuel use, noise and particulate emissions, and overall project carbon footprint.



## *Brownfields and Redevelopment Services*

### **Construction Management**

Integral staff have significant experience acting as owners' representatives and assisting construction management teams during remediation and redevelopment. Integral offers quality assurance monitoring and contract management services to ensure that projects are completed as designed, achieve redevelopment goals, and minimize transactional risk. Integral routinely prepares full contract specifications to incorporate all aspects of material management, excavation, dewatering, and remediation into construction and redevelopment. We also incorporate value engineering evaluations of contractor bid estimates and rework specific bid items that may pose issues during construction to guide final contractor procurement. During construction, our experienced staff readily respond to and provide solutions for unforeseen site conditions. Our focused construction management, combined with properly prepared specifications and contracting support, prevents cost overruns and schedule delays.



### *Selected Projects*

#### **Remediation and Beneficial Reuse, Hunt's Point Cooperative, New York**

Integral staff have performed investigations for redevelopment assistance under New York State's Voluntary Cleanup Program. Work included environmental investigation, engineering control design specifications, vapor mitigation, fill and waste management, coordination and negotiations with regulatory, environmental, and health agencies, and construction oversight for a 167,000-square foot warehouse and distribution facility. In addition, Integral staff prepared, negotiated, and received approval from regulators for a reuse effort under a beneficial use determination that realized an estimated \$6 million in disposal and nearly \$500,000 in fill cost savings.



#### **Soil and Groundwater Remediation, Downey Landing, California**

Integral staff, under prior employment, directed this Phoenix award-winning guaranteed closure project on behalf of the City of Downey and future parcel owners. The liability assumption facilitated a complex 60-acre redevelopment including a retail center, museum, movie studio, and hospital adding vital jobs and tax revenue to the city. Remediation involved bioremediation of a 1.5-mile-long chlorinated solvent plume and source area cleanup by soil vapor extraction and chemical oxidation. As part of the project, key regulatory documents were prepared, including an innovative closure framework to address commingled plume issues discovered after contract execution. Soil closure was achieved 6 years after start of systems, and active groundwater remediation was completed in 7 years with closure pending.

## Brownfields and Redevelopment Services

### Environmental Closure at Seven Power Plants, South Texas

Integral staff, under prior employment, oversaw the performance-based remediation and guaranteed closure of 36 areas of concern at seven former power plant sites in south Texas. Liability assumption and asset transfer allowed for post-deregulation repowering/redevelopment activities at each property. A comprehensive remedial plan and close regulatory coordination facilitated redevelopment activities without delays in required remediation. Within 7 years, and ahead of schedule, all sites were closed under the Texas Risk Reduction Program.

### Remediation and Redevelopment, Hoyt Street Railyard, Portland, Oregon

Transformation of a 40-acre former railyard into a mixed residential, commercial, and retail center has resulted in Portland's Pearl District becoming the heart of the city's now thriving waterfront. Historical rail operations had released petroleum hydrocarbons and lead to soil and groundwater, and an adjacent former manufactured gas plant site had impacted soils in the area. Integral staff, under previous employment, developed an integrated cleanup and redevelopment plan consistent with the goals of the mixed-use project. The cleanup plan included soil and groundwater remediation along with the creative reuse of lesser impacted soils as construction fill. Integral staff oversaw the stabilization, reuse, and disposal of more than 37,000 tons of soils and designed a long-term risk management program including containment specifications, deed restrictions, and monitoring. These engineering controls, developed with and accepted by all stakeholders, were based on environmental protectiveness and facilitated redevelopment of the area.

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