
BASICS OF APPRAISING CONTAMINATED PROPERTY

Orell C. Anderson, MAI
Strategic Property Analytics, Inc.
Laguna Beach, California

This article focuses on contemporary methodology concerning Brownfield valuation as accepted by the real estate appraisal community and as such generally by the courts.

The fundamentals and framework used today are relatively new. In the beginning, the analysis of real estate impacted by Detrimental Conditions (DC) (*see* RANDALL BELL, ORELL C. ANDERSON & MICHAEL V. SANDERS, *REAL ESTATE DAMAGES: APPLIED ECONOMICS AND DETRIMENTAL CONDITIONS* (Appraisal Institute, 2d ed. 2008)) was performed by professionals using a wide array of methodologies. Often, this included personalized reaction, sentiment, and techniques that may or may not have been reasonable and appropriate, or the concern about DCs was simply assumed away. Regression analysis—a method that allows for the isolation of a single independent variable and its contribution to overall price—was once controversial and mostly used by academics; however, now most appraisers are not only familiar with, but also capable of applying, this type of study in their valuation. Scholars, much more than appraisers, have been using other statistical methods such as contingent valuation—an approach for valuing public goods that are not typically exchanged in the marketplace, indexing to junk bonds, mass-appraisal applications, and economic geography, which are considered controversial, if not speculative and inadmissible, by the courts.¹

DCs are defined by any situation that can negatively impact property values, such as distressed sales, noise, construction defects, geotechnical problems, environmental contamination, threats of terrorism, or simply the perception of risk. The existence of a DC confronts appraisers with assessment problems that are

often outside the scope of the three traditional approaches to value.

An analysis of DCs indicates that they can all be classified into one of ten basic conditions. Contamination is considered a Class VIII Environmental and Biomedical Condition. The analyst must first recognize the unique characteristics of these classifications and then address the costs associated with three potential stages of the remediation/brownfields process: assessment (before remediation), the repair process (during remediation), and any ongoing issues (after remediation).

The effects of any market resistance, after the repair process is completed, must also be studied. Sometimes referred to by the jargon term “stigma,” *market resistance* is defined as “[t]he risk, if any, associated with the Ongoing Stage of a detrimental condition analysis. Market resistance includes the reluctance on the part of the real estate market to buy a property that has historically been damaged or tainted.”² By applying the appropriate methodologies, the analyst is able to provide the real estate and legal communities with a meaningful and accurate assessment of a specific detrimental condition such as environmental contamination.

The most current and accepted peer opinions about the valuation of Class VIII properties are filtered through the lens of the Uniform Standards of Professional Appraisal Practice (USPAP). The USPAP sets out the *minimum* standards and ethics that a state-licensed real estate appraiser must follow so that his or her reports are meaningful, not misleading, and promote a high level of public trust.

The USPAP includes Advisory Opinions (AOs), which illustrate the applicability of appraisal standards in specific situations. In AO-9, the specific situation is a property with environmental contamination that includes six considerations: (1) Competency; (2) Specialized Terms and Definitions; (3) Relevant Property Characteristics;

(4) Valuation Issues—As If Unimpaired; (5) Valuation Issues – As Impaired; and (6) Cost, Use & Risk—Before, During & After the Analysis. Considerations (3), (5), and (6) are addressed below.

Relevant Property Characteristics

The appraisal of property that has contamination will likely involve characteristics and data that are not typically considered in the appraisal of an otherwise similar, but uncontaminated, property. These may include the following considerations:

1. whether the discharge was accidental or permitted;
2. the status of the property with respect to regulatory compliance requirements;
3. the remediation life cycle stage of the property as of the effective date;
4. the contamination constituents;
5. the contamination conveyance;
6. whether the property is a Source, Non-source, Adjacent, or Proximate (SNAP) site (discussed below);
7. the cost and timing of any site remediation plans;
8. liabilities and potential liabilities for site cleanup;
9. potential limitations on the use of the property due to the contamination and its remediation;
10. potential or actual off-site impacts due to contaminant migration (for Source sites).

These characteristics require the appraiser to consider information from other experts and will necessitate research on similar factors for market data used in the analyses.

Valuation Issues—As Impaired

Highest and Best Use (HBU) is defined by the Appraisal Institute as “the reasonably probable and legal use of vacant land or an improved property that is physically possible, legally permissible, appropriately supported, financially feasible, and that results in the highest value.”

HBU can change when environmental contamination is introduced. Contamination (as well as other environmental conditions) can render portions of a site unusable. Once contamination is introduced and the government is aware, deed restrictions and changes in zoning (allowable uses) are possible. Paying for cleanup could damage a real estate developer’s profit model (cash flow) and could eliminate the feasibility of any development.

Initial steps in environmental real estate damage valuation include determining whether the impaired subject is a Source, Non-source, Adjacent or Proximate (SNAP) site and where it fits within the remediation life cycle (Orell C. Anderson, *Environmental Contamination: An Analysis in the Context of Detrimental Conditions*, The Appraisal Journal). Once this has been determined, the appraiser can then proceed to collect the proper data for analysis and determine the Impaired HBU.

- Source sites are the sites on which contamination is or has been generated.
- Non-source sites are sites onto which contamination has migrated.
- Adjacent sites are not contaminated, but share a common property line with a contaminated property.
- Proximate sites are not contaminated and not adjacent to a source site, but are in close proximity to the source site.

SNAP is a fundamental issue related to contamination and liability under the law. A property that is a source of the contamination typically is burdened by more liability than is a non-source property to which the contamination has migrated. Under CERCLA, for example, the owner of the source property may be responsible for all costs to remediate the entire area affected by the contamination, including the non-source site.

Cost, Use, and Risk—Before, During, and After the Analysis

Systematic tools for damaged properties include the issues of Cost, Use, and Risk as they pertain to

the remediation life cycle of an environmentally contaminated real property.

The valuation of this condition can easily be understood within the context of the DC Matrix upon which AO-9 is based. The DC Matrix, a pictorial model, outlines the three stages of analysis and related issues that should be considered for the valuation of contaminated real property.

Real property affected by a DC has a life cycle that involves three potential stages with connected analysis and related issues that should be considered for Brownfields. As noted above, they are the assessment stage (before remediation), the repair stage (during remediation), and the ongoing stage (after remediation), along with cost, use, and risk issues potentially impacting value during each stage.

Before Remediation Stage

This is the assessment stage where the environmental consultants/engineers assess the extent of contamination, if any. Associated assessment costs, use, and risk are the responsibility of the source property, if any:

- **Costs:** These are the costs associated with assessing the property, which may be mitigated by a site's participation in a brownfield program.
- **Use:** This includes any disruptions to the use of the property during the assessment period.
- **Risk:** These are the uncertainties associated with a property that has not been assessed or fully characterized.

During Remediation Stage

The remediation stage includes activities while the property condition is corrected or repaired:

The DC Matrix Remediation Lifecycle with Cost, Use and Risk Effects			
	Before Remediation	During Remediation	After Remediation
Cost	Cost to Assess & Responsibility Engineering Phase I, II, III Studies	Repair Costs & Responsibility Repairs Remediation Contingencies	Ongoing Costs & Responsibility Operations & Maintenance (O&M) Monitoring
Use	All Loss of Utility While Assessed Disruptions Safety Concerns Use Restrictions	All Loss of Utility While Assessed Income Loss Expense Increase Use Restrictions	Ongoing Use Disruptions Alterations to Highest & Best Use
Risk	Uncertainty Factor Discount, if any, where extent of damage is unknown	Project Incentive Financial incentive, if any, to complete repairs	Market Resistance Residual resistance, if any, due to situation

- **Costs:** These are the costs associated with remediation of any contamination, which may be mitigated by a site's participation in a brownfield program.
- **Use:** This includes any disruptions to use during any necessary remediation and may include recorded land use restrictions.
- **Risk:** This includes the project incentive to entice a buyer to purchase a property that is damaged but not yet repaired, which could exist as a result of contamination.

After Remediation Stage

There may be continuing or consequential issues associated with the contamination in a post-remediated condition. If so, this stage reflects those factors:

- **Costs:** This includes any ongoing costs such as O & M programs, monitoring wells, etc. These costs may be mitigated by a site's participation in a Brownfield program.
- **Use:** This includes any ongoing alterations to the use or HBU of the subject properties plus changes in income and expense categories (e.g., inability to install potable wells or excavate in certain areas of the property for fear of disturbing a TSCA cap).
- **Risk:** This is the ongoing perceived risk, termed "market resistance" (environmental stigma).

The legal, physical, and financial perspectives should be considered in each of the nine quadrants, just as they are in the HBU section of a typical appraisal. While all valuation assignments depend on the date of value, this is an even more important issue for a property impacted by contamination, because the property's value can vary considerably over the three potential stages of a detrimental condition.

Not every stage is necessarily relevant to every condition. The impaired value is driven not only by the inclusion or exclusion of these stages, but also by the three fundamental issues (i.e., cost, use, and risk) that may occur within each relevant stage.

A short discussion of risk is warranted at this point. An often misunderstood word in the litigation of environmental contamination is "stigma." Without a proper perspective and its placement within the remediation life cycle, it becomes nothing more than slang.

The current use of the word "stigma" in real estate, with its roots in eminent domain, is most accurately understood as perceived ongoing risk relating to a property in a post-remediated condition. The International Right of Way Association in the mid-to-latter 1990s promulgated the valuation of impaired real estate by simply subtracting costs and stigma from the baseline or "before" condition value of the subject property. The contemporary and accepted term "Environmental Stigma" is defined by USPAP in AO-9 as: "An adverse effect on property value produced by the market's perception of increased environmental risk due to contamination," but then directs the appraiser to "risk" definitions.

"Environmental Risk" is the clearest and most current term used to discuss the idea of stigma. Its use must be specific to a property's position within its remediation lifecycle as illustrated above (assessment stage, repair stage, and ongoing stage). AO-9 sets out the definition of "Environmental Risk" as: "The additional or incremental risk of investing in, financing, buying and/or owning property attributable to its environmental condition. This risk is derived from perceived uncertainties concerning:

- 1) the nature and extent of the contamination;
- 2) estimates of future remediation costs and their timing;
- 3) potential for changes in regulatory requirements;
- 4) liabilities for cleanup (buyer, seller, third party);
- 5) potential for off-site impacts; and
- 6) other environmental risk factors, as may be relevant."

The techniques used for data analysis are generally variations of traditional approaches to market value. For example, many of the statistical

procedures used by real estate professionals are extensions of the sales comparison approach and include neighborhood, proximity, and case studies. They also include statistical studies, regression analysis, and market interviews and surveys.

In the development of a diminution in value study for any one property, the real estate expert begins by researching the subject property along with a determination of key factors that may impact it. Subsequently, case studies are developed that are generally similar in DC situations. This methodology is an extension of the comparison sales approach, but with additional property characteristics.

Finding identical transactions is impracticable if not impossible and as such, data that are “other-similar” become the objective. At a minimum, this transaction-based approach to value must be consistent with the property’s progression through its remediation life cycle, as well as the property type (i.e., income-producing properties with other income-producing properties and not with residential properties). The data should also be consistent with market trends that exist at the effective date of value, as, by way of example, a recessionary market may exacerbate diminution indicators.

In summary, the professional appraisal community has been advised that, when valuing a property impacted by environmental contamination in an “as is” condition, they need to consider cost, use, and risk elements. In appraising Brownfield sites, it is necessary for the expert to place the subject property within the applicable life cycle stage and gather comparable market data. This is accomplished by using market data that also fall within the matching life-cycle stage as the subject site. By using the DC matrix, which was utilized in revising the current version of USPAP, analysts may render a competent analysis that the courts may rely on.

Endnotes

1. See, e.g., *Henry v. St. Croix Alumina, LLC*, 2008 WL 2329223 (D.V.I. 2008) (rejecting “mass appraisal” methodology of plaintiffs’ real estate damages expert).
2. See, e.g., *NutraSweet Co. v. X-L Engineering Co.*, 227 F.3d 776 (7th Cir. 2001) (plaintiff owner of contaminated non-source site recovered 100% of the costs to clean up its property from defendant owner of neighboring source site). See also 42 U.S.C. § 9601(9) (defining “facility” to include any area where hazardous substances have “come to be located”); 42 U.S.C. § 9607(q) (excluding from CERCLA liability owner of contiguous property contaminated by hazardous substances from source site, under certain circumstances).

Environmental, Energy, and Resources Law
23RD FALL CONFERENCE
CHICAGO
Swissôtel
WWW.SHOPABA.ORG/ENVIRONFALL
OCTOBER 28-31, 2015