

## THE CERCLA OF LIFE: USING ENVIRONMENTAL REGULATION TO REVIVE THE MENOMONEE VALLEY

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“Few residents of Milwaukee are aware of the great transformation that is taking place in the Menomonee Valley. The marsh[,] which has hitherto been devoted to the growth of pond lilies, rush and rank grass, is yielding to engineering skill and industry, and is becoming most desirable and valuable property.”<sup>1</sup>

## I. INTRODUCTION

The National Brownfield Association estimates that over one million brownfields exist in the United States today and that the estimated cleanup costs for these sites totals approximately \$650 billion.<sup>2</sup> These various brownfields range in size from under an acre to over 1,000 acres.<sup>3</sup> Along with their exorbitant cleanup costs, brownfields present serious problems of environmental contamination and blight across the United States.<sup>4</sup> But brownfields are not only an eyesore, they also pose a variety of health risks

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<sup>1</sup> 2003 in the *Menomonee Valley*, MENOMONEE VALLEY PARTNERS, INC. (2003) (quoting The Milwaukee Journal Sentinel, Aug. 4, 1871), [http://www.renewthevalley.org/media/mediafile\\_attachments/02/22-mvpannrep03.pdf](http://www.renewthevalley.org/media/mediafile_attachments/02/22-mvpannrep03.pdf).

<sup>2</sup> Todd S. Davis, *Defining the Brownfields Problem*, in BROWNFIELDS: A COMPREHENSIVE GUIDE TO REDEVELOPING CONTAMINATED PROPERTY 2, 5 (Todd S. Davis & Scott A. Sherman eds., 3d ed. 2010).

<sup>3</sup> *Id.* at 4.

<sup>4</sup> *See id.* at 5.

and serve as a breeding ground for crime.<sup>5</sup> Furthermore, because many of these brownfields are the remnants of old industrial centers operated in the center of an urban area, their neglect results in lost job opportunities in the heart of a city.<sup>6</sup>

Over the past century many cities, states, and private individuals have undertaken the task of purchasing, decontaminating, and rebuilding abandoned property intending to give the land new and prosperous purposes. Brownfield redevelopment offers cities the opportunity to create numerous benefits, such as revitalizing depressed urban areas,<sup>7</sup> increasing a city's local tax base,<sup>8</sup> creating new jobs for community residents,<sup>9</sup> improving the environmental quality of the surrounding area,<sup>10</sup> and increasing nearby property values.<sup>11</sup> Additionally, when a city chooses to restore and to build on an existing brownfield, it indirectly chooses to refrain from developing on untainted, open space, providing an opportunity for the city to reuse the existing infrastructure.<sup>12</sup> Finally, brownfield redevelopment presents an opportunity to obtain community reactions and suggestions on the decision-making process for the new cleanup project.<sup>13</sup>

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<sup>5</sup> See *id.*

<sup>6</sup> See *id.* at 4.

<sup>7</sup> See Julia A. Solo, Comment, *Urban Decay and the Role of Superfund: Legal Barriers to Redevelopment and Prospects for Change*, 43 BUFF. L. REV. 285, 319 (1995) (suggesting that funds should be designated to “developers interested in rebuilding impoverished areas”).

<sup>8</sup> See Davis, *supra* note 2, at 5.

<sup>9</sup> See *id.*; Hubert H. Humphrey III et al., *Brownfields Legislation: Three States' Experiences*, NAT'L ASS'N ATT'YS GEN.: NAT'L ENVTL. ENFORCEMENT J., Oct. 1997, at 3, 4.

<sup>10</sup> See Christopher G. Wells, Comment, *A Review of the Mississippi Brownfields Voluntary Cleanup and Redevelopment Act*, 19 MISS. C. L. REV. 235, 249 (1998) (concluding that state brownfields legislation can contribute to improved environmental quality and citizen health).

<sup>11</sup> See CHARLES BARTSCH & ELIZABETH COLLATON, BROWNFIELDS: CLEANING AND REUSING CONTAMINATED PROPERTIES 2 (1997) (explaining that brownfields may diminish neighborhood property values and threaten the economic viability of the area); Nancy Perkins, *A Tale of Two Brownfield Sites: Making the Best of Times from the Worst of Times in Western Pennsylvania's Steel Valley*, 34 B.C. ENVTL. AFF. L. REV. 503, 519–20 (2007) (explaining how a local brownfield redevelopment project resulted in increased property values).

<sup>12</sup> See Philip Catney, David N. Lerner, Tim Dixon & Mike Raco, *Is Brown the New Green?*, in SUSTAINABLE BROWNFIELD REGENERATION: LIVABLE PLACES FROM PROBLEM SPACES 352, 354 (Tim Dixon, Mike Raco, Philip Catney & David N. Lerner eds., 2007); Terry J. Tondro, *Reclaiming Brownfields to Save Greenfields: Shifting the Environmental Risks of Acquiring and Reusing Contaminated Land*, 27 CONN. L. REV. 789, 791–92 (1995). Many brownfields contain existing useable infrastructures such as water mains, sewer systems, and roads. Tondro, *supra*, at 792. A “greenfield” is “land that has never been used for manufacturing or commercial activities and [that] carries with it none of the potential for environmental liability of a Brownfield.” *Id.* at 791.

<sup>13</sup> See generally A. P. Fontaine, *Public Participation in the Brownfield Redevelopment Process: Lessons Learned in Two Case Studies in Michigan, USA*, in BROWNFIELDS IV: PREVENTION, ASSESSMENT, REHABILITATION AND DEVELOPMENT OF BROWNFIELD SITES 233, 233–42 (E. Beriatos & C.A. Brebbia eds., 2008).

Nonetheless, even considering the promising possibilities of brownfield redevelopment, such redevelopment still faces some opposition. Development presents two competing interests: (1) revitalization of the surrounding community; and (2) the potential impact of liability for environmental contamination, as a participating party may find more environmental contamination than it expected.<sup>14</sup>

This article examines the national trends of brownfield redevelopment and compares those trends with a case study of the Menomonee Valley, highlighting the successes and potential failures of the development. Part II of this article explains what constitutes a brownfield. Part III discusses the history of the Menomonee Valley and how that history impacted the need for cleanup. Part IV presents the federal and state laws that govern environmental cleanup of brownfields. Part V examines various cleanup methods that the United States Environmental Protection Agency (EPA) endorses and teaches to redevelopers. Part VI explores funding incentives that various organizations, including cities and states, put forth to encourage brownfield cleanup and redevelopment. Finally, Part VII analyzes the approach that redevelopers used in the Menomonee Valley and how that approach adheres to and differs from the national trends.

## II. WHAT IS A BROWNFIELD?

Many states have their own definition of a brownfield; however, federal law defines a brownfield as “real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.”<sup>15</sup> In other words, a brownfield is land that potentially contains hazardous environmental contamination. This definition appears, and is likely intentionally, very broad. One author suggests a test that may determine whether a site satisfies the definition of a brownfield.<sup>16</sup> The test asks: (1) whether the site is “currently underutilized or abandoned”; (2) whether the site has “clear reuse potential”; and (3) whether the reuse is currently complicated because of “known or perceived environmental concerns.”<sup>17</sup> If the answer to each of these questions is “yes,” the site is likely a brownfield under the EPA definition.<sup>18</sup>

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<sup>14</sup> See generally Davis, *supra* note 2, at 2–12 (outlining the benefits and risks of brownfield redevelopment).

<sup>15</sup> Small Business Liability Relief and Brownfields Revitalization Act, 42 U.S.C. § 9601(39)(A) (2006).

<sup>16</sup> Keith Donahue, *The 2002 Brownfields Law: A Kinder, Gentler Superfund?*, THE ADVOC. (IDAHO), Aug. 2005, at 10, 10.

<sup>17</sup> *Id.*

<sup>18</sup> *Id.*

A typical brownfield site consists of an “‘abandoned, idled, or underused’ industrial or commercial facility.”<sup>19</sup> Such facilities may leave behind hazardous contaminants, including hydrocarbon spillages, solvents, pesticides, asbestos, and heavy metals, such as lead.<sup>20</sup> Consider, for example, the destruction and reconstruction of a building at a former gas station or dry cleaner’s site.<sup>21</sup> This redevelopment likely includes brownfield remediation.<sup>22</sup>

Redevelopment of brownfields is an attractive option. However, as described in Part IV, strict federal and local regulations restrict such redevelopment.<sup>23</sup> Furthermore, as discussed in Part VI, funding limits also may constrain communities wishing to remove the blight.<sup>24</sup>

### III. HISTORY OF THE MENOMONEE VALLEY

Over 10,000 years ago, melting glaciers formed the Menomonee River Valley.<sup>25</sup> For thousands of years after its creation the Valley served as the home for American Indians,<sup>26</sup> but it drew the settlers’ attention when fur trader Jacques Vieau established a permanent trading post on the Valley’s bluffs.<sup>27</sup> As settlement in Milwaukee increased, Milwaukee residents looked to the Valley for further development.<sup>28</sup>

In the 1870s, Milwaukee settlers began to alter the Menomonee Valley, intending to create additional development and to expand and enhance the surrounding community.<sup>29</sup> They straightened the Menomonee

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<sup>19</sup> Sariyah S. Buchanan, *Why Marginalized Communities Should Use Community Benefit Agreements as a Tool for Environmental Justice: Urban Renewal and Brownfield Redevelopment in Philadelphia, Pennsylvania*, 29 TEMP. J. SCI. TECH. & ENVTL. L. 31, 36 (2010).

<sup>20</sup> See *id.* at 37.

<sup>21</sup> Andrew J. Marks, *Risks Involved with Brownfield Transactions and How Sellers Can Manage that Risk Through Remediation and Contractual Mechanisms*, J. DUPAGE COUNTY B. ASS’N, 2006, at 26, 26, available at <http://www.dcbabrief.org/vol180506art5.html>.

<sup>22</sup> *Id.*

<sup>23</sup> See *infra* text accompanying notes 61–201.

<sup>24</sup> See *infra* text accompanying notes 270–292.

<sup>25</sup> *A Changing Landscape*, MENOMONEE VALLEY PARTNERS, INC., [http://www.renewthevalley.org/media/mediafile\\_attachments/09/39-achanginglandscape.pdf](http://www.renewthevalley.org/media/mediafile_attachments/09/39-achanginglandscape.pdf) (last visited Oct. 8, 2011).

<sup>26</sup> *Menomonee Valley History*, MENOMONEE VALLEY PARTNERS, INC., <http://www.renewthevalley.org/history> (last visited Oct. 31, 2011) [hereinafter *Menomonee Valley History*].

<sup>27</sup> *Id.*; see also John Gurda, *The Menomonee Valley: A Historical Overview*, MENOMONEE VALLEY PARTNERS, INC., 2, [http://www.renewthevalley.org/media/mediafile\\_attachments/04/4-gurdavalleyhistory.pdf](http://www.renewthevalley.org/media/mediafile_attachments/04/4-gurdavalleyhistory.pdf) (last visited Oct. 8, 2011) (stating that Jacques Vieau’s trading post attracted fur traders).

<sup>28</sup> See *Menomonee Valley History*, *supra* note 26.

<sup>29</sup> See *Floating Freight on Liquid Highways*, MENOMONEE VALLEY PARTNERS, INC., [http://www.renewthevalley.org/media/mediafile\\_attachments/00/30-floatingfreightonliquidhighways.jpg](http://www.renewthevalley.org/media/mediafile_attachments/00/30-floatingfreightonliquidhighways.jpg) (last visited Oct. 8, 2011).

River and dredged canals to provide shipping routes.<sup>30</sup> By creating shipping routes and by building factories directly on the banks, settlers could load and unload cargo with increased ease.<sup>31</sup>

Furthermore, because the Valley consisted of a marshy wetland, settlers filled the marsh with soil from the adjacent bluffs, residue of dredging operations, gravel, and industrial and household waste, intending to transform the marsh into dry land fit for development.<sup>32</sup> On September 16, 1886, the Milwaukee Sentinel depicted the scene. Behind a “Free Dump” sign in the Valley, the journal stated: “[R]otten potatoes and fruit, the contents of paunches and entrails of animals, the refuse of meat shops, and all sorts of filth are deposited in the marsh and a thin covering of ashes and dirt placed over them.”<sup>33</sup>

### A. Development

Despite the choice of fill, the Menomonee Valley was soon up and running. The Milwaukee Road Railroad Car Manufacturing Site (the Shops) purchased the entire western portion of the Valley and used it for railroad repair and maintenance shops.<sup>34</sup> On the opposite end, the Valley operated as a connection between cargo arriving from either Lake Michigan or from the railroad system to the developing local street and highway system.<sup>35</sup> Other parcels of the Valley developed tanneries, stockyards, slaughterhouses, meat packers, and cement plants.<sup>36</sup>

By the early 1900s, the City of Milwaukee (the City) received the title “Machine Shop of the World.”<sup>37</sup> Industrial jobs attracted thousands of workers to Milwaukee and, specifically, to the Valley.<sup>38</sup> By the 1920s, over 50,000 individuals worked in the Valley.<sup>39</sup> Locals referred to workers as the

<sup>30</sup> *Menomonee Valley History*, *supra* note 26.

<sup>31</sup> *Floating Freight on Liquid Highways*, *supra* note 29.

<sup>32</sup> See *Menomonee Valley History*, *supra* note 26. The area was once a marsh and wetland, but today the United States Army Corps of Engineer officials indicate that the Valley is no longer a wetland. See The City of Milwaukee Dep’t of City Dev., *Market Study, Engineering, and Land Use Plan for the Menomonee Valley*, MENOMONEE VALLEY PARTNERS, INC., 4-23 (1998), [http://www.renewthevalley.org/media/mediafile\\_attachments/07/57-mvlanduseplan1998.pdf](http://www.renewthevalley.org/media/mediafile_attachments/07/57-mvlanduseplan1998.pdf) [hereinafter *Market Study*]. John Gurda notes that “[Byron] Kilbourn’s crews began to prepare a roadbed on the northern edge of the Valley, near Second and Clybourn, in 1849. They soon encountered some unusual challenges. [Railroad] tracks laid on one stretch of landfill disappeared into the marsh overnight, sinking more than thirty feet into the muck.” Gurda, *supra* note 27, at 4.

<sup>33</sup> *Id.* at 5–6.

<sup>34</sup> *Market Study*, *supra* note 32, at 1-2.

<sup>35</sup> *Id.*

<sup>36</sup> *Id.*

<sup>37</sup> *Menomonee Valley History*, *supra* note 26.

<sup>38</sup> *Market Study*, *supra* note 32, at 1-3.

<sup>39</sup> *Id.*; see also David P. Misky & Cynthia L. Nemke, *From Blighted to Beautiful*, GOV’T ENGINEERING, May–June 2010, at 14, 14, available at <http://www.govengr.com/ArticlesMay10/Menomonee%20Valley%20Brownfield.pdf> (stating that “the Menomonee

“bucket brigade” as they walked to work carrying their lunch pails every day.<sup>40</sup> Because of its vast employment opportunities and its location in the City, the Menomonee Valley operated as Milwaukee’s economic lifeline.<sup>41</sup>

### B. The Bust

As automobile traffic increased, traffic jams in downtown Milwaukee spurred the desire for interstate highway development in the 1950s.<sup>42</sup> That development, however, depleted the need for railcars, and in 1985, the prominent railroad shops declared bankruptcy.<sup>43</sup> The economic recession and the accelerated deindustrialization hit Milwaukee hard in the late 1900s, dramatically altering the activities in the Valley as manufacturing practices changed and industrial routines declined.<sup>44</sup> Slowly, businesses began to leave the Menomonee Valley, and coal and junk yards replaced the old industrial center.<sup>45</sup> Remnants of a once vibrant and prosperous community left behind only blight, empty buildings, and contaminated land.<sup>46</sup> Unsure of what would become of the land, but aware that its glory days were complete, the City of Milwaukee demolished the bridges leading to the Valley, further isolating and erasing it from the surrounding city.<sup>47</sup>

### C. Assessing the Damage

After the Chicago, Milwaukee, St. Paul and Pacific Railroad went bankrupt in 1977, Milwaukee began acquiring the blighted land in the 1970s.<sup>48</sup> The City found that because the settlers filled the Valley with

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River Valley was the industrial heart of the region and served as the area’s manufacturing and transportation hub . . . home to 50,000 manufacturing jobs”).

<sup>40</sup> *Neighborhood Life*, MENOMONEE VALLEY PARTNERS, INC., [http://www.renewthevalley.org/media/mediafile\\_attachments/06/36-neighborhoodlife.jpg](http://www.renewthevalley.org/media/mediafile_attachments/06/36-neighborhoodlife.jpg) (last visited Oct. 8, 2011).

<sup>41</sup> *See id.*; *A Changing Landscape*, *supra* note 25.

<sup>42</sup> *See* Redevelopment Authority of the City of Milwaukee (RACM), *Menomonee Valley Industrial Center and Community Park Master Land Use Plan*, FACSTAFF.UWW.EDU, 3 (Mar. 2006), <http://facstaff.uww.edu/zimmermj/LUP/MVIC%2520-%2520Master%2520Use%2520Plan%2520-%2520RACM%2520Adopted.pdf> [hereinafter *Master Land Use Plan*]; *see also* Christopher J. Bessert, *Milwaukee Freeways*, WIS. HIGHWAYS, <http://www.wisconsinhighways.org/milwaukee/index.html> (last updated Jan. 31, 2009) (discussing the development of the Greater Milwaukee freeway system).

<sup>43</sup> David Misky & Cynthia Nemke, *Centralized Stormwater Management Key to Redevelopment Success*, WATERWORLD, [http://www.waterworld.com/index/display/article-display/1611519188/articles/urban-water-management/volume-3/Issue\\_4/Features/centralized-stormwater.html](http://www.waterworld.com/index/display/article-display/1611519188/articles/urban-water-management/volume-3/Issue_4/Features/centralized-stormwater.html) (last visited Oct. 9, 2011).

<sup>44</sup> *See Master Land Use Plan*, *supra* note 42, at 3.

<sup>45</sup> *Market Study*, *supra* note 32, at 1-2.

<sup>46</sup> *A Changing Landscape*, *supra* note 25.

<sup>47</sup> *Menomonee Valley History*, *supra* note 26.

<sup>48</sup> *Market Study*, *supra* note 32, at 1-3.

contaminated soils, waste materials, and cinders in the 1850s, which decomposed over the years, the combination created toxic substances that infiltrated the soil, groundwater, and river.<sup>49</sup> Moreover, because the land adjacent to the river was in a flood plain, the Valley did not provide a stable enough foundation upon which to build.<sup>50</sup>

Upon discovering the heightened pollution, the Milwaukee Metropolitan Sewerage District (MMSD) took water samples from the Menomonee River for a period of time extending from 1979 to 1988 to determine the pollution's extent.<sup>51</sup> These samples evidenced above-average levels of metals such as lead, cadmium, copper, and zinc.<sup>52</sup> Site tests also produced positive results for contamination from chloride—due to the salt piles—and from petroleum remaining from the operation of a city public works site.<sup>53</sup> The City further discovered 120,000 cubic yards of demolished building debris, which included asbestos material, soil from a former wastewater treatment plant that contained petroleum products, additional soil that contained heavy metals and chlorinated solvents, and miles of subsurface utilities and structures, many of which contained petroleum products.<sup>54</sup> Resultantly, this contamination in the soil also contaminated the groundwater in the Valley.<sup>55</sup> Redevelopers noted that this groundwater contamination made its way to the River, likely contributing to the MMSD's original findings.<sup>56</sup>

Before their complete abandonment of the Valley, businesses used the preexisting plants to store and to dispose of chemicals.<sup>57</sup> Because those plants and their contents sat static for years, the City classified them as health

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<sup>49</sup> *Market Study*, *supra* note 32, at 4-9. Groundwater is “water that has collected underground in the spaces between dirt particles and crack [sic] within rocks.” U.S. ENVTL. PROTECTION AGENCY, A CITIZEN'S GUIDE TO PUMP AND TREAT 1 (2001), [http://www.epa.gov/superfund/community/pdfs/suppmaterials/treatmenttech/pump\\_and\\_treat.pdf](http://www.epa.gov/superfund/community/pdfs/suppmaterials/treatmenttech/pump_and_treat.pdf) [hereinafter PUMP AND TREAT].

<sup>50</sup> *Brownfield Renewal Environmental Impact Award Winner*, BROWNFIELD RENEWAL, [http://www.brownfieldrenewal.com/renewal-award-project-environmental\\_impact-menomonee\\_valley\\_industrial\\_center-8.html](http://www.brownfieldrenewal.com/renewal-award-project-environmental_impact-menomonee_valley_industrial_center-8.html) (last visited Oct. 8, 2011).

<sup>51</sup> *Market Study*, *supra* note 32, at 4-23.

<sup>52</sup> *Id.*

<sup>53</sup> See *Menomonee Valley Brownfields Walking Tour*, WIS. DEP'T NAT. RESOURCES (Jan. 2009), <http://dnr.wi.gov/org/aw/rr/archives/pubs/RR802.pdf> (explaining the prior contamination at the site where the Harley-Davidson Museum now sits).

<sup>54</sup> *Brownfield Renewal Environmental Impact Award Winner*, *supra* note 50. One area on the property even contained four feet of oil. David Misky & Danielle Bernger, Speech at Marquette University Law School (Mar. 3, 2011) [hereinafter Misky & Bernger Speech].

<sup>55</sup> See Sheng Zhang et. al., *Sources, Types, Characteristics and Investigation of Urban Groundwater Pollutants*, in URBAN GROUNDWATER POLLUTION 53, 84–85 (David N. Lerner ed., 2004).

<sup>56</sup> *Market Study*, *supra* note 32, at 4-23.

<sup>57</sup> *MVP Organizational Information*, MENOMONEE VALLEY PARTNERS, INC., [http://www.renewthevalley.org/media/mediafile\\_attachments/04/54-ourprograms.doc](http://www.renewthevalley.org/media/mediafile_attachments/04/54-ourprograms.doc) (last visited Oct. 8, 2011).

and safety hazards.<sup>58</sup> Unsurprisingly, the Wisconsin Department of Natural Resources (WDNR) defined the Menomonee Valley as an abandoned landfill.<sup>59</sup> Based on that definition and after a thorough investigation of the Valley, the WDNR officially deemed the Valley a brownfield.<sup>60</sup> Once the WDNR made this classification, the City turned to a specific set of laws regulating brownfield redevelopment.

#### IV. LAWS REGULATING CLEANUP

When seeking to redevelop a brownfield such as the Valley, a city must look to both federal and state law for guidance. While states are free to create their own rules and procedures, the majority of state cleanup laws track the federal statutes.

##### *A. Federal Law*

Prior to 1980, the federal government had not passed, or even considered passing, legislation that governed the brownfield redevelopment processes or funding for such redevelopment. However, an unfortunate disaster in a small town known as Love Canal forever would change environmental law.

##### *1. Love Canal*

In 1892, William T. Love began digging a canal on his three-block tract of land between the upper and lower Niagara Rivers in Niagara County, New York.<sup>61</sup> Love started this project aspiring to use this canal to generate power for the surrounding community based on his belief and expectation that the community would be a model for the nation.<sup>62</sup> Unfortunately for Love, Nikola Tesla discovered how to transmit electricity over alternating current, and Love abandoned his project.<sup>63</sup>

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<sup>58</sup> *Id.*

<sup>59</sup> *Id.* A landfill is defined as “[a] method of solid waste disposal in which refuse is buried between layers of dirt so as to fill in or reclaim low-lying ground.” THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 984 (4th ed. 2000).

<sup>60</sup> *MVP Organizational Information*, *supra* note 57.

<sup>61</sup> Eckardt C. Beck, *The Love Canal Tragedy*, EPA J., Jan. 1979, at 17, 17, available at <http://www.epa.gov/aboutepa/history/topics/lovecanal/01.html>; accord Eric R. Pogue, *The Catastrophe Model of Risk Regulation and the Regulatory Legacy of Three Mile Island and Love Canal*, 15 PENN ST. ENVTL. L. REV. 463, 473 (2007).

<sup>62</sup> Beck, *supra* note 61, at 17; Todd Bradford, Case Note, *United States v. Atlantic Research Corp.: Settling the Confusion of CERCLA While Serving Justice Upon the Environment*, 12 GREAT PLAINS NAT. RESOURCES J. 206, 209 (2008).

<sup>63</sup> See Bradford, *supra* note 62, at 209. Nikola Tesla “was a Serbian American physicist, electrical engineer, and inventor who invented the alternating current induction

In the 1920s, the canal became a “municipal and industrial chemical dumpsite.”<sup>64</sup> From 1942 to 1952, Hooker Chemicals and Plastics Corporation, the operators and owners of the dumpsite, dumped “approximately 22,000 tons of drummed and liquid chemical wastes” in the abandoned canal.<sup>65</sup> Then in 1953, Hooker Chemicals and Plastics Corporation covered the canal with soil and sold the land to the city for a single dollar.<sup>66</sup> In the deed that Hooker transferred to the Niagara Falls Board of Education, Hooker included a warning that it had buried chemical wastes on the property and a disclaimer that absolved Hooker from any future liability.<sup>67</sup>

In the late 1950s, the local community built approximately 100 homes and a school on the land surrounding the canal.<sup>68</sup> For 20 years, life in Love Canal was standard.<sup>69</sup> Then in the 1970s, unprecedented rainfall in the city caused the “water table” in Love Canal to rise, allowing the buried contaminants to spread to surface soils and eventually into the basements of nearby homes.<sup>70</sup> After this rainfall, residents began to associate their health problems and the lingering odors to the increasingly apparent chemical residues in their homes and community.<sup>71</sup> Further investigation reported that women experienced a high rate of miscarriages, children were born with birth defects, and many individuals suffered from a high white blood cell count—a possible sign of leukemia.<sup>72</sup> In reaction, President Carter issued an

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generator, a device that changes mechanical energy into alternating current electricity.” *Id.* at 209 n.35.

<sup>64</sup> *Id.* at 209.

<sup>65</sup> National Oil and Hazardous Substances Pollution Contingency Plan; National Priorities List, 69 Fed. Reg. 12,608, 12,609 (Mar. 17, 2004) (to be codified at 40 C.F.R. pt. 300 app. B).

<sup>66</sup> Beck, *supra* note 61, at 17.

<sup>67</sup> Bradford, *supra* note 62, at 209–10.

<sup>68</sup> Beck, *supra* note 61, at 17.

<sup>69</sup> See Hazardous Substances Pollution Contingency Plan; National Priorities List, 69 Fed. Reg. at 12,609 (stating that residents started experiencing pollution odors and residues in the 1970s).

<sup>70</sup> *Id.*

<sup>71</sup> Pogue, *supra* note 61, at 473. Eckardt C. Beck, the Administrator of EPA Region 2 from 1977–1979, stated:

I visited the canal area at that time. Corroding waste-disposal drums could be seen breaking up through the grounds of backyards. Trees and gardens were turning black and dying. One entire swimming pool had been popped up from its foundation, afloat now on a small sea of chemicals. Puddles of noxious substances were pointed out to me by the residents. Some of these puddles were in their yards, some were in their basements, others yet were on the school grounds. Everywhere the air had a faint, choking smell. Children returned from play with burns on their hands and faces.

Beck, *supra* note 61, at 17.

<sup>72</sup> *Id.*

Emergency Declaration that provided federal funding for remedial work and for relocation of the residents.<sup>73</sup>

Love Canal's media attention and environmental disaster increased environmental awareness and spurred immediate action. In December 1980 and in response to Love Canal, Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as the Superfund law.<sup>74</sup>

## 2. CERCLA

In passing CERCLA, Congress created the first “federal mechanism for expeditiously cleaning up hazardous waste sites.”<sup>75</sup> CERCLA section 104(a) provides the President with the ability to “address hazardous waste sites” by removing and remediating hazardous contamination.<sup>76</sup> Furthermore, the legislation created a \$1.6 billion Superfund trust and implemented a tax on the chemical and petroleum industries to provide for the future funding of

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<sup>73</sup> Hazardous Substances Pollution Contingency Plan; National Priorities List, 69 Fed. Reg. at 12,609.

<sup>74</sup> See Pogue, *supra* note 61, at 475; see also *CERCLA Overview*, ENVTL. PROTECTION AGENCY, <http://epa.gov/superfund/policy/cercla.htm> (last visited Oct. 16, 2011) (stating that CERCLA is “commonly known as Superfund”); Davis, *supra* note 2, at 6 (stating that CERCLA, known as the Superfund law, was hastily passed in response to Love Canal).

<sup>75</sup> Kristi Weiner, *Does CERCLA Preempt New York State Law Claims for Cost Recovery and Contribution?*, 54 N.Y.L. SCH. L. REV. 811, 814 (2009–2010) (quoting LAWRENCE P. SCHNAPF, *MANAGING ENVIRONMENTAL LIABILITY: BUSINESS TRANSACTIONS AND BROWNFIELD REDEVELOPMENT* 5-1 (Juris Publ’g, Inc. 2008)).

<sup>76</sup> U. S. ENVTL. PROTECTION AGENCY, EPA PRP SEARCH MANUAL 2–3 (2009), <http://www.epa.gov/oecaerth/resources/publications/cleanup/superfund/prpmanual/prp-search-man-cmp-09.pdf>.

CERCLA section 101(23) defines “removal” as:

[T]he cleanup or removal of released hazardous substances from the environment, such actions as may be necessary taken in the event of the threat of release of hazardous substances into the environment, such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, the disposal of removed material, or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare to the environment, which may otherwise result from a release or threat of release.

*Id.* at 2 (internal quotation marks omitted). In contrast, “remedial action” is defined in section 101(24) as:

[T]hose actions consistent with permanent remedy taken instead of or in addition to removal actions in the event of a release or threatened release of hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment.

*Id.* at 3 (internal quotation marks omitted).

the trust.<sup>77</sup> After establishing the trust, CERCLA directed the EPA to produce a list of contaminated sites, known as the National Priorities List (NPL), and to finance the cleanup of those sites with the trust money.<sup>78</sup>

In response to the number of hazardous waste sites, Congress passed the Superfund Amendments and Reauthorization Act of 1986 (SARA), which amended CERCLA.<sup>79</sup> Congress desired to “define cleanup standards, to expand the resources available to the EPA to conduct cleanups and investigations, and to clarify the EPA’s authority.”<sup>80</sup> To further these goals, SARA increased the Hazardous Substance Superfund to not exceed \$8.5 billion.<sup>81</sup>

One of CERCLA’s main goals, and one that Hooker effectively avoided in Love Canal, is to identify those responsible for hazardous waste contamination and to hold them liable for cleanup costs.<sup>82</sup> CERCLA section 107(a) imposes liability on four groups of people: (1) “current owners and operators of a facility”; (2) “former owners and operators of a facility at the time of disposal”; (3) “persons who arranged for treatment or disposal of hazardous substances (commonly referred to as ‘generators’ or ‘arrangers’)”; and (4) “transporters of hazardous substances who selected the disposal site.”<sup>83</sup>

The EPA and other federal agencies, by executive order, received the power to force potentially responsible parties (PRPs) to initiate cleanup responses.<sup>84</sup> CERCLA promotes the “polluter pays” mentality by providing three options for PRPs.<sup>85</sup> First, under CERCLA sections 104 and 107, the EPA may perform cleanup procedures on its own and compel the PRP to reimburse the Superfund trust for the costs incurred.<sup>86</sup> Second, under CERCLA section 106, the EPA may require, or ask a court to order, the PRP

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<sup>77</sup> Weiner, *supra* note 75, at 814–15.

<sup>78</sup> *Id.*; see also EPA PRP SEARCH MANUAL, *supra* note 76, at 2 (stating that the EPA is responsible for overseeing action at sites on the National Priorities List, “a list of the nation’s most contaminated sites”).

<sup>79</sup> See Superfund Amendments and Reauthorization Act of 1986, Pub. L. No. 99-499, 100 Stat. 1613 (codified as amended at 42 U.S.C. §§ 9601–9675 (2006)).

<sup>80</sup> Kristin M. Carter, Note, *Superfund Amendments and Reauthorization Act of 1986: Limiting Judicial Review to the Administrative Record in Cost Recovery Actions by the EPA*, 74 CORNELL L. REV. 1152, 1157–58 (1989) (footnotes omitted).

<sup>81</sup> See 42 U.S.C. § 9611(a) (2006).

<sup>82</sup> See Weiner, *supra* note 75, at 815.

<sup>83</sup> EPA PRP SEARCH MANUAL, *supra* note 76, at 6; see also ELIZABETH GLASS GELTMAN, RECYCLING LAND: UNDERSTANDING THE LEGAL LANDSCAPE OF BROWNFIELD DEVELOPMENT 2 (2000) (“PRPs include the site’s current owners, past owners, and any party whose waste was disposed of at the site.”).

<sup>84</sup> Weiner, *supra* note 75, at 815–16. The EPA is responsible for overseeing all response actions at sites that are listed on the NPL. EPA PRP SEARCH MANUAL, *supra* note 76, at 2.

<sup>85</sup> See EPA PRP SEARCH MANUAL, *supra* note 76, at 1–2; see also Weiner, *supra* note 75, at 816 (explaining that the “polluter pays” principle preserves the Superfund where no PRP can be identified).

<sup>86</sup> EPA PRP SEARCH MANUAL, *supra* note 76, at 1.

to clean up the site.<sup>87</sup> Third, under CERCLA section 122, the EPA may enter into a settlement agreement with the PRP that requires one of the first two options.<sup>88</sup> On the other hand, if no PRP can be located, the EPA will clean the site itself using the money from the Superfund trust.<sup>89</sup>

CERCLA also affords individuals, as well as the government, a cause of action against prior owners who, at the time of ownership, contaminated their property.<sup>90</sup> CERCLA imposes strict liability jointly and severally on PRPs,<sup>91</sup> which often raises concerns about disincentivizing environmental cleanup.<sup>92</sup>

To defend themselves from environmental responsibility, defendants may use SARA's "innocent landowner defense."<sup>93</sup> This defense applies to landowners who were not aware or did not have reason to know of the contamination at the time of purchase.<sup>94</sup> While Congress did not clarify the eligibility requirements for the defense,<sup>95</sup> the EPA offers general guidance.<sup>96</sup> At a minimum, the landowner must make "appropriate inquiries" before

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<sup>87</sup> *Id.*

<sup>88</sup> *Id.* at 2.

<sup>89</sup> See *Summary of the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)*, ENVTL. PROTECTION AGENCY, <http://www.epa.gov/regulations/laws/cercla.html> (last updated Aug. 11, 2011).

<sup>90</sup> See 42 U.S.C. § 9607(a) (2006); EPA PRP SEARCH MANUAL, *supra* note 76, at 8–9; see also Wendy E. Wagner, *Overview of Federal and State Law Governing Brownfield Cleanups*, in *BROWNFIELDS: A COMPREHENSIVE GUIDE TO REDEVELOPING CONTAMINATED PROPERTY* 13, 16–17 (Todd S. Davis & Scott A. Sherman eds., 3d ed. 2010) (explaining private enforcement under CERCLA).

<sup>91</sup> Faith R. Dylewski, *Ohio's Brownfield Problem and Possible Solutions: What is Required for a Successful Brownfield Initiative?*, 35 AKRON L. REV. 81, 90 (2001–2002).

<sup>92</sup> See *infra* text accompanying notes 166–201 (discussing the tension between holding parties liable for environmental contamination and encouraging voluntary cleanup).

<sup>93</sup> See Joseph Philip Forte, *Environmental Due Diligence for the Real Estate Industry*, in 6 THE ACREL PAPERS: ENVIRONMENTAL LIABILITY IN COMMERCIAL PROPERTY TRANSACTIONS: RISKS AND RESPONSIBILITIES 5, 7–8 (Alan J. Robin et al. eds., 1994). See generally Debra L. Baker & Theodore G. Baroody, *What Price Innocence? A Realistic View of the Innocent Landowner Defense Under CERCLA*, 22 ST. MARY'S L.J. 115 (1990) (discussing the ambiguity of the "innocent landowner defense").

<sup>94</sup> See Forte, *supra* note 93, at 7–8.

<sup>95</sup> See Baker & Baroody, *supra* note 93, at 117 ("[I]t proved somewhat difficult to show that the landowner 'had no reason to know' of the disposal and it was unclear what had to be done to satisfy the requirement that 'all appropriate inquiries' be made."); see also Superfund Program; De Minimis Landowner Settlements, Prospective Purchaser Settlements, 54 Fed. Reg. 34,235, 34,238 (Aug. 18, 1989) (clarifying the case-by-case inquiry to determine whether a PRP qualifies for the "innocent landowner defense" and de minimis settlement).

<sup>96</sup> See Memorandum from Susan E. Bromm, Dir. of Office of Site Remediation Enforcement, U.S. Env'tl. Protection Agency, on Interim Guidance Regarding Criteria Landowners Must Meet in Order to Qualify for Bona Fide Prospective Purchaser, Contiguous Property Owner, or Innocent Landowner Limitations on CERCLA Liability 4 (Mar. 6, 2003), <http://www.epa.gov/compliance/resources/policies/cleanup/superfund/common-elem-guide.pdf> [hereinafter Memorandum from Susan E. Bromm].

purchasing the property to determine whether contamination is present,<sup>97</sup> including interviewing current, former, and neighboring property owners, reviewing the historic use of the property and governmental records, and conducting a site inspection.<sup>98</sup> Additionally, the landowner must establish, by a preponderance of the evidence, that a third party caused the contamination on the property and that the landowner does not have “an employment, agency, or contractual relationship” with that third party.<sup>99</sup> Finally, the landowner must take reasonable steps to stop any current release, to prevent any future release, and to prevent any hazardous substance exposure to humans, to the environment, or to natural resources.<sup>100</sup>

### 3. RCRA

Technically, one environmental cleanup law did exist prior to CERCLA: the Resource Conservation and Recovery Act (RCRA).<sup>101</sup> Unlike CERCLA, however, RCRA focuses on active or future facilities, but it does not address abandoned or historical sites.<sup>102</sup> Instead, RCRA regulates the

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<sup>97</sup> See U.S.C. § 9601(35)(B)(i)(I) (2006) (requiring a landowner to show it “carried out all appropriate inquiries . . . into the previous ownership and uses of the facility” in order prove it had no reason to know of contamination caused by a third party); see also § 9607(b)(3) (requiring landowner to show it exercised due care with respect to the hazardous substance and took precautions against foreseeable acts by third parties). The statute provides five factors to consider in evaluating whether a landowner makes appropriate inquiries. Forte, *supra* note 93, at 8. Those factors include: (1) “any specialized knowledge or experience on the part of defendant”; (2) “the relationship of the purchase price to the value of the property, if the property was not contaminated”; (3) “commonly known or reasonably ascertainable information about the property”; (4) “the obviousness of the presence or likely presence of contamination at the property”; and (5) “the ability of the defendant to detect the contamination by appropriate inspection.” § 9601(35)(B)(iv)(I)(aa)–(ee).

<sup>98</sup> *General Guidelines on All Appropriate Inquiries*, ENVTL. PROTECTION AGENCY, <http://www.epa.gov/brownfields/aa/aaigg.htm> (last updated Oct. 4, 2011); see also 40 C.F.R. § 312.20 (2009) (providing the requirements for a landowner to meet the “all appropriate inquiries” standard); Memorandum from the Menomonee Valley Partners, Inc. Environmental Committee, *Environmental Management Considerations for Site Redevelopment in Milwaukee’s Menomonee River Valley*, 2 (Nov. 2002) (on file with author) [hereinafter Environmental Committee].

<sup>99</sup> Memorandum from Susan E. Bromm, *supra* note 96, at 5–6.

<sup>100</sup> *Id.* at 9.

<sup>101</sup> See 42 U.S.C. §§ 6901–6992 (2006). Congress enacted the RCRA in 1976 and CERCLA in 1980. Wagner, *supra* note 90, at 14.

<sup>102</sup> See *id.* The United States Supreme Court explained:

Unlike [CERCLA,] . . . RCRA is not principally designed to effectuate the cleanup of toxic waste sites or to compensate those who have attended to the remediation of environmental hazards. . . . RCRA’s primary purpose, rather, is to reduce the generation of hazardous waste and to ensure the proper treatment, storage, and disposal of that waste which is nonetheless generated, “so as to minimize the present and future threat to human health and the environment.”

Meghrig v. KFC W., Inc., 516 U.S. 479, 483 (1996) (citations omitted) (quoting 42 U.S.C. § 6902(b) (2006)).

“generation, transport, treatment, and disposal of hazardous wastes”<sup>103</sup> and strives to ensure that hazardous solid and waste management facilities do not become Superfund sites.<sup>104</sup> By contrast, CERCLA provides a remedial scheme for existing contamination.<sup>105</sup>

RCRA provides for environmental oversight by regulating individuals. The Act requires hazardous waste handlers to obtain an EPA identification number and to “register[] their activities and report[] their volumes either annually or biennially.”<sup>106</sup> Moreover, RCRA established the Corrective Action Program, which the EPA and 43 authorized states and territories operate.<sup>107</sup> This program works with facilities that accidentally spill hazardous wastes by investigating and cleaning the hazardous releases.<sup>108</sup>

#### 4. *The Brownfields Act*

In 2002, Congress passed the Small Business Liability Relief and Brownfields Revitalization Act (Brownfields Act), which is an amendment to CERCLA that incorporates EPA procedures into federal law.<sup>109</sup> The Brownfields Act contains two parts. The first part refers to small business liability protection and releases property owners from liability if certain criteria are met.<sup>110</sup> The second part addresses brownfields revitalization and environmental restoration and serves three purposes: (1) to encourage the cleanup and reuse of brownfields; (2) to provide financial assistance for brownfields redevelopment; and (3) to enhance state response programs.<sup>111</sup>

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<sup>103</sup> Wagner, *supra* note 101, at 14.

<sup>104</sup> BARTSCH & COLLATON, *supra* note 11, at 12.

<sup>105</sup> *Id.*

<sup>106</sup> *Managing Hazardous Waste (RCRA)*, ENVTL. PROTECTION AGENCY, [http://yosemite.epa.gov/r10/OWCM.NSF/webpage/Managing+Hazardous+Waste+\(RCRA\)](http://yosemite.epa.gov/r10/OWCM.NSF/webpage/Managing+Hazardous+Waste+(RCRA)) (last updated Oct. 18, 2011); *see also* Gerald F. Hess, *Hanford: Cleaning Up the Most Contaminated Place in the United States*, 38 ARIZ. L. REV. 165, 206 (1996) (footnote omitted) (“Generators must obtain an EPA identification number and keep records that identify the quantities and chemical composition of the hazardous wastes they generate.”).

<sup>107</sup> *Corrective Action*, ENVTL. PROTECTION AGENCY, <http://www.epa.gov/epawaste/hazard/correctiveaction/index.htm> (last updated July 27, 2011).

<sup>108</sup> *Id.*

<sup>109</sup> *See* Small Business Relief and Brownfields Revitalization Act, Pub. L. No. 107-118, 115 Stat. 2356 (2002) (codified as amended at 42 U.S.C. §§ 9601, 9604, 9605, 9607, 9622, 9628 (2006)); *see also* *Summary of the Small Business Liability Relief and Brownfields Revitalization Act*, ENVTL. PROTECTION AGENCY, <http://epa.gov/brownfields/laws/2869sum.htm> (last updated Oct. 4, 2011) (providing a summary of the legislation).

<sup>110</sup> *See id.* §§ 101–103, 115 Stat. at 2356–60.

<sup>111</sup> *See id.* §§ 128, 211, 221–223, 231–232, 115 Stat. 2360–81 (stating in the introductory language that the purposes of the Act are “to promote the cleanup and reuse of brownfields, to provide financial assistance for brownfields revitalization, to enhance state

The Brownfields Act also allows the EPA to provide National Brownfields Job Training Program grants to nonprofit or governmental entities.<sup>112</sup> The amendments also required the EPA “to establish a grant program for characterizing and remediating brownfield sites, to identify criteria for ranking grant applications, and to develop guidance to assist eligible entities in applying for grants.”<sup>113</sup> Through the amendments, the EPA granted millions of dollars to hundreds of organizations to help fund brownfield revitalization efforts.<sup>114</sup>

### 5. *Clean Air Act*

Finally, remediators must also be aware of, and abide by, the terms of the Clean Air Act.<sup>115</sup> While many of the environmental remediation procedures may remove contamination from impacted media such as soil, they also may result in the release of contaminated matter into the air.<sup>116</sup> The Clean Air Act applies because the Act often classifies urban areas as “nonattainment” areas, which may mandate stricter air pollution controls than those that would apply to development in suburban areas.<sup>117</sup> Therefore, remediators may need to engage in air quality testing to ensure that they are operating within the confines of the Clean Air Act.<sup>118</sup>

### B. *State Law*

Most states have enacted their own environmental cleanup laws, and these laws frequently track the aforementioned federal legislation.<sup>119</sup> In some instances, state laws may fully adopt CERCLA provisions by merely referencing a particular section of the Act.<sup>120</sup> On the other hand, state laws may adopt environmental liability and cleanup procedures that are more stringent than CERCLA’s requirements.<sup>121</sup>

response programs, and for other purposes”). The EPA may award grants to states and tribes to “establish or enhance” response programs. *Id.* § 128(a)(1)(B)(i).

<sup>112</sup> BROWNFIELDS LAW AND PRACTICE: THE CLEANUP AND REDEVELOPMENT OF CONTAMINATED LAND § 27.04(2)(b) (Michael B. Gerrard ed., Matthew Bender 2010).

<sup>113</sup> *Id.* § 27.04(2)(c).

<sup>114</sup> *See id.*

<sup>115</sup> *See* 42 U.S.C. §§ 7401–7671q (2006).

<sup>116</sup> Telephone Interview with Eric Amadi, Hydrogeologist, WDNR (Feb. 25, 2011) [hereinafter Amadi Interview].

<sup>117</sup> BROWNFIELDS LAW AND PRACTICE, *supra* note 112, § 1.03(2)(c).

<sup>118</sup> *See, e.g., Market Study, supra* note 32, at 4-35 (“Projects that exceed the National Ambient Air Quality Standards must obtain a construction, modification, or new operation permit.”).

<sup>119</sup> Wagner, *supra* note 101, at 15.

<sup>120</sup> *See id.* at 15. For example, the California statute expressly incorporates CERCLA definitions. *See* CAL. HEALTH & SAFETY CODE § 25323.5 (West 2006).

<sup>121</sup> *See* Wagner, *supra* note 101, at 15.

### 1. Unique State Laws

For the most part, and similar to CERCLA, state laws often provide an opportunity for the government to conduct cleanup on its own, through the use of a fund, and then to recover those cleanup costs from the responsible parties.<sup>122</sup> However, state law may diverge from CERCLA on issues such as liability.<sup>123</sup> For example, California's Hazardous Substance Account Act applies proportional liability to violators, rather than CERCLA's joint and several liability,<sup>124</sup> and New Jersey even goes so far as to regulate the release of petroleum.<sup>125</sup>

Numerous variations on state laws exist, the most common being Voluntary Cleanup Programs (VCPs).<sup>126</sup> At least 44 states have developed such programs.<sup>127</sup> States create these VCPs to encourage parties to engage in voluntary cleanups.<sup>128</sup> To further incentivize parties, the EPA stated—under Memorandums of Agreement—that it will provide “assurance that [it] will not take enforcement action at sites where private parties have conducted cleanups under the state's direction or pursuant to state voluntary cleanup acts.”<sup>129</sup> These state VCPs sometimes offer private parties tax incentives as well as some form of release from liability.<sup>130</sup> In addition to voluntary cleanup programs, states have also created and applied environmental liens and property transfer laws.<sup>131</sup>

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<sup>122</sup> See *id.*

<sup>123</sup> See *id.*

<sup>124</sup> See BROWNFIELDS LAW AND PRACTICE, *supra* note 112, § CA.05(1)(c).

<sup>125</sup> See N.J. STAT. ANN. § 58:10-23.11b (West 2006) (defining hazardous substances to include “petroleum products”).

<sup>126</sup> Matthew D. Fortney, Comment, *Devolving Control Over Mildly Contaminated Property: The Local Cleanup Program*, 100 NW. U. L. REV. 1863, 1865–66 (2006).

<sup>127</sup> *Id.* at 1866 n.16.

<sup>128</sup> See *id.* at 1866.

<sup>129</sup> Wendy E. Wagner, *Overview of Federal and State Law Governing Brownfields Cleanups*, in BROWNFIELDS: A COMPREHENSIVE GUIDE TO REDEVELOPING CONTAMINATED PROPERTY 15, 26 (Todd S. Davis & Kevin D. Margolis eds., 1997).

<sup>130</sup> See *infra* text accompanying notes 160, 164, 191–197 (explaining tax incentives and liability protection provided by state regulation).

<sup>131</sup> Robert I. McMurry, *Brownfields*, SB06 ALI-ABA 621, 628 (1996). An environmental lien is a lien that a state fund places on the environmentally contaminated land after the fund paid for its cleanup. See Scott Owens, *State v. Green: Redefining the Environmental Responsibility of Landowners in New York State*, 8 ALB. L. ENVTL. OUTLOOK J. 108, 115 (2002). This lien treats the contaminated property as collateral and ensures that the fund will recover some of its expenses. *Id.* State laws impose requirements on the landowner before the landowner may transfer the property, such as completing investigation or remediation procedures or providing pre-closing notice in writing or in the deed to the prospective purchaser. See Steven L. Humphreys, *Getting the Deal Done: A Survival Guide to Environmental Problem-Solving in Brownfields Transactions*, 11 FORDHAM ENVTL. L.J. 799, 825–26 (2000).

## 2. *Three Levels of Oversight*

While an individual state may determine a law's specific application, all VCPs fall into one of three categories of oversight.<sup>132</sup> The first category consists of state programs with lenient oversight.<sup>133</sup> These programs only require state officials to sign off on the final review and to verify that the cleanup is complete and eligible for some form of liability protection.<sup>134</sup> An example of this standard is Ohio's law, which allows a developer, essentially unsupervised by local agencies, to independently evaluate and remediate a brownfield site.<sup>135</sup> The second category encompasses several states that have programs with a medium level of oversight.<sup>136</sup> These programs delegate responsibilities to certified environmental professionals.<sup>137</sup> These professionals then present the findings to the state and if the state so chooses, it may independently review the work.<sup>138</sup> One example of a state statute that employs medium oversight is the Illinois statute, which provides that the state may authorize "Professional Licensed Engineers to conduct investigations, prepare remediation plans and reports, and review and sign-off on the completed cleanup."<sup>139</sup> Finally, the last category provides the highest level of oversight and implements active government involvement at all stages, "including site investigation, remediation, and final certification that the cleanup is complete."<sup>140</sup> Indiana's Department of Environmental Management serves as an example for this category because the Department reviews and assesses sites, oversees remediation, and issues the final liability release.<sup>141</sup>

## 3. *Wisconsin Law*

In 1978, the legislature passed the Wisconsin Spill Statute (Spill Statute), which is Wisconsin's primary authority for regulating

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<sup>132</sup> See Tara Burns Koch, Comment, *Betting on Brownfields—Does Florida's Brownfields Redevelopment Act Transform Liability Into Opportunity?*, 28 STETSON L. REV. 171, 192 (1998). For the article Koch relies on in categorizing state programs, see Joel B. Eisen, 'Brownfield of Dreams?': *Challenges and Limits of Voluntary Cleanup Programs and Incentives*, 96 U. ILL. L. REV. 883, 969 (1996).

<sup>133</sup> Koch, *supra* note 132, at 192.

<sup>134</sup> *Id.*

<sup>135</sup> *Id.* at 192 n.184; see also OHIO REV. CODE ANN. §§ 3746.01–3746.99 (West 2006).

<sup>136</sup> Koch, *supra* note 132, at 192.

<sup>137</sup> *Id.*

<sup>138</sup> *Id.*

<sup>139</sup> *Id.* at 192 n.186 (internal quotation marks omitted). The statute only requires the state to review and approve the final report. *Id.*; see also 415 ILL. COMP. STAT. 5/58.7 (2004).

<sup>140</sup> Koch, *supra* note 132, at 192.

<sup>141</sup> *Id.* at 192 n.187; see also IND. CODE ANN. §§ 13-25-5-1 to -23 (West 2008).

environmental cleanup.<sup>142</sup> This statute enables the WDNR to take steps to prevent environmental contamination and to require responsible parties to clean up environmental contamination.<sup>143</sup> Additionally, the Spill Statute allows local governmental agencies to recover reasonable costs for expenses such as investigation, remediation, and engineering fees.<sup>144</sup> To ensure that it recovers its expenses, the agencies may file “super liens” on the remediated property equal to their remediation expenses.<sup>145</sup> Such liens are superior to other liens on the property, with the exception of previously existing valid liens on residential property.<sup>146</sup>

In 1994, the legislature amended the Wisconsin Spill Statute by passing the Land Recycling Act (LRA), which was Wisconsin’s first attempt to provide liability exemption as an incentive for parties to develop contaminated property.<sup>147</sup> This legislation exempted voluntary parties from potential liability under Wisconsin law.<sup>148</sup> The LRA defined a voluntary party as “a person who submits an application to obtain an exemption and pays any applicable fees.”<sup>149</sup> Furthermore, this liability exemption extends to the property’s successors or assignees so long as they comply with the LRA’s monitoring and maintenance requirements.<sup>150</sup> The LRA also contains a provision that completely exempts parties from cleanup duties if “the [W]DNR determines that natural attenuation will adequately restore groundwater quality.”<sup>151</sup> Nonetheless, the WDNR may require these parties

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<sup>142</sup> See WIS. STAT. § 292.11 (2009); Arthur J. Harrington & Matthew T. Kemp, *Wisconsin*, in BROWNFIELDS: A COMPREHENSIVE GUIDE TO REDEVELOPING CONTAMINATED PROPERTY 1070, 1071 (Todd S. Davis & Scott A. Sherman eds., 3d ed. 2010).

<sup>143</sup> Harrington & Kemp, *supra* note 142, at 1071. Section 292.11(3) of the Wisconsin Statutes imposes liability on “1) persons who cause the discharge of a hazardous substance and 2) persons who possess or control a hazardous substance discharge (such as the owner of the property where the discharge exists).” Environmental Committee, *supra* note 98, at 1. Therefore, the statute may hold a current property owner responsible for previously existing contamination.

<sup>144</sup> Harrington & Kemp, *supra* note 142, at 1071.

<sup>145</sup> *Id.* at 1079.

<sup>146</sup> *Id.*

<sup>147</sup> *Id.* at 1070.

<sup>148</sup> *Id.* at 1073.

<sup>149</sup> *Id.* (citing WIS. STAT. § 292.15(1)(f) (2009)). Notably, the LRA does not require the voluntary party to obtain the property in an “arm’s length good-faith transaction.” Harrington & Kemp, *supra* note 142, at 1073. Instead, even if an owner or an operator caused the discharge or contamination, the owner or operator may still obtain the liability exemption. *Id.*

<sup>150</sup> *Id.* at 1073–74.

<sup>151</sup> *Id.* at 1075 (footnotes omitted). The Wisconsin Statute defines natural attenuation as “the reduction in the mass and concentration in groundwater of a substance, and the products into which the substance breaks down, due to naturally occurring physical, chemical and biological processes, without human intervention.” § 292.15(1)(am).

to obtain environmental insurance, which would cover future remediation costs if natural attenuation is unsuccessful.<sup>152</sup>

Wisconsin applies different cleanup standards based on the type of site that a party remediates.<sup>153</sup> The standards divide sites into “simple sites” and “complex sites.”<sup>154</sup> Cleanup on simple sites has little to no WDNR oversight.<sup>155</sup> Instead, the party and its environmental consultant direct cleanup efforts and provide the WDNR with a progress report every six months.<sup>156</sup> Complex sites require greater WDNR oversight.<sup>157</sup> Parties cleaning complex sites must provide the WDNR with numerous reports on the status of the project, and the WDNR must respond with written documentation that it received each of these reports.<sup>158</sup> At the cleanup’s conclusion, the WDNR determines whether the party followed the applicable standards and, if so, may issue the party a certificate of completion.<sup>159</sup>

Wisconsin has programs under which parties may obtain funding and tax incentives.<sup>160</sup> The Land Recycling Act amendments established a \$10 million grant administered by the Department of Commerce (DOC).<sup>161</sup> “[I]ndividuals, partnerships, corporations, limited liability companies, associations, organizations, cities, villages, towns, counties, and trustees” are eligible to apply for the grant, but the applicant must contribute “a proportional share of the cost” of redevelopment.<sup>162</sup> The LRA’s amendments also created a program that provides loans with subsidized interest rates to cities, villages, towns, and counties for investigation and remediation of sites that such entities own.<sup>163</sup> Finally, the LRA provides tax credits of 50%, rather than 7.5%, for remediation expenses.<sup>164</sup> Similar to the federal government and other state governments, Wisconsin designed these

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<sup>152</sup> Harrington & Kemp, *supra* note 142, at 1075.

<sup>153</sup> *See id.* at 1080–82. For example, soil cleanup standards for non-industrial sites are different than industrial sites. *See* WIS. ADMIN. CODE NR § 720.11(1)(b) (2009).

<sup>154</sup> Harrington & Kemp, *supra* note 142, at 1080.

<sup>155</sup> *Id.* at 1081.

<sup>156</sup> *Id.*

<sup>157</sup> *Id.*

<sup>158</sup> *Id.* These reports include a site investigation report, a remedial options report, and a final report for response actions, including a letter documenting the completed response actions. *Id.* The WDNR may also require the party to provide additional information that it deems necessary. Harrington & Kemp, *supra* note 142, at 1081.

<sup>159</sup> *See* WIS. STAT. § 292.15(2)(a)(3) (2009) (exempting a party that voluntarily remediates property from liability if the party, among other things, “obtains a certificate of completion from the [WDNR] that the environment has been satisfactorily restored”). As of July 1, 2011, the Wisconsin legislature transferred the duties of the Department of Commerce to the Wisconsin Economic Development Corporation. 2011 Wis. Act 7, § 9155.

<sup>160</sup> Harrington & Kemp, *supra* note 142, at 1082–83; *see also infra* Part VI (discussing funding options in general).

<sup>161</sup> Harrington & Kemp, *supra* note 142, at 1083.

<sup>162</sup> *Id.*

<sup>163</sup> *Id.*

<sup>164</sup> *Id.* at 1083–84.

programs to encourage brownfield remediation and to promote environmental awareness.<sup>165</sup>

Despite the variations among federal law and state laws, including Wisconsin law, one goal remains clear: each of these laws establish funding sources, define procedures to clean contaminated property, and ensure that responsible parties are held liable for their environmental contamination.

### *C. Controversies, Criticisms, and Justifiable Rationales*

Due to their unpleasant nature and potential liability exposure, environmental cleanup procedures are a controversial area of discussion. While CERCLA operates to promote environmental advances, some argue that this potential benefit is almost completely outweighed by the lingering potential liability.

#### *1. Ever-Present Liability*

The main argument that critics of CERCLA advance is that its liability provisions are overbroad and inequitable.<sup>166</sup> Congress passed CERCLA hoping to provide both the EPA and the federal government with more authority to hold individuals responsible for their prior contamination.<sup>167</sup> As previously discussed, CERCLA imposes strict liability on PRPs, meaning that the government need not show fault or negligence.<sup>168</sup> Moreover, this liability is retroactive, which means that a PRP may be held liable for cleanup even if it legally disposed of hazardous waste prior to CERCLA.<sup>169</sup> Further, because the liability applies jointly and severally, CERCLA could hold each individual PRP wholly responsible for the entire amount of damages.<sup>170</sup>

CERCLA contains a defense for PRPs. This defense states that a PRP is not liable if the hazardous contamination occurred solely because of

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<sup>165</sup> *Id.* at 1082–83.

<sup>166</sup> See Robert W. McGee, *Superfund: It's Time for Repeal After A Decade of Failure*, 12 UCLA J. ENVTL. L. & POL'Y 165, 173–174 (1993) (“The potential liability waste generators face can be grossly disproportionate to the harm they might have caused.”). See generally Frona M. Powell, *Amending CERCLA to Encourage the Redevelopment of Brownfields: Issues, Concerns, and Recommendations*, 53 WASH. U. J. URB. & CONTEMP. L. 113, 121 (1998) (outlining common criticisms and commendations of CERCLA).

<sup>167</sup> EPA PRP SEARCH MANUAL, *supra* note 76, at 1. Only the United States has standing to bring an action against parties. J. Andrew Schlickman & Evelyn E. Shockley, *Starting with a Clean Slate—Eurofund in Europe?*, NAT. RESOURCES & ENV'T, Fall 1993, at 14, 17.

<sup>168</sup> See Dylewski, *supra* note 91, at 90; GELTMAN, *supra* note 83, at 2–3; *supra* text accompanying notes 82–89.

<sup>169</sup> GELTMAN, *supra* note 83, at 2.

<sup>170</sup> *Id.* at 3.

an act of God, an act of war, or “an act or omission of a third party other than an employee or agent of the defendant, or than one whose act or omission occurs in connection with a contractual relationship . . . with the defendant.”<sup>171</sup> Even with this protection, CERCLA critics argued that those four groups of PRPs were still virtually defenseless.<sup>172</sup> In response to these complaints, Congress passed SARA, which provides PRPs with a right to locate other PRPs and bring an action against them for contribution.<sup>173</sup> SARA also created an additional defense known as the “innocent landowner defense.”<sup>174</sup> Nonetheless, under SARA, the government still could hold an innocent landowner liable if that landowner did not make appropriate inquiries about the activities on and the conditions of the property.<sup>175</sup>

Even with its previous amendments, Congress soon acknowledged that individuals may avoid purchasing abandoned sites, which they know could have minimal contamination, simply because they fear that the cleanup costs—including liability—could far exceed the property’s value.<sup>176</sup> In acting to address that concern, Congress passed the Brownfields Act.<sup>177</sup> In that legislation, Congress changed the elements of the innocent landowner defense, hoping to reduce the fear of CERCLA liability and to encourage the purchase and development of brownfields.<sup>178</sup> First, the Brownfields Act stated that the innocent landowner inquiry must be “in accordance with generally accepted good commercial and customary standards and practices,” rather than requiring the inquiry to be “consistent with” such standards.<sup>179</sup> Second, the Act established actual criteria for the “all

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<sup>171</sup> 42 U.S.C. § 9607(b) (2006).

<sup>172</sup> See *supra* note 166 (citing articles criticizing CERCLA liability).

<sup>173</sup> See Martha L. Judy & Thomas Armstrong, Jr., *Cost Recovery Under CERCLA: The Impact of Aviall and Atlantic Research on Voluntary Cleanups*, in *BROWNFIELDS: A COMPREHENSIVE GUIDE TO REDEVELOPING CONTAMINATED PROPERTY* 28, 29 (Todd S. Davis & Scott A. Sherman eds., 3d ed. 2010); Ronald G. Aronovsky, *Federalism and CERCLA: Rethinking the Role of Federal Law in Private Cleanup Cost Disputes*, 33 *ECOLOGY L.Q.* 1, 21 (2006). Black’s Law Dictionary defines contribution:

The right that gives one of several persons who are liable on a common debt the ability to recover proportionately from each of the others when that one person discharges the debt for the benefit of all; the right to demand that another who is jointly responsible for a third party’s injury supply part of what is required to compensate the third party.

BLACK’S LAW DICTIONARY 378 (9th ed. 2009).

<sup>174</sup> See *supra* text accompanying notes 93–98 (discussing the innocent landowner defense requirements).

<sup>175</sup> *Id.*

<sup>176</sup> See S. REP. NO. 107-2, at 2 (2001).

<sup>177</sup> See *supra* text accompanying notes 109–114 (explaining the Brownfields Act).

<sup>178</sup> See *United States v. Domenic Lombardi Realty, Inc.*, 290 F. Supp. 2d 198, 209 (D.R.I. 2003) (citing Small Business Liability Relief and Brownfields Revitalization Act, Pub. L. No. 107-118, 115 Stat. 2356 (2002)); S. REP. NO. 107-2, at 2–3.

<sup>179</sup> *Lombardi Realty, Inc.*, 290 F. Supp. 2d at 209 (quoting 42 U.S.C. § 9601(35)(B)(i)(I) (2006)).

appropriate inquiries” standard.<sup>180</sup> Finally, the Act added the requirement that the defendant show that he took reasonable steps to prevent further contamination.<sup>181</sup> Through its legislation, Congress has made one point very clear: voluntary cleanups are essential to brownfield remediation in the United States.

## 2. *All with Good Reason*

On the other hand, some individuals argue that CERCLA is necessary to protect our environment and our communities.<sup>182</sup> Prior to Congress enacting CERCLA, state law regulated disputes over environmental contamination.<sup>183</sup> When pursuing litigation for contamination, plaintiffs alleged claims such as nuisance, trespass, and negligence.<sup>184</sup> Different state laws also had different cleanup cost liability provisions, making cost recovery uncertain.<sup>185</sup> Furthermore, these causes of action required a plaintiff to prove causation, which is extremely difficult at old contamination sites with very few witnesses.<sup>186</sup> While these claims may have been sufficient for small amounts of contamination, there is no doubt that tragedies such as Love Canal required, and deserved, more robust remedies.

Moreover, a PRP’s potential liability cuts in more than one direction. Potential liability may indeed be a reason to avoid beginning a remediation procedure.<sup>187</sup> Nonetheless, an individual may actually want to take on a remediation procedure without government compulsion.<sup>188</sup> For example, an individual may want to improve his property value or to purchase land that he sees as undervalued because it contains some minor contamination.<sup>189</sup> The Supreme Court, in *United States v. Atlantic Research Corp.*, further incentivized such individuals by holding that individuals who remediate a

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<sup>180</sup> *Id.* (citing § 9601(35)(B)(ii)).

<sup>181</sup> *Id.* (citing § 9601(35)(B)(i)(II)(aa)–(cc)).

<sup>182</sup> See BARRY L. JOHNSON, IMPACT OF HAZARDOUS WASTE ON HUMAN HEALTH 4–5 (1999); Powell, *supra* note 166, at 142–143 (suggesting that Congress should refrain from modifying CERCLA’s joint and several liability scheme because it “would eliminate strong incentives to clean up contaminated property and to avoid contamination in the future”); see also John M. Hyson, “Fairness” and Joint Several Liability In Government Cost Recovery Actions Under CERCLA, 21 HARV. ENVTL. L. REV. 137 (1997) (arguing that several federal circuit courts’ attempts to relieve some PRPs from responsibility based on equitable principles contravenes CERCLA).

<sup>183</sup> See Aronovsky, *supra* note 173, at 10.

<sup>184</sup> *Id.* at 9–10.

<sup>185</sup> *Id.* at 10.

<sup>186</sup> *Id.* at 11.

<sup>187</sup> See *supra* text accompanying notes 166–181 (discussing CERCLA liability).

<sup>188</sup> Stefanie Gitler, Note, *Settling the Tradeoffs Between Voluntary Cleanup of Contaminated Sites and Cooperation with the Government Under CERCLA*, 35 ECOLOGY L.Q. 337, 340 (2008).

<sup>189</sup> See *id.*

site without government compulsion through a voluntary cleanup program may sue PRPs to recover cleanup costs.<sup>190</sup>

Furthermore, if a PRP takes action under the state brownfield cleanup program, depending on the specific regulation, states will provide the PRP with one of three forms of liability protection.<sup>191</sup> The first form is a certificate of completion or certificate of release.<sup>192</sup> This certificate states that the parties have completed, and the state has approved, the requisite cleanup.<sup>193</sup> The second form is a No Further Action letter.<sup>194</sup> While individual states may define this phrase as they choose, a No Further Action letter generally is a written communication from the state that pronounces, based on the appropriate investigation, evaluation, or remediation of the site, that the state will not hold the PRP responsible for any additional cleanup procedures.<sup>195</sup> Finally, the third form is a covenant not to sue.<sup>196</sup> This covenant states that the government will not hold the PRP liable for any cleanup costs or for any release of hazardous materials that occurred before the covenant not to sue vested.<sup>197</sup> Therefore, depending on the state regulations, PRPs have the ability to obtain future liability protection, which undoubtedly is an incentive to undertake brownfield redevelopment projects.<sup>198</sup>

Both CERCLA's provisions and state brownfield cleanup programs work together to promote and encourage parties to take an active role in environmental remediation. These provisions further CERCLA's goal of deterring future hazardous contamination, a goal that clearly warrants support. Today, the United States contains over one million brownfields,<sup>199</sup>

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<sup>190</sup> United States v. Atlantic Research Corp., 551 U.S. 128, 139–40 (2007); see also Gitler, *supra* note 188, at 353–56 (discussing *Atlantic Research Corp.*).

<sup>191</sup> See Robert S. Berger et al., *Recycling Industrial Sites in Erie County: Meeting the Challenge of Brownfield Redevelopment*, 3 BUFF. ENVTL. L.J. 69, 97 (1995); see also *Property Revitalization—Lessons Learned from BRAC and Brownfields*, INTERSTATE TECH. & REG. COUNCIL, 76 (Jan. 2006), [http://www.itrcweb.org/Documents/Brnflld\\_2web.pdf](http://www.itrcweb.org/Documents/Brnflld_2web.pdf) [hereinafter *Property Revitalization*].

<sup>192</sup> See Berger et al., *supra* note 191, at 98–99.

<sup>193</sup> See *id.* at 98.

<sup>194</sup> See *id.* at 97–98.

<sup>195</sup> See *id.*

<sup>196</sup> See *id.* at 98.

<sup>197</sup> See *id.*

<sup>198</sup> See Berger et al., *supra* note 191, at 99–100. VCPs also have the opportunity to obtain grants from the states. See *infra* Part VI (discussing funding and incentives for brownfield redevelopment). These state grants are not available to PRPs—pursuant to CERCLA section 107—except: (1) “at brownfields sites contaminated by a controlled substance”; or (2) “when the recipient would satisfy all of the elements set forth in CERCLA section 101(40) to qualify as a bona fide prospective purchaser except that the date of acquisition of the property was on or before January 11, 2002.” U.S. ENVTL. PROTECTION AGENCY, *FUNDING GUIDANCE FOR STATE AND TRIBAL RESPONSE PROGRAMS FISCAL YEAR 2011*, 10 (2011), [http://www.epa.gov/brownfields/proposal\\_guides/fy11\\_ST\\_final.pdf](http://www.epa.gov/brownfields/proposal_guides/fy11_ST_final.pdf) [hereinafter *FUNDING GUIDANCE*].

<sup>199</sup> Davis, *supra* note 2, at 5.

each with an average cleanup cost of over \$50 million.<sup>200</sup> The EPA and other government agencies lack the resources to manage all of these remediation projects and to proceed with the thousands of lawsuits to enforce remedial action.<sup>201</sup> Moreover, if brownfield contamination continues at a similar rate, the government surely is headed down an endless path of remediation.

## V. CLEANUP METHODS

Brownfield remediation employs various cleanup methods. These methods range from the extremely technical, such as bioremediation, to the relatively simple, such as letting the land naturally clean itself. No matter the technique utilized, the EPA requires remediators to follow specific procedural methods before beginning cleanup.

### A. Assessment

Before redevelopment may begin, brownfield sites require parcel delineation, preliminary assessments, and remediation investigations.<sup>202</sup> While the exact titles of the process and the activities contained under each section vary, the overall procedures for CERCLA, RCRA, and brownfield cleanup programs contain similar requirements.<sup>203</sup> For clarity, this article will discuss the process under the brownfield cleanup program, a program that proceeds through a series of five steps.<sup>204</sup>

#### 1. Assessment (Phase I and Phase II)

The first step is titled “Assessment” and contains two phases.<sup>205</sup> Phase I requires remediators to research the current and past use of the property to determine whether potential contamination could exist.<sup>206</sup> If the investigation proves that the land is potentially contaminated, the remediators must then obtain samples of the land.<sup>207</sup> Fortunately, the buyer

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<sup>200</sup> Gitler, *supra* note 188, at 338–39.

<sup>201</sup> *Id.* at 341.

<sup>202</sup> *See Property Revitalization, supra* note 191, at 38.

<sup>203</sup> *See id.*

<sup>204</sup> *See id.*

<sup>205</sup> *See id.*

<sup>206</sup> Amadi Interview, *supra* note 116. The CERCLA program refers to site assessment as “preliminary assessments/site investigation” and the RCRA program refers to it as “RCRA Facility Assessment.” *See Property Revitalization, supra* note 191, at 29. The American Society for Testing and Materials (ASTM) developed a guide for Phase I. *Id.* These standards, however, “do not apply to wetlands or to sites contaminated with asbestos or lead-based paint.” *Id.*

<sup>207</sup> *Id.* at 29; *see also* Dan B. Brown, *The Science of Brownfields, in* BROWNFIELDS: A COMPREHENSIVE GUIDE TO REDEVELOPING CONTAMINATED PROPERTY 300,

may conduct Phase I prior to purchasing the land so that the buyer is fully aware of the land's environmental status.<sup>208</sup>

Phase II works to define the nature and the extent of the contamination.<sup>209</sup> During Phase II, the parties must evaluate soil, surface water, groundwater, sediments, and air to determine the extent of the hazardous constituents identified during Phase I.<sup>210</sup> This evaluation helps determine whether "hot spots," or areas with dense contamination, are present on the land.<sup>211</sup> After evaluating the land, the parties must provide an assessment based on the present risks to public health or to the environment.<sup>212</sup> Finally, Phase II requires the parties to evaluate the cleanup alternatives by determining cleanup goals and remedial objectives.<sup>213</sup> Often, the available cleanup technologies depend on the type of contamination that the site investigations uncovered during Phase I and Phase II.<sup>214</sup> Furthermore, this process demands that the parties consider the site's future use, as certain uses may require more thorough decontamination procedures.<sup>215</sup>

## ***2. Investigation (Site Characterization/Remedial Action Work Plan)***

Based on the findings of the required assessments, the parties must then decide on an appropriate remedy.<sup>216</sup> Possible choices for remedies include "no further action, cleanup, [or] engineering/institutional controls."<sup>217</sup> The brownfield's location may affect the remedy options, as many remedial procedures vary from state to state because they are derived from applicable state guidance policies or state regulations.<sup>218</sup> Once the parties choose a cleanup remedy, they must create a cleanup plan that describes how they will implement the remedy on the specific property.<sup>219</sup> Another name for this cleanup plan is a Remedial Action Work Plan or a Remedial Action Plan (RAP).<sup>220</sup>

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305 (Todd S. Davis & Scott A. Sherman eds., 3d ed. 2010) (explaining the site investigation process under Ohio's Voluntary Action Program).

<sup>208</sup> See *Property Revitalization*, *supra* note 191, at 29. Depending on the structure of the transaction, the buyer may also conduct a Phase II evaluation prior to purchasing the land.

<sup>209</sup> *Id.*

<sup>210</sup> *Id.*

<sup>211</sup> Amadi Interview, *supra* note 116.

<sup>212</sup> *Id.* The CERCLA program calls this step "remedial investigation" and the RCRA program calls it "RCRA Facility Investigation." *Property Revitalization*, *supra* note 191, at 29.

<sup>213</sup> *Property Revitalization*, *supra* note 191, at 30.

<sup>214</sup> Amadi Interview, *supra* note 116.

<sup>215</sup> *Id.*

<sup>216</sup> *Property Revitalization*, *supra* note 191, at 30.

<sup>217</sup> *Id.*

<sup>218</sup> *Id.* at 31.

<sup>219</sup> *Id.* at 30.

<sup>220</sup> See *id.* at 65.

### 3. *Decision (Agency Approval)*

Upon creating a RAP, the parties must obtain approval from the Agency of Natural Resources (ANR).<sup>221</sup> The ANR has wide discretion in granting approval—it may “approve, disapprove, or approve with modifications.”<sup>222</sup> Regardless of the ANR’s decision, parties may only continue under the brownfield program if the ANR approves the plan.<sup>223</sup> Therefore, if the parties wish to proceed and the ANR did not approve their submitted plan, the parties must either submit a new plan or concede to the changes the ANR requested.<sup>224</sup>

### 4. *Cleanup*

The title for implementing the cleanup plan differs from state to state, but the concept is the same.<sup>225</sup> During the cleanup step, the parties actually execute the cleanup plan that the ANR approves.<sup>226</sup> Once again, the specific procedures depend on the controlling state guidance policies or state regulations.<sup>227</sup>

### 5. *Closeout (No Further Action)*

Once the parties complete their cleanup procedures, the parties want to ensure that they will not incur any future liability for the land’s previous contamination. If the ANR or a certified professional examines the property and determines that the parties have cleaned the property according to applicable standards, the ANR or a certified professional may issue a No Further Action letter.<sup>228</sup> This letter promises the parties that the state will not hold them responsible for redoing the cleanup and that if cleanup standards

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<sup>221</sup> See A. Jay Kenlan & W. Andrew Hazelton, *Vermont*, in *BROWNFIELDS: A COMPREHENSIVE GUIDE TO REDEVELOPING CONTAMINATED PROPERTY* 620, 624 (Todd S. Davis & Kevin D. Margolis eds., 1997). Note that this text refers to Vermont-specific procedures. *Id.* Nonetheless, while state procedures do have minor variations, for the most part, they follow the general procedure discussed here. See *Property Revitalization*, *supra* note 191, at 17.

<sup>222</sup> Kenlan & Hazelton, *supra* note 221, at 624.

<sup>223</sup> See *id.*

<sup>224</sup> See *id.* at 625.

<sup>225</sup> See *Property Revitalization*, *supra* note 191, at 31.

<sup>226</sup> See *id.*

<sup>227</sup> See *id.*

<sup>228</sup> See Dylewski, *supra* note 91, at 104 (discussing cleanup procedure under Ohio’s Voluntary Action Program). Parties may also receive a No Further Action letter at a prior point in the remediation procedure. For example, if the Phase I or Phase II investigation did not find any contamination or if it found that the contamination present was within acceptable standards, the parties may request a No Further Action letter at that time. *Id.* at 104 n.162.

change in the future, the state will not compel the parties to bring the property up to those new standards.<sup>229</sup>

### **B. Methods**

The methods that redevelopers use for cleanup are influenced by site conditions, local permit restrictions, community concerns, cleanup endpoints, and time and budget constraints. Many states allow the redevelopers to determine what cleanup standards they will follow based on the intended use of the property,<sup>230</sup> as the appropriate or best-suited technologies and cleanup activities will depend on the long-term goals for the brownfield project.<sup>231</sup> A redeveloper may also consider risk-based corrective action (RBCA) standards.<sup>232</sup> These standards not only consider the future uses of the property, but they also evaluate any special circumstances when determining specific remediation methods for the property.<sup>233</sup> Although the standards vary, states claim that they maintain and implement institutional controls to prevent human exposure to remaining contaminants.<sup>234</sup>

Depending on investigators' findings and on the level of contamination at a specific site, cleanup methods for that site may vary. Despite the fact that many cleanup methods exist, the EPA advocates for a few staple procedures.<sup>235</sup>

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<sup>229</sup> Berger et al., *supra* note 191, at 97–98. Some states may also provide liability protection beyond No Further Action letters, including covenants not to sue and liability releases. *See id.* at 98–100; *see also supra* text accompanying notes 191–198 (discussing forms of liability protection states offer to PRPs).

<sup>230</sup> Heidi Gorovitz Robertson, *Legislative Innovation in State Brownfields Redevelopment Programs*, 16 J. ENVTL. L. & LITIG. 1, 11–13 (2001).

<sup>231</sup> U.S. ENVTL. PROTECTION AGENCY, ROAD MAP TO UNDERSTANDING INNOVATIVE TECHNOLOGY OPTIONS FOR BROWNFIELDS INVESTIGATION AND CLEANUP 17 (4th ed. 2005), <http://www.clu-in.org/download/misc/roadmap4.pdf> [hereinafter EPA, ROAD MAP]. For example, if the brownfield will be used as an industrial facility, the standards for cleanup may be less stringent than those applicable to property redeveloped for residential use. *Id.*

<sup>232</sup> D. Evan van Hook, *Area-Wide Brownfields Planning, Remediation and Development*, 11 FORDHAM ENVTL. L.J. 743, 750 (2000).

<sup>233</sup> *Id.*

<sup>234</sup> Robertson, *supra* note 230, at 14–15. For example, an institutional control could prevent a certain construction method that could damage a contamination barrier. *Id.* at 16. Institutional controls may also restrict the future use of the land or restrict the owner's ability to sell the land. *Id.* Restrictions on use usually come in the form of restrictive covenants, equitable servitudes, easements, or reversionary interests. *Id.* at 17. Institutional controls from government authorities include zoning ordinances, building permits, and groundwater use restrictions, such as well-drilling. *Id.* at 23.

<sup>235</sup> Amadi Interview, *supra* note 116.

### ***1. Pump and Treat***

One method redevelopers use to treat groundwater contamination is the pump and treat method.<sup>236</sup> Often, if redevelopers discover the groundwater is too infected to treat on-site, they will use an extraction system to pump the groundwater out of the ground into a holding tank.<sup>237</sup> Once the water is in the holding tank, they treat the water and then conduct tests to determine the treatment's success.<sup>238</sup> Finally, after ensuring the water's cleanliness, they release the clean water back into the ground.<sup>239</sup> While this procedure operates to treat the water that was removed from the site, redevelopers must ensure they treat or remove the pollution source as well so the groundwater is not contaminated again after treatment.<sup>240</sup> Conducting the pump and treat process can take five to ten years or longer to complete.<sup>241</sup>

### ***2. Bioremediation***

Another option available to redevelopers is bioremediation. This technology replaces the pump and treat method, which merely removes the contaminated groundwater and does nothing to address the contaminated soil that remains.<sup>242</sup> Bioremediation technology uses microorganisms to “reduce, eliminate, [or] contain . . . contaminants present in soils, sediments, water, and air” or to transform contaminants into benign products.<sup>243</sup> Bioremediation reduces the spread of metal contaminants in soil and groundwater by first applying microorganisms to the contaminants and then allowing the microorganisms to use the contaminants as a food source.<sup>244</sup> While the specific resulting compound depends on whether the redevelopers use an aerobic or anaerobic process, biodegradation transforms contaminants into less toxic compounds such as hydrogen gas, sulfide, nitrogen gas, carbon dioxide, and water.<sup>245</sup>

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<sup>236</sup> See PUMP AND TREAT, *supra* note 49, at 1.

<sup>237</sup> *Id.* at 1–2; see also Amadi Interview, *supra* note 116.

<sup>238</sup> See PUMP AND TREAT, *supra* note 49, at 2.

<sup>239</sup> *Id.*

<sup>240</sup> *Id.*

<sup>241</sup> *Id.*

<sup>242</sup> Adebowale Adeniji, *Bioremediation of Arsenic, Chromium, Lead, and Mercury*, CLU-IN, 6 (Aug. 2004), [http://www.cluin.org/download/studentpapers/bio\\_of\\_metals\\_paper.pdf](http://www.cluin.org/download/studentpapers/bio_of_metals_paper.pdf).

<sup>243</sup> *Id.* at 5.

<sup>244</sup> See *id.* at 7; EPA, ROAD MAP, *supra* note 231, at A-16. This process is known as cometabolism, which is defined as: “A process in which compounds not utilized for growth or energy are transformed to other products by microorganisms.” MCGRAW-HILL DICTIONARY OF SCIENTIFIC & TECHNICAL TERMS 437 (6th ed. 2003).

<sup>245</sup> See EPA, ROAD MAP, *supra* note 231, at A-16.

Oxygen Release Compounds (ORC) and Hydrogen Release Compounds (HRC) are two common forms of bioremediation.<sup>246</sup> Redevelopers use ORCs when a site contains mainly petroleum contamination,<sup>247</sup> whereas redevelopers use HRCs when a site contains metal, or non-petroleum contamination.<sup>248</sup> During the ORC process, redevelopers inject ORCs into the “hot spots” at the brownfield site using pumps, causing the groundwater to react and to release oxygen into the air.<sup>249</sup> When the oxygen reaches the surface, observers will see bubbles coming out of the ground.<sup>250</sup> Through these steps, the ORC injection treats the petroleum contaminants by increasing the natural rate of aerobic degradation—a process by which microorganisms break down contaminants when oxygen is present.<sup>251</sup> After injection, this ORC compound may remain in the soil and continue to release oxygen for up to twelve months.<sup>252</sup> To determine whether the ORC injection is successful, redevelopers must continue to monitor and test the groundwater for two to three years to ensure the contamination fades.<sup>253</sup> Monitoring the groundwater is a tactic redevelopers use to double-check the bioremediation process and to ensure that the remediation procedures are successful.<sup>254</sup>

Because metals are not biodegradable, they will not decompose on their own.<sup>255</sup> Additionally, at high concentration levels, metals may become toxic to many species.<sup>256</sup> Bioremediation mechanisms, however, operate to transform the metal contaminants.<sup>257</sup> Similar to the ORC process, redevelopers pump HRCs into the groundwater.<sup>258</sup> HRCs release lactic acid into groundwater, and naturally occurring microorganisms metabolize this lactic acid, producing hydrogen in the process.<sup>259</sup> The microorganisms then use that hydrogen to enhance anaerobic degradation of organic contaminants

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<sup>246</sup> Amadi Interview, *supra* note 116.

<sup>247</sup> *Id.*

<sup>248</sup> *Id.*

<sup>249</sup> *Id.*

<sup>250</sup> *Id.*

<sup>251</sup> *Id.*

<sup>252</sup> Amadi Interview, *supra* note 116.

<sup>253</sup> *Id.*

<sup>254</sup> *Id.*

<sup>255</sup> See U.S. ENVTL. PROTECTION AGENCY, EMERGING CONTAMINANTS – NANOMATERIALS 3 (Sept. 2009), <http://www.clu-in.org/download/contaminantfocus/epa505f09011.pdf> (explaining that metals are inherently non-biodegradable inorganic chemicals).

<sup>256</sup> See Adeniji, *supra* note 242, at 6. “Metals such as mercury, lead, and arsenic, potentially can be toxic to the kidneys, decrease mental capabilities, and cause weakness, headaches, abdominal cramps, diarrhea, and anemia. Chronic exposure to these pollutants can cause permanent kidney and brain damage.” *Id.*

<sup>257</sup> See *id.* at 5 (stating, “researchers have discovered that microbial processes are beginning to be used to cleanup radioactive and metallic contaminants—two of the most common and most recalcitrant components of hazardous waste sites”).

<sup>258</sup> Amadi Interview, *supra* note 116.

<sup>259</sup> *Id.*

by dechlorinating the contaminants.<sup>260</sup> Once again, similar to the ORC process, redevelopers must monitor and test the groundwater for two to three years to ensure that the bioremediation is successful.<sup>261</sup>

### 3. Capping

Capping is another option for remediation. When sites contain surface contamination from industrial operations, redevelopers are concerned that people may come into contact with that contaminated soil. To prevent such contact, redevelopers may “cap” the soil by putting down barriers, such as pavement for roads or sidewalks.<sup>262</sup>

### 4. Natural Attenuation

Finally, after completing the above procedures, EPA specialists suggest that redevelopers let the groundwater naturally attenuate and then monitor the attenuation.<sup>263</sup> The EPA defines monitored natural attenuation as “physical, chemical, or biological processes that, under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil or groundwater.”<sup>264</sup> When the contaminated groundwater concentrates in one area, that area is called a groundwater plume.<sup>265</sup> In the plume, the natural bacteria in the ground help degrade the organic compounds in the contaminant.<sup>266</sup> If the natural breakdown does not occur, redevelopers may take steps to create an anaerobic environment so that the bacteria may flourish to decrease the organic compounds.<sup>267</sup> While monitoring the plume, if natural breakdown properly occurs, redevelopers should notice that the plume shrinks or at least remains stable.<sup>268</sup> If the plume merely remains stable, redevelopers could revert to using the previously discussed pump and treat method.<sup>269</sup>

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<sup>260</sup> *Id.*

<sup>261</sup> *Id.*

<sup>262</sup> See Clifford J. Villa, *Cleaning Up at the Tracks: Superfund Meets Rails-To-Trails*, 25 HARV. ENVTL. L. REV. 481, 506 (2001) (explaining potential methods to “cap” a contaminated railroad bed); see also *infra* text accompanying notes 331–335 (explaining how remediators capped contaminated soil in the Menomonee Valley).

<sup>263</sup> Telephone Interview with Gary Adelstein, Waste Mgmt. & Remediation Eng’r, WDNR, in Madison, Wis. (Feb. 25, 2011) [hereinafter Adelstein Interview].

<sup>264</sup> U. S. ENVTL. PROTECTION AGENCY, DIRECTIVE NUMBER 9200.4-17P, 3 (April 21, 1999), <http://www.epa.gov/swrust1/directiv/d9200417.pdf>.

<sup>265</sup> Adelstein Interview, *supra* note 263.

<sup>266</sup> *Id.*

<sup>267</sup> *Id.*

<sup>268</sup> *Id.*

<sup>269</sup> *Id.*

## VI. FUNDING AND INCENTIVES

Because brownfield remediation is an extremely expensive process, private parties often are not willing to purchase land that contains contamination, leaving the city to fund the site's cleanup.<sup>270</sup> While a city may use some of its own money to purchase and clean up a brownfield, it also is eligible to receive state and federal grants to assist with redevelopment.<sup>271</sup> Parties are eligible to apply to receive some of this money and frequently apply for grants to assist with the expenses.<sup>272</sup>

The EPA operates a brownfields program, and as part of that program, it distributes grants to various communities to promote revitalization.<sup>273</sup> The EPA does not intend for recipients to use these grants only for assessment and cleanup projects; rather, the EPA distributes these funds to advance community outreach, to educate the public about brownfield redevelopment, and to train individuals on how to properly remediate a brownfield.<sup>274</sup> Other forms of funding may also come from "philanthropies, state lotteries, and taxes, fines, and surcharges on hazardous waste disposal and pollution."<sup>275</sup>

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<sup>270</sup> For example, in remediating the Menomonee Valley, the Valley received the following funding assistance: Housing and Urban Development (HUD) section 108 Loan Guarantee: \$10 million; HUD Brownfield Economic Development Initiative Grants: \$2 million; EPA Clean Up Grant: \$200,000; EDA BCR Loan Fund: \$1.125 million; HUD Neighborhood Grant: \$1.950 million; WI DNR Sustainable Urban Development Grant: \$837,000; WI Department of Commerce Grant: \$1.250 million; Redevelopment Authority City of Milwaukee Loan: \$6.475 million. Wis. Dep't of Natural Res. Remediation and Redevelopment Program, *Former Milwaukee Road Shops*, WIS. DEP'T NAT. RESOURCES, 2 (Mar. 2009), <http://www.dnr.wi.gov/org/aw/rr/archives/pubs/RR826.pdf>.

<sup>271</sup> See Robert A. Simons & Adam Saurwein, *Creative Financing of Brownfields Sites*, in *BROWNFIELDS: A COMPREHENSIVE GUIDE TO REDEVELOPING CONTAMINATED PROPERTY* 147, 153 (Todd S. Davis & Scott A. Sherman eds., 3d ed. 2010). Grants are "a direct infusion of capital to pay for some aspect of the project and offset certain development costs. Grants are money that does not have to be paid back." *Id.*

<sup>272</sup> *Id.* (discussing a study of brownfield projects which showed "an average remediation expense of about 10 percent, with government subsidies averaging 15 to 20 percent"). See generally *Brownfields Grant Fact Sheet Search*, ENVTL. PROTECTION AGENCY, [http://cfpub.epa.gov/bf\\_factsheets/basic/index.cfm](http://cfpub.epa.gov/bf_factsheets/basic/index.cfm) (last updated Nov. 26, 2011) (providing a database of grant recipients).

<sup>273</sup> See *Grants & Funding*, ENVTL. PROTECTION AGENCY, [http://epa.gov/brownfields/grant\\_info/index.htm](http://epa.gov/brownfields/grant_info/index.htm) (last updated Jan. 5, 2011) (explaining the various grants available for brownfield remediation).

<sup>274</sup> See *Brownfield Redevelopment*, THE PRESERVATIONIST, <http://www.preservationist.net/environment/brownfield-redevelopment/> (last visited Oct. 31, 2011); *Brownfields Training, Research, and Technical Assistance Grant Fact Sheet*, ENVTL. PROTECTION AGENCY, [http://epa.gov/brownfields/trta\\_k6/k6\\_07\\_nemw\\_financial.htm](http://epa.gov/brownfields/trta_k6/k6_07_nemw_financial.htm) (last updated Oct. 12, 2010). See generally *Grants & Funding*, *supra* note 273 (explaining the various grants offered by the EPA).

<sup>275</sup> *Brownfield Redevelopment*, *supra* note 274. For example, dry cleaners must pay a fee based on gross receipts, which funds the Dry Cleaner Environmental Response Fund. Telephone Interview with Al Rabin, Wis. Econ. Dev. Corp. (Nov. 22, 2011) [hereinafter Rabin Interview].

The Tax Relief Act of August 1997 provides for a Brownfields Tax Incentive.<sup>276</sup> This provision encourages brownfield cleanup and redevelopment because it provides taxpayers with a direct tax incentive by allowing them to “immediately reduce their taxable income by the cost of their eligible cleanup expenses.”<sup>277</sup> Eligible cleanup expenses include costs associated with “[s]ite assessment and investigation; [s]ite monitoring; [c]leanup costs; [o]peration and maintenance costs; [s]tate voluntary cleanup program oversight fees; and [r]emoval of demolition debris.”<sup>278</sup> To receive these tax deductions, taxpayers must first obtain documentation from their state that verifies the taxpayer’s property fits the eligibility requirements.<sup>279</sup>

State VCPs may incentivize parties to engage in cleanup programs by providing autonomy in site investigation and cleanup, a form of liability waiver, or grants and tax credits to help cover the costs.<sup>280</sup> States may provide these monetary incentives by obtaining federal funding through various programs such as the one set forth by section 128(a) of CERCLA, which authorizes a \$50 million grant for state and tribal cleanup programs.<sup>281</sup> To receive these funds, states that do not have a Memorandum of Agreement with the EPA must prove to the EPA that their programs include or are taking “reasonable steps” to include the four elements of a response program: (1) a timely survey and inventory of the brownfields sites in the state; (2) oversight and enforcement mechanisms to protect human health and ensure completion; (3) an opportunity for the public to comment on remediation plans and public access to explanatory documentation; and (4) a procedure to verify and approve that cleanup is complete.<sup>282</sup> The state must also maintain public records “of sites at which response actions have been completed in the

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<sup>276</sup> U.S. ENVTL. PROTECTION AGENCY, BROWNFIELDS TAX INCENTIVE GUIDELINES, 1 (Nov. 2008), [http://www.epa.gov/brownfields/tax/ti\\_guidelines.pdf](http://www.epa.gov/brownfields/tax/ti_guidelines.pdf) [hereinafter BROWNFIELDS TAX INCENTIVE GUIDELINES]. This provision is codified at section 198(a) of the Internal Revenue Code. *Id.*

<sup>277</sup> *Id.*; see also Simons & Saurwein, *supra* note 271, at 153 (explaining various tax breaks provided by state and federal governments to incentivize brownfield redevelopment). The Brownfield Tax Incentive does have eligibility requirements. BROWNFIELDS TAX INCENTIVE GUIDELINES, *supra* note 276, at 3. To be an eligible taxpayer, the property “must be ‘held by the taxpayer,’” and the taxpayer “must hold the property for business or income generation purposes.” *Id.* Personal use property does not qualify. *Id.* For the property to be eligible, the property must have sustained “[a] release or threat of release of a hazardous substance” or “[d]isposal of a hazardous substance.” *Id.* Petroleum products qualify as a hazardous substance. *Id.*

<sup>278</sup> *Id.* at 4.

<sup>279</sup> See BROWNFIELDS TAX INCENTIVE GUIDELINES, *supra* note 276, at 4.

<sup>280</sup> See Scott A. Sherman, *Strategies for Resolving Federal Liabilities at Brownfield Sites*, in BROWNFIELDS: A COMPREHENSIVE GUIDE TO REDEVELOPING CONTAMINATED PROPERTY 70, 76–78 (Todd S. Davis & Scott A. Sherman eds., 3d ed. 2010) (explaining and providing an example of the benefits of brownfield remediation under a state voluntary cleanup program as opposed to federal oversight).

<sup>281</sup> FUNDING GUIDANCE, *supra* note 198, at 1.

<sup>282</sup> *Id.* at 4–6.

previous year and are planned to be addressed in the upcoming year.<sup>283</sup> Once the state confirms that its program meets these requirements, it must file a single application with the EPA.<sup>284</sup> If the state receives a grant from the EPA, the state may then use the grant money to fund response actions under the state response program so long as the specific site cleanup costs do not exceed 50% of the total funding that the state requested.<sup>285</sup>

Some jurisdictions also provide revolving loan funds to parties who need additional funding.<sup>286</sup> The EPA, in collaboration with the states, established these funds as a way for parties to obtain low-interest loans with the potential for loan forgiveness.<sup>287</sup> Depending on the programs used by different jurisdictions, a state or an eligible entity may appeal to the EPA for funding assistance for a particular program with defined objectives.<sup>288</sup> If the entity receives the grant, and if individuals are a proper recipient under the program's terms, the entity may proceed with disbursing the funds in accordance with the program's and the grant's guidelines.<sup>289</sup>

Finally, states may also provide additional tax incentives to parties who volunteer to clean up brownfield sites.<sup>290</sup> For example, Wisconsin counties may cancel delinquent taxes if the property is contaminated and the owner agrees to clean up the property.<sup>291</sup> Similarly, Wisconsin counties may even transfer contaminated and tax-delinquent property to a new owner if that owner agrees to clean the property.<sup>292</sup>

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<sup>283</sup> *Id.* at 4.

<sup>284</sup> *Id.* at 11.

<sup>285</sup> *Id.* at 9.

<sup>286</sup> Simons & Saurwein, *supra* note 271, at 154.

<sup>287</sup> *Id.*

<sup>288</sup> Telephone Interview with Andrew Boettcher, Hydrogeologist, WDNR (Nov. 22, 2011).

<sup>289</sup> *Id.* For example, the Wisconsin Economic Development Corporation may use the EPA grants to refund hard costs to competitive applicants going through the VCP procedures. Rabin Interview, *supra* note 275. Similarly, in response to the EPA's request for grant applications, the City of Milwaukee may submit proposals for a specific site or for community-wide funding. Telephone Interview with Karen Dettmer, Senior Env'tl. Project Coordinator, Redevelopment Auth. of the City of Milwaukee (Nov. 22, 2011). Once the City obtains that funding, it has the authority to use the funding for a privately-owned site. *Id.* Note that as of September 2011, many of these grants and awards, including Blight Elimination & Brownfield Redevelopment Grants, Brownfield Site Assessment Grants, and other various programs, are now managed by the Wisconsin Economic Development Corporation rather than the Wisconsin Department of Commerce. WIS. DEP'T OF NATURAL RES. & WIS. DEP'T OF COMMERCE, THE FINANCIAL RESOURCE GUIDE FOR CLEANUP & REDEVELOPMENT (2009), <http://dnr.wi.gov/org/aw/tr/archives/pubs/RR539.pdf> (noting the program changes in the September 2011 update).

<sup>290</sup> Simons & Saurwein, *supra* note 271, at 153–54.

<sup>291</sup> U.S. ENVTL. PROTECTION AGENCY, STATE BROWNFIELDS AND VOLUNTARY RESPONSE PROGRAMS: AN UPDATE FROM THE STATES, 90 (2009), [http://www.epa.gov/brownfields/state\\_tribal/update2009/bf\\_states\\_report\\_2009.pdf](http://www.epa.gov/brownfields/state_tribal/update2009/bf_states_report_2009.pdf) [hereinafter STATE BROWNFIELDS AND VOLUNTARY RESPONSE PROGRAMS].

<sup>292</sup> *Id.*

## VII. MENOMONEE VALLEY

As of 2005, Wisconsin contained more than 10,000 brownfields.<sup>293</sup> Under the VCP, more than 22,700 brownfield parties received case closure letters for their cleanup procedures and more than 85 sites received certificates of completion with an exemption from liability.<sup>294</sup> Out of all of those brownfields, the Menomonee Valley was Wisconsin's largest and most visible brownfield.<sup>295</sup> Nonetheless, even as the largest brownfield in Wisconsin, the Valley was not listed on the EPA's National Priorities List; therefore, the Valley was not subject to CERCLA cleanup procedures or oversight by the EPA.<sup>296</sup> Rather, Wisconsin's brownfields program governed the Valley's remediation.<sup>297</sup>

In 1998, three local entities came together and prepared a land use plan for the Menomonee Valley: the City of Milwaukee, the Menomonee Valley Business Association, and the Milwaukee Metropolitan Sewerage District.<sup>298</sup> These entities strived to determine the proper and potential uses for the Valley, which included options such as creating parks, shopping centers, business centers or office space, educational facilities, and recreational facilities.<sup>299</sup> Around the same time, the State of Wisconsin was developing a plan to create the Hank Aaron State Trail, which runs along the Menomonee River and through the Valley.<sup>300</sup> As a result of these collective actions, a group of individuals came together to form a nonprofit named Menomonee Valley Partners, Inc. (MVP).<sup>301</sup> This organization began as "a public-private partnership to facilitate business, neighborhood, and public partners in efforts to revitalize the Valley."<sup>302</sup>

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<sup>293</sup> Christopher De Sousa, *Policy Performance and Brownfield Redevelopment in Milwaukee, Wisconsin*, THE PROFESSIONAL GEOGRAPHER, May 2005, at 312, 314.

<sup>294</sup> See STATE BROWNFIELDS AND VOLUNTARY RESPONSE PROGRAMS, *supra* note 291, at 89, 91.

<sup>295</sup> See *A Decade of Transformation*, MENOMONEE VALLEY PARTNERS, INC., <http://www.renewthevalley.org/documents/3-a-decade-of-transformation> (last visited Oct. 31, 2011).

<sup>296</sup> See E-mail from David Misky, Assistant Exec. Dir.-Sec'y, Redevelopment Auth. of the City of Milwaukee, to author (Apr. 10, 2011, 07:38 CST) (on file with author) [hereinafter Misky E-mail].

<sup>297</sup> *Id.*

<sup>298</sup> *Menomonee Valley History*, *supra* note 26.

<sup>299</sup> See *Market Study*, *supra* note 32, at 1-2 (outlining the purposes and recommendations for redevelopment of the Menomonee Valley).

<sup>300</sup> *Menomonee Valley History*, *supra* note 26.

<sup>301</sup> *Id.*

<sup>302</sup> *Id.*

### *A. Acquiring the Valley and Everything on It*

In 2003, the Redevelopment Authority of the City of Milwaukee (RACM) acquired the blighted property.<sup>303</sup> While states provide their own statutory definitions of and procedures for contaminated land, the WDNR defined the Menomonee Valley as an abandoned landfill.<sup>304</sup> This definition applies certain restrictions to the property, as Wisconsin administrative regulations prohibit construction on “solid waste disposal facilities [that] are no longer in operation.”<sup>305</sup> Additionally, any proposed development projects must receive specific written approval from the WDNR.<sup>306</sup> With these daunting classifications and prohibitions, the City knew that the newly-acquired land clearly had its limits.

To determine what contaminants were present, and in accordance with Phase I and Phase II Assessment, the MVP, the WDNR, the EPA, and the United States Geological Survey (USGS) conducted a three-year investigation of the Valley’s soils and groundwater.<sup>307</sup> These preliminary geotechnical tests cost an estimated \$1,000 for a ten-acre site to \$25,000 for a 100-acre site.<sup>308</sup> Furthermore, estimates for environmental tests ranged from \$15,000 to \$50,000 per site.<sup>309</sup> The organizations completed these tests as part of their due diligence prior to acquiring the contaminated land.<sup>310</sup>

### *B. Making Way for Change*

After conducting the appropriate Phase I and Phase II tests, the City developed a remedial action plan that addressed the relevant contamination.<sup>311</sup> Just as the state brownfields programs require, RACM

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<sup>303</sup> Misky & Nemke, *supra* note 39, at 14; *see also Menomonee Valley Brownfields Walking Tour*, *supra* note 53 (explaining the history and current status of prominent landmarks in the Menomonee Valley). The majority of the Valley was covered by the zoning classification I-A-125 “Industrial District,” which allows for abusive use of the land. *Market Study*, *supra* note 32, at 6. The report recommended that the Department of City Development draft new zoning, and that the City of Milwaukee Planning Commission and Common Council approve those drafts. *Id.*

<sup>304</sup> *See* Zilber Family Foundation, *Clarke Square: Quality of Life Plan*, ZNI MILWAUKEE, 2, [http://www.znimilwaukee.org/assets/files/ZNI\\_QLP\\_FullPlan\\_ClarkeSquare.pdf](http://www.znimilwaukee.org/assets/files/ZNI_QLP_FullPlan_ClarkeSquare.pdf) (last visited Nov. 26, 2011) (explaining the history of the Clarke Square neighborhood).

<sup>305</sup> *See* WIS. ADMIN. CODE NR § 506.085(2) (2009); *see also* WIS. STAT. § 289.01(35) (2009) (defining solid waste facility, in part, as “a facility for solid waste treatment, solid waste storage or solid waste disposal, and includes commercial, industrial, municipal, state, and federal establishments or operations such as . . . sanitary landfills [and] dumps”).

<sup>306</sup> WIS. ADMIN. CODE NR § 506.085.

<sup>307</sup> Environmental Committee, *supra* note 98, at i.

<sup>308</sup> *Market Study*, *supra* note 32, at 6-6.

<sup>309</sup> *Id.*

<sup>310</sup> *See* Misky E-mail, *supra* note 296.

<sup>311</sup> *Id.* The WDNR helped RACM create a complete and efficient RAP. *Id.*

requested and received the WDNR's approval of its plan.<sup>312</sup> To execute that plan, the City first desired to remove the remaining debris, garbage, and contamination. Specifically, it needed to haul away the salt piles from Morton Salt, the sand piles from Lake Shore Sand, and the gravel piles from Saint Mary/Blue Circle and Lonestar cement.<sup>313</sup> The City first asked and negotiated with these companies to proceed with removal, but when it received unfavorable offers, the City proceeded by using its enforcement and acquisition powers.<sup>314</sup> Next, the City removed the partially demolished and odor-generating structures.<sup>315</sup> The City also removed two cement terminals that underutilized the land because the City believed these operations impeded future development.<sup>316</sup>

After removal, the City intended to proceed with its planned and approved cleanup procedures. Nonetheless, recognizing that remediation does not always go as planned and acting at the forefront of remediation policies and procedures, the City compiled a Materials Management Plan (MMP).<sup>317</sup> This plan acted as a guide for redevelopers by providing them with strategies and guidelines to follow if they encountered previously unidentified, impacted media during redevelopment activities.<sup>318</sup>

### C. Remediation Procedures

While general removal was the City's initial step, soil removal also continued as part of the remediation procedures.<sup>319</sup> The Phase I and Phase II on-site investigations revealed evidence of hotspot contamination in the soil and groundwater, with petroleum being the most prominent soil contaminant.<sup>320</sup> Investigations showed that the soil also contained lead and

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<sup>312</sup> *Id.* Similar to parties that clean up brownfields under the VCP programs, RACM also had the opportunity to obtain some liability protection for its cleanup project. *Id.* Uniquely, however, “[a]s a local government unit, [RACM is] afforded liability protection [that allows RACM] to clean up the property over time as long as [RACM is] protective of human health and the environment.” *Id.*

<sup>313</sup> See *Market Study*, *supra* note 32, at 10.

<sup>314</sup> See *id.*; see also Misky & Bernger Speech, *supra* note 54.

<sup>315</sup> See *Market Study*, *supra* note 32, at 10. When the City demolished the former Waste Water Treatment Plant, it had to “remove and dispose of sludge, wastewater, and free product from beneath the former onsite [plant].” Memorandum from the Menomonee Valley Partners, Inc., *Remedial Action Plan Requirements and Progress: RACM's Shops Site—Milwaukee, Wisconsin* (on file with author) [hereinafter *RACM's Shops Site*].

<sup>316</sup> *Market Study*, *supra* note 32, at 10.

<sup>317</sup> *RACM's Shops Site*, *supra* note 315.

<sup>318</sup> See *id.* The term “media” includes substances such as soil, sludge, groundwater, sediment, and surface water. U.S. ENVIRONMENTAL PROTECTION AGENCY, BROWNFIELDS TECHNOLOGY PRIMER: REQUESTING AND EVALUATING PROPOSALS THAT ENCOURAGE INNOVATIVE TECHNOLOGIES FOR INVESTIGATION AND CLEANUP, 18–25 (February 2001), <http://www.brownfieldstsc.org/pdfs/rfpfinal.pdf>.

<sup>319</sup> See Environmental Committee, *supra* note 98, at 4.

<sup>320</sup> *Former Milwaukee Road Shops*, *supra* note 270, at 1.

chlorinated solvents.<sup>321</sup> To remedy the contamination, the City removed the contaminated soil and, depending on the contamination's extent, monitored the site for twelve to twenty-four months to determine whether natural attenuation adequately cleaned the remaining groundwater.<sup>322</sup>

### *1. Creative Onsite Management*

Fortunately for Milwaukee, and unique to the Valley's remediation, the City was able to coordinate with another government entity to mitigate costs and to quickly proceed with remediation. At the time of removal of the contaminated soil, the Department of Transportation (DOT) was also constructing the Marquette Interchange, which was directly adjacent to the Valley.<sup>323</sup> Redevelopers worked with the DOT to obtain some of the soil from the interchange project.<sup>324</sup> This agreement allowed remediators to avoid using the costly and time-consuming bioremediation techniques that the EPA advocates; instead, they used 120,000 cubic yards of slightly impacted soil from the DOT to fill the holes they left after removing the heavily contaminated soil.<sup>325</sup> Subsequently, they covered the slightly impacted soil with several feet of clean soil to prevent hazardous compounds from entering the groundwater—which could further spread the contamination—and to ensure that a clean cover was on top to minimize direct contact at the surface.<sup>326</sup> Not only did this government agency arrangement save money, the recycled soil helped address the redevelopment problem in the 100-year floodplain,<sup>327</sup> as the added soil elevated the site above the floodplain and provided an “engineered subgrade for future development.”<sup>328</sup> The soil even raised one site six to ten feet.<sup>329</sup> Moreover, this plan re-used 700,000 cubic yards of material that otherwise would have gone to construction or special waste landfills.<sup>330</sup>

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<sup>321</sup> *Id.*

<sup>322</sup> Environmental Committee, *supra* note 98, at 4.

<sup>323</sup> See *Former Milwaukee Road Shops*, *supra* note 270, at 1; Misky & Bernger Speech, *supra* note 54.

<sup>324</sup> See Misky & Nemke, *supra* note 39, at 15; *Former Milwaukee Road Shops*, *supra* note 270, at 1.

<sup>325</sup> See E-mail from David Misky, Assistant Exec. Dir.-Sec'y, Redevelopment Auth. Of the City of Milwaukee, to author (Nov. 15, 2011, 3:01 CST) (on file with author) [hereinafter Misky November E-mail]. The DOT classifies soil as common soil (clean), special soil (slightly contaminated), and hazardous. *Id.*; see also *supra* text accompanying notes 242–261 (explaining bioremediation).

<sup>326</sup> See *Former Milwaukee Road Shops*, *supra* note 270, at 1.

<sup>327</sup> See Misky & Nemke, *supra* note 39, at 15.

<sup>328</sup> *RACM's Shops Site*, *supra* note 315; Misky November E-mail, *supra* note 325.

<sup>329</sup> *Building for the Future by Recycling Industrial Materials*, ENVTL. PROTECTION AGENCY, 2 (Sept. 2007), <http://www.epa.gov/wastes/conservation/rrr/imr/pdfs/banner-fs.pdf> [hereinafter *Building for the Future*]. This website refers to the Industrial Center and Community Park Project. *Id.*

<sup>330</sup> Misky & Nemke, *supra* note 39, at 15; Misky November E-mail, *supra* note 325.

Because they were not using bioremediation, the redevelopers then needed to manage the removed contaminated soil. To manage this excess, redevelopers employed another technique the EPA encourages—the “capping” technique.<sup>331</sup> A cap is an impermeable barrier that confines contaminated soil and prevents direct human contact with such soil.<sup>332</sup> The redevelopers in the Valley meticulously placed the contaminated soil in areas of the site where roads or “other public spaces” would operate as a cap.<sup>333</sup> For example, in developing the Hank Aaron State Trail, redevelopers created a cement trail that operates as a cap on any underlying contaminated soil.<sup>334</sup> As for the soil that remained after layering and capping, redevelopers removed about 12,000 cubic yards of petroleum-contaminated soil to an offsite treatment facility.<sup>335</sup>

Along with the use of soil from the Marquette Interchange, the Valley redevelopers employed other examples of onsite remediation management. Instead of transferring materials offsite, the redevelopers used crushed concrete to create building foundations and roadway subgrade.<sup>336</sup> Furthermore, they used asbestos-containing building debris for landscaped mounds.<sup>337</sup> They placed the debris “in the consolidation areas with alternating lifts of daily cover soil, and an interim cover consisting of [one] foot of compacted soil, [three] inches of topsoil, hydro seed and mulch. The final cover . . . [included two] feet of clean material . . . over a geotextile layer,” which now serves as an identifier for anyone engaged in future subgrade activity.<sup>338</sup> Thus, future developers cannot construct roadways or buildings on these sites without encountering a warning.<sup>339</sup>

While this remediation technique does not eliminate the contaminated material, it does “consolidate it into quantifiable and manageable areas that will remain [the] property of and be maintained by the City of Milwaukee.”<sup>340</sup> Moreover, the City’s creativity with onsite management resulted in a \$10 million reduction in remediation costs because

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<sup>331</sup> See Misky E-mail, *supra* note 296; Environmental Committee, *supra* note 98, at 6.

<sup>332</sup> See Environmental Committee, *supra* note 98, at 6. Typically the term “cap” applies to barriers such as parking lots or buildings. *Id.* “[I]f a cap or cover is part of the remedy, a deed restriction will be required to ensure that the cap is maintained.” *Id.*

<sup>333</sup> Misky November E-mail, *supra* note 325.

<sup>334</sup> See *supra* text accompanying notes 331–333 (explaining how physical barriers may operate as a cap on contaminated soil).

<sup>335</sup> *Brownfield Renewal Environmental Impact Award Winner*, *supra* note 50.

<sup>336</sup> *Building for the Future*, *supra* note 329, at 2.

<sup>337</sup> *The Phoenix Awards: Menomonee Valley Industrial Center (MVIC) and Community Park*, THE SIGMA GROUP (2009), [http://www.thesigmagroup.com/media/MVIC\\_BP\\_Handout.pdf](http://www.thesigmagroup.com/media/MVIC_BP_Handout.pdf).

<sup>338</sup> *RACM’s Shops Site*, *supra* note 315.

<sup>339</sup> See *id.*

<sup>340</sup> *Id.*

the City did not have to transport the materials or pay to dispose of them offsite.<sup>341</sup>

## ***2. Implementing New Controls Due to the Valley's Location***

In the mind of an industrial worker, the Menomonee Valley was perfectly located—it was easily accessible from the railroad, from the Menomonee River, and from Lake Michigan. In the environmentalist's mind, the location near water sources meant something very different—the potential risk of runoff contamination into those nearby water sources.

In 2004, the WDNR helped develop a RAP that included using thirty acres of green space for storm water management.<sup>342</sup> The plan envisioned a community park that would also operate as a storm water retention basin.<sup>343</sup> The project strived to eliminate all storm water runoff and, instead, to divert the rain water to the wetland meadows, where it would filter “through a layer of crushed concrete, known as an infiltration gallery.”<sup>344</sup> From there, the water would proceed to the Swamp Forest section of the park, allowing natural vegetation to absorb the remaining contaminants.<sup>345</sup>

Because the City created the storm water reservoir and treatment facility to cover the majority of the Valley, individual developers do not need to create their own basins.<sup>346</sup> Furthermore, because RACM retained ownership of the storm water system, it maintains the property as needed, excusing the property owners from these duties and only requiring them to reimburse RACM for expenses up to a set limit.<sup>347</sup>

### ***D. Instituting Long Term Controls***

Understanding that the remediation of the Menomonee Valley was a large time and monetary commitment, the Valley redevelopers instituted long term controls to ensure that their work remains beneficial for centuries to come. First, the City created a model developer agreement that “stipulates known geotechnical conditions and then clearly outlines future responsibilities.”<sup>348</sup> Such an agreement likely discusses subsurface conditions

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<sup>341</sup> See Misky & Nemke, *supra* note 39, at 15.

<sup>342</sup> *RACM's Shops Site*, *supra* note 315. “Under the Wisconsin Pollution Elimination Discharge legislation, projects disturbing 5 or more acres of land must submit plans for erosion control and storm water management during construction.” *Market Study*, *supra* note 32, at 4-35.

<sup>343</sup> Misky & Bernger Speech, *supra* note 54.

<sup>344</sup> *Former Milwaukee Road Shops*, *supra* note 270, at 2.

<sup>345</sup> See *id.*; Wis. Dep't of Natural Res. Remediation and Redevelopment Program, *Menomonee Valley – Stormwater Park*, WIS. DEP'T NATURAL RES. (Jan. 2009), <http://dnr.wi.gov/org/aw/tr/archives/pubs/RR827.pdf>.

<sup>346</sup> See Misky & Nemke, *supra* note 39, at 15–16.

<sup>347</sup> Misky & Bernger Speech, *supra* note 54.

<sup>348</sup> Misky & Nemke, *supra* note 39, at 16.

and assesses the risks of construction on the site. This type of agreement also helps ensure that future individual site developers have instructions for, along with relevant facts about, any subsurface construction and that construction's potential environmental impact.<sup>349</sup>

Redevelopers also instituted passive controls to monitor future environmental concerns. The first of these controls was natural attenuation, a procedure the EPA commonly promotes.<sup>350</sup> To ensure that natural attenuation was properly proceeding, redevelopers implemented extended groundwater monitoring that would continue to document natural attenuation of "dissolved groundwater constituents."<sup>351</sup>

To make the Valley more attractive to new businesses, the DOT and the Department of Public Works improved Canal Street and created new roadways, including re-constructing the Sixth Street viaduct, which was demolished when the industrial businesses moved out of the Valley.<sup>352</sup> The City also encourages new property owners in the Valley to take an active role in environmental awareness. The City currently insists that buildings have engineered venting systems that mitigate the migration of methane and other potentially volatile organic contaminants into the indoor space.<sup>353</sup> Additionally, the City encourages new tenants to construct "green buildings" eligible for Leadership in Energy and Environmental Design (LEED) certification.<sup>354</sup>

### *E. Current Activity*

Remediating the Menomonee Valley generated many of the potential, ensuing benefits for the City. Simply by cleaning the land, the development site property increased in value by 1,400% between 2002 and 2009, allowing the City to reap a benefit of over \$1 million more in annual property tax revenues.<sup>355</sup> Furthermore, cleaning the land in the Valley opened the doors to new businesses seeking valuable, centrally-located property. By 2006, the Valley provided over 2,000 new jobs, and researchers estimate this number will increase to 5,000 by 2015.<sup>356</sup>

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<sup>349</sup> *See id.*

<sup>350</sup> *See supra* text accompanying notes 263–269 (explaining natural attenuation).

<sup>351</sup> *See RACM's Shops Site, supra* note 315; *see also* Misky E-mail, *supra* note 296.

<sup>352</sup> *See Market Study, supra* note 32, at 11.

<sup>353</sup> *RACM's Shops Site, supra* note 315.

<sup>354</sup> *See Former Milwaukee Road Shops, supra* note 270, at 2. Currently, two buildings in the Menomonee Valley are LEED Certified: The Sigma Group and Derse, Inc. Misky & Bernger Speech, *supra* note 54.

<sup>355</sup> *Landscape Performance Series*, LANDSCAPE ARCHITECTURE FOUNDATION, 2, <http://www.lafoundation.org/myos/my-uploads/2010/09/02/wenkmenomoneemethodology.pdf> (last visited Oct. 31, 2011).

<sup>356</sup> *Id.*

Currently, almost 70 acres of previous Milwaukee Road Shops and Airline Yards is green space that includes sports fields, walkways, and picnic areas.<sup>357</sup> The Valley is also home to numerous prosperous businesses and organizations such as Potawatomi Bingo and Gaming Casino, the Marquette athletic fields, Miller Park, the Hank Aaron State Park Trail, and the Tannery Urban Living and Business Center.<sup>358</sup> In recognition of the Valley's success, the National League of Cities (NLC) chose Milwaukee as a finalist for the 2010 Awards for Municipal Excellence.<sup>359</sup> These awards recognize cities and towns for programs that improve America's communities, and the NLC chose Milwaukee as a finalist because of its work in the Menomonee Valley Industrial Center and Community Park.<sup>360</sup>

### VIII. CONCLUSION

The Menomonee Valley was once a booming industrial center filled with bustling business and well-paid employment; however, as the times changed, so did the life of the Valley. When industrial practices waned and businesses fell into bankruptcy, all the Valley left behind were the memories of what used to be and the hazardous contaminants that quickly infiltrated its remains. Although federal and state laws regulating brownfield contamination did not exist at the time of abandonment, environmental catastrophes soon altered Congress' view on brownfield regulation. After Congress introduced, passed, and amended its regulations, the states soon followed with their own laws governing remediation and mimicking the federal guidance.

While scholars worldwide have offered varying criticisms of and justifications for these laws, brownfield regulation has proved to be an economically and procedurally challenging yet vital and operational process to ensure environmental sustainability. To execute these processes, brownfield regulations provide parties with numerous cleanup methods. Despite the fact that each of these methods has its own benefits and constraints, the EPA consistently follows and recommends a select few. Because most of these procedures are time consuming and expensive, the EPA, Congress, and state governments have made conscious efforts to incentivize private parties that voluntarily choose to clean up brownfield sites. Often, these incentives come in the form of grants or tax incentives.

The Menomonee Valley serves as a classic example of the trials and tribulations that redevelopers experience when remediating a brownfield site. Nonetheless, the redevelopment story of the Valley operates as an

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<sup>357</sup> *Former Milwaukee Road Shops*, *supra* note 270, at 2.

<sup>358</sup> *See Market Study*, *supra* note 32, at 3-24 to 3-29.

<sup>359</sup> *Milwaukee's Menomonee Valley Honored in National Competition*, CITY OF MILWAUKEE (Aug. 16, 2010), <http://www.city.milwaukee.gov/ValleyHonoredinNationalCompetition.htm>.

<sup>360</sup> *Id.*

educational tool for future remediators. In conducting its cleanup of the Valley, RACM strictly followed remediation procedures similar to those that CERCLA requires; yet, RACM managed to overcome CERCLA's commonly cited criticism of over-inclusive liability. Similar to the liability waivers that voluntary parties may obtain, RACM, as a governmental unit, always receives liability protection when conducting a remediation. In fact, such governmental units have minimal remediation limits, only requiring them to protect human health and the environment. Even the time period they use for cleanup—here, ten years—is not an issue. Explicably, because of the authority that governmental entities receive, they may avoid some of the potential CERCLA criticisms that a private developer may encounter during, or at least would consider prior to conducting, remediation. For these reasons, the redevelopment of the Menomonee Valley likely operates as an effective blueprint for similar procedures by a government entity. Those same liability concerns, however, still may apply to private parties, as their liability protections may not create the same advantages and, in turn, may decrease their willingness to undertake voluntary remediation. While it remains unclear whether CERCLA criticisms may be valid from an individual perspective, RACM methodically stayed within its bounds and, in turn, overcame these potential obstacles to conducting cleanup.

The Valley remediation also shows that a developer must have a fervent dedication for the project and must be willing to act as a driving force towards completion. Through RACM's strong desire to service the surrounding community, redevelopers engaged in a voluntary, decade-long effort to better Milwaukee's future. They understood that retaining an offensive junkyard in the middle of an urban development likely would create damaging effects on the City. Such a blemish not only neglects the potential usefulness of a centrally-located piece of property, but it also taints the City's allure. Knowing these faults, the City willingly engaged in a project that it had previously and intentionally circumvented. Redevelopers abided by the specific remediation procedures but still considered the City's history and stayed true to its roots. The Valley resourcefully depicts that redeveloper creativity not only uniquely executes remediation techniques, but that such creativity may also result in substantial savings for the redeveloping parties, as well as for the City. By intertwining these considerations, redevelopers established and quickly integrated a prosperous new business center in the heart of the City of Milwaukee. Moreover, the Valley's success proves that urban remediation is possible and, when done correctly, can create astonishing and dynamic effects.

