Transforming Brownfields Using EPA Petroleum Funding

Petroleum Funding

Passed in 2002, the federal Brownfields Law expanded EPA's Brownfields Program by designating 25 percent of the Program's grants specifically for assessment and cleanup activities at low-risk petroleum properties. Since 2003, EPA has awarded approximately $23 million per year in brownfields grants for petroleum-contaminated properties such as former gas stations and industrial properties. The EPA Brownfields Program offers a number of grant types to address petroleum contamination on brownfields: Assessment grants provide up to $200,000 to assess a property with potential petroleum contamination; Cleanup grants provide up to $200,000 per property to clean up petroleum contamination; and Revolving Loan Fund grants provide up to $1,000,000 to capitalize revolving loan funds that provide subgrants to carry out assessment and/or cleanup activities on brownfields contaminated by petroleum.

Potential sources of petroleum contamination on brownfields include underground storage tanks, gasoline stations, and oil production facilities. An underground storage tank (UST) includes a tank (and any underground piping connected to a tank) where at least 10 percent of the combined volume is underground. USTs often contain petroleum products such as gasoline, and faulty installation or inadequate operating and maintenance procedures can cause them to release their contents into the environment. The greatest potential hazard from leaking USTs is that petroleum fuels, fuel additives, or other hazardous substances can seep into soil and contaminate ground water.

Gasoline stations consist of pump islands, USTs for fuel, small storage areas, and service areas for changing automobile engine oil and other maintenance. Gasoline and diesel spills at transfer areas and pumps, along with overfilling of and leakage from USTs, are often sources of contamination. Soils and ground water may be contaminated from these spills, as well as from the dumping of used lubricants, coolants, and cleaning solvents.

Oil production facilities consist of oil drilling, refining, storage, transfer, transport, and recycling facilities. Typical materials present at these facilities include crude, fuel, motor, and waste oils. Production processes at these facilities may contaminate soils and ground water when spills, leaks or improper disposal practices occur.

Communities are using EPA grants to address petroleum issues on sites across the country, and are reusing brownfields in ways that include affordable housing, recreational greenspace, and new government facilities.

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The Elder Street Artist Lofts in Houston, Texas. Photo by Steve Hudson.

JUST THE FACTS:

- The rural City of Prineville, Oregon identified a critical need for building space to accommodate municipal needs such as administration, planning and community development, police and emergency dispatch, and child/family services.
- In 2004, Prineville used its $200,000 EPA Brownfields Cleanup grant to remove more than 2,700 tons of petroleum-impacted soil and demolish buildings on a former gas station property in a key downtown location.
- With funding leveraged from a number of public-sector sources, Prineville integrated this once-contaminated property into the new City-County Government Services Complex, which includes a plaza that can host 500 visitors for concerts, speeches, and community events.

Elder Street Artist Lofts - Houston, Texas

The Washington Avenue neighborhood in Houston, Texas is an ethnically diverse, mixed-use neighborhood directly northwest of downtown. The neighborhood median income is 50 percent of the City of Houston's and 35 percent of residents earn less than the national poverty level. A real estate boom in Houston's inner city led to increased land prices and a decrease in the supply of affordable housing. Since 1990, the neighborhood has experienced a 23 percent decrease in housing stock, almost all of which was rental units.

For several years, Avenue Community Development Corporation (CDC) and other community activists had looked for a way to reintegrate the historic Jefferson Davis Hospital building back into the Washington Avenue community. Since many artists have come to live and work in the Washington Avenue neighborhood, which has a small theatre district and a growing number of art galleries, the Cultural Arts Council of Houston recognized a special need for affordable housing for artists. This need proved to be the solution to revitalizing the former hospital property.

A $200,000 EPA Brownfields Cleanup grant awarded in 2003 helped transform the historic Jefferson Davis Hospital building into the Jefferson Davis Artists Lofts, an affordable housing development for Houston's artist community. The EPA grant recipient, Jefferson Davis Artist Lofts (JDAL), L.P., is a joint venture between Artspace Projects, Inc. of Minneapolis, a non-profit developer that renovates buildings into space where artists can live and work, and Avenue CDC, a Houston-based non-profit organization founded by residents to develop affordable housing and economic opportunities in the Washington Avenue community.

The 1.6-acre property was originally a city park, but in 1924, the city built the Jefferson Davis Hospital on the property, the first public hospital for indigent care in Houston. Soon after opening, the rapid growth in Houston's population made larger hospital facilities a necessity and the Jefferson Davis Hospital was closed. The building then went through a variety of uses, including a clinic and a residential addiction treatment facility; however, prior to cleanup and redevelopment, the building had been vacant for more than twenty years and had become a magnet for homeless populations and gangs. In 2002, JDAL purchased the Jefferson Davis Hospital property from Harris County for redevelopment. As part of the acquisition process, Avenue CDC hired consultants to perform an environmental assessment in 2001, revealing an underground storage tank that had contained gasoline used to fuel ambulances, as well as lead-based paint and asbestos contamination present in the building.

In August 2003, JDAL used EPA's Brownfields Cleanup grant to address the property's contamination issues, which included UST removal and confirmatory sampling in the area of excavation to determine whether a petroleum release occurred. Sampling indicated that neither ground water assessment nor monitoring would be required. In February 2004, the Texas Commission on Environmental Quality (TCEQ) issued a No Further Action letter. In June 2004, an asbestos abatement was conducted that included the removal of insulation from pipes, floor tile, boilers, and roofing materials.

Cleanup was completed in June 2004, and renovation of the Jefferson Davis Hospital into 34 loft-style apartments began in August 2004. The building opened in October 2005, creating 10 jobs, and was fully leased by November. One unique feature of the renovation is a "green" or vegetative roof system that conserves energy. Also, some of the lofts were leased to New Orleans jazz musicians displaced by Hurricane Katrina.

JDAL was able to leverage funding from diverse entities motivated by different aspects of the project, such as the need for affordable housing, support for the arts, and historical preservation. Used for acquisition, abatement, and construction, leveraged funding included $253,000 from Neighborworks America; a $500,000 Tax Increment Reinvestment Zone funds from the City of Houston; $89,000 from the Harris County Tax Increment Redevelopment Zone (TIRZ) program; $2.2 million in low-income housing tax credits administered through the Texas Department of Housing and Community Affairs; $1 million in Historic Tax Credits through the National Park Service; a $50,000 Restore America grant from the National Trust for Historic Preservation; approximately $2 million in private philanthropic funding from the Houston Endowment, Brown Foundation and others; and $172,260 from Avenue CDC and Artspace in deferred development fees.

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The Prineville City Hall and Community Plaza - Prineville, Oregon

The City of Prineville, Oregon, a rural town of 9,000, faced the challenge of revitalizing their downtown after a decade of population growth. The City identified a critical need for additional building space to accommodate services including administration, planning and community development, police and emergency dispatch, and child/family services. Complicating this redevelopment need was damage remaining from a 1998 flood; following excessive snowmelt and rainfall, the Ochoco Creek had overflowed into downtown Prineville, severely impacting a six-acre, two square-block commercial and residential area. To meet these challenges, the city planned a comprehensive downtown revitalization project that included redevelopment of several damaged properties, construction of a new City-County Government Service Complex, new parks and greenways, a road extension, and a new County Family Resource Center.

A $200,000 EPA Brownfields Petroleum Cleanup grant awarded to the City in 2003 was instrumental in transforming a 0.25-acre, former gas station property in the flood-affected area into the City-County Government Services Complex, which includes a new City Hall, renovation of the existing City Hall, and a new, outdoor community plaza. While the property had long been considered an ideal location for a new City Hall and community plaza, the gas station that operated from 1940 until 1997 had left severe petroleum contamination. Prior to the station's closure, the Oregon Department of Environmental Quality (ORDEQ) required the station to remove its USTs, which were found to be leaking gasoline, contaminating the ground water and soil. In addition, gasoline vapors were migrating up into nearby buildings, contaminating their indoor air. Through its Orphan Site Program, the ORDEQ installed vapor ventilation systems and a combined shallow soil vapor and ground water extraction system to prevent additional vapors from entering these buildings until further removal actions could be conducted. However, the contaminated soil and ground water remained.

In 2004, the city used its EPA Cleanup grant to address the soil and ground water petroleum contamination and further minimize the migration of vapors. More than 2,700 tons of petroleum-impacted soil were excavated; onsite treatment of contaminated ground water was conducted using air sparging combined with soil vapor extraction; and the onsite buildings were demolished. Cleanup was completed in June 2004 and the new City Hall and Community Plaza, which can host 500 visitors for concerts, speeches, and community events, opened in July 2005.

To complete this project, the City leveraged funding from a variety of sources, including $900,000 in interim financing from Crook County; a $400,000 Oregon Housing and Community Services Department Community INVESTMENT grant; a $1.8 million Oregon Economic Community Development Department Flood Recovery and Restoration grant for park development; a $25,000 U.S. Department of Agriculture Forest Service Community Assistance Planning grant for design costs; a $300,000 Oregon Department of Transportation Local Street Network grant for road updates; a $2 million U.S. Department of Agriculture Rural Development loan for construction; and $400,000 from the city itself. The project also leveraged approximately 30 cleanup and redevelopment jobs.

Mike Shepard with U.S EPA Region 10 credits EPA Brownfields funding with enabling the success of the overall downtown redevelopment project. "The cleanup of the Prineville property was the lynch pin for the larger redevelopment of Prineville's downtown. Restoration of the Ochoco Creek flood plain was a significant ecosystem improvement and native species are already returning to the area and the community is excited about the new greenspace."

The Las Brisas Community Affordable Housing Development - Signal Hill, California

Since the 1920s, the City of Signal Hill, California, has been impacted by oil field production. A majority of the approximately 164 acres of Signal Hill's brownfields—a disproportionately large number for a two square-mile community of only 11,089—are a result of the waning petroleum industry. Declines in domestic oil reserves and production left behind aging oil and gas production and refining facilities, dilapidated structures, outdated equipment, and environmental concerns including petroleum contamination. Signal Hill views the redevelopment of its brownfields as a means to address a variety of community challenges, including a critical shortage of affordable housing.

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In 2000, the city developed a comprehensive revitalization plan to deal with many issues in their brownfields-impacted Las Brisas neighborhood, including the affordable housing shortage. As part of this redevelopment plan, the Signal Hill Redevelopment Agency, in partnership with the Los Angeles Community Design Center, a nonprofit affordable housing real estate development organization, created the Las Brisas Revitalization Project. The first phase of this project, a 92-unit, affordable housing development known as Las Brisas Community Housing Phase I, opened in 2003. The development includes a community center with a childcare facility, computer learning labs, and community meeting rooms as well as a community park. Las Brisas Phase I began the transformation of the Las Brisas area into a neighborhood that provides affordable and secure housing, community services, and open space.

The city was so pleased with Phase I of the Las Brisas Revitalization Project that Phase II, an additional affordable housing development, was approved for an adjacent, 1.4-acre property. A $400,000 EPA Brownfields Assessment Grant awarded to the City of Signal Hill in 2004, which included $200,000 to address petroleum contamination, was an essential element of this project. The city used EPA's funding to conduct a complete environmental assessment at the Las Brisas Phase II property in April 2005, revealing that the soil was contaminated with low levels of petroleum, lead, and methane. A methane barrier system was designed for the soil, and in 2005, the City conducted a Human Health Risk Assessment that found no potential dangers to human health.

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Visit the EPA Brownfields Web site at:
http://www.epa.gov/brownfields/

In November 2005, construction of 60-units of low- and very low-income affordable housing began on the Phase II property. With approximately 20 units reserved for senior citizens, this new residential complex will include a small senior activity center, landscaped courtyards, and parking areas with designated senior spaces. The project is scheduled for completion in late 2006.

To acquire the Phase II property, the Signal Hill Redevelopment Agency sold approximately $3 million worth of low-income housing bonds. Additional, leveraged funding included $5.15 million from Signal Hill Redevelopment Agency bonds and tax increments; $2.1 million through the U.S. Department of Housing and Urban Development HOME Investment Partnerships Program; and approximately $12 million in California low-income housing tax credits.

According to Debbie Rich, Deputy City Manager of Signal Hill, EPA funding was instrumental in the success of the Las Brisas Community Housing Development. "Signal Hill is a small city with limited resources. The EPA Brownfields Cleanup Grant was instrumental in helping the city to leverage additional resources for the Las Brisas Revitalization Project. The EPA and leveraged funding has helped the city meet an obligation to provide affordable housing and transform blight into a revitalized neighborhood."

Recent changes in the Brownfields Law have provided communities with an additional tool to revitalize properties affected by petroleum contamination; communities are using their EPA grants to address petroleum issues on properties across the country. EPA Brownfields Petroleum grants are being used for assessment and cleanup activities on redevelopment projects that are producing museums, city halls, health centers, and new housing developments. For more information on EPA's Brownfields Program visit: http://www.epa.gov/brownfields.