

# SHATTUCK SITE AND REDEVELOPMENT AREA

## DENVER, COLORADO

### History of the Site

Ore-processing facilities in Denver provided a domestic source of radium. However, with the collapse of the radium industry in the 1920s, many companies failed and left numerous locations with radioactive residues. The residues were often used as fill or paving materials for development projects in the Denver area or were left in place. The locations of processing facilities and debris had been forgotten over the years. In 1979, during a review of old documents, the Environmental Protection Agency (EPA) became aware of several sites in Denver that were potentially contaminated by the radioactive residues, and initiated investigations.

EPA found that several sites throughout south Denver's Overland neighborhood were contaminated with radioactive soil and debris that had been used as fill from the S.W. Shattuck Chemical facility, a radium-processing plant. Because of the way the pollution was dispersed, contaminated sites can be found quite a distance from each other and from the place where the hazardous waste was generated. Collectively, the individual sites of contamination and the Shattuck chemical facility were added to the Superfund National Priorities List in 1983 as Denver Radium. The 65 contaminated properties of Denver Radium were divided into 11 different operable units (OUs), none of which are adjacent to one another.

The former S.W. Shattuck Chemical facility, a six-acre site located in south Denver's Overland Park community, is one of the 11 Denver Radium OUs. The facility was in operation from 1917 to 1984. The site, which is located in a predominantly industrial and commercial area four miles south of downtown, is within a half-mile radius of residential areas. Contaminants at the Shattuck Superfund Site include radium, thorium, uranium, arsenic, lead, and radon gas. Of these contaminants, radium is the highest concern. Radon gas emitted from decaying uranium has the potential to accumulate in structures built over contaminated deposits. Chronic exposure to radon has been shown to cause lung cancer. In addition, direct contact with the other contaminants that were found in soils and debris poses a risk to human health and the environment.

The Shattuck redevelopment area is close to a historically industrial and commercial corridor with pockets of residential neighborhoods nearby. Viable commercial space exists along the corridor, but many facilities in the area are vacant or idle. In addition, there is a significant amount of land being underutilized as junkyards, yard storage, and vacant lots. Although some of these sites are available for redevelopment, their proximity to the Shattuck site makes them undesirable to investors. There is notable truck traffic throughout the industrial district, and EPA presence in the area may be hindering business decisions to operate in the area.<sup>1</sup>

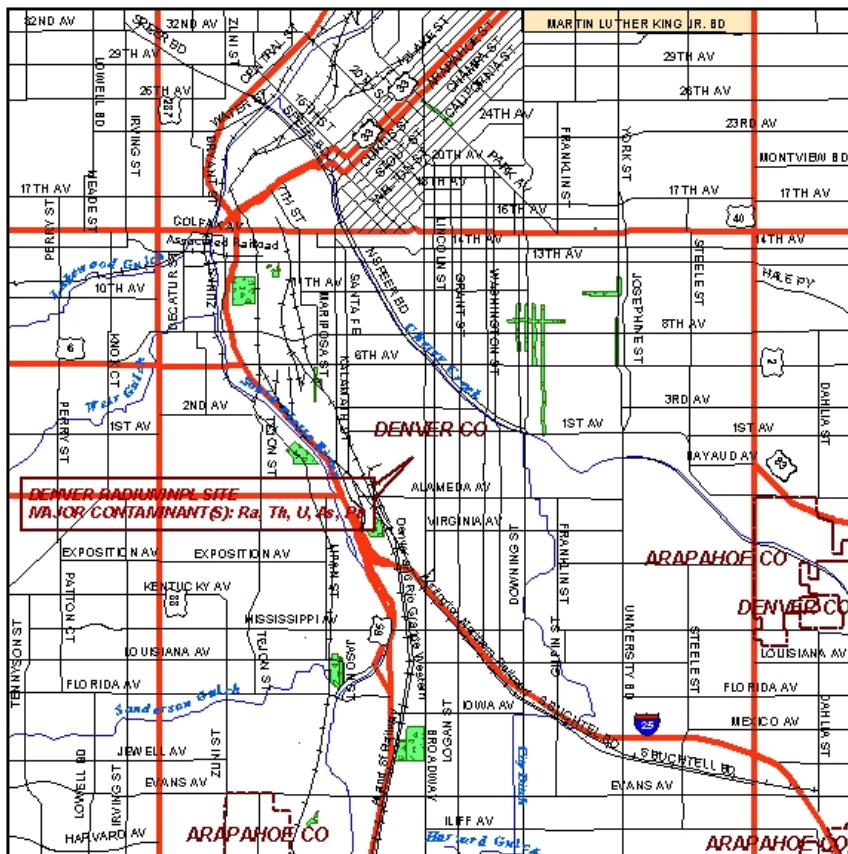
## Cleanup

All of the Denver Radium OUs, with the exception of the former S.W. Shattuck site, have been remediated and redeveloped for open space or to support business. The Colorado Department of Public Health & Environment (CDPHE), EPA, and responsible parties worked together on the cleanup. Cleanup approaches included, removal of contaminated soil to a permanent disposal site, installation of ventilation systems to vent radon gas, and stabilization and capping in place.

Some wastes under streets and structures were left in place. Two properties were redeveloped under EPA's brownfields program, one of which now features a Home Depot store.

The original Record of Decision (ROD) for Shattuck was signed in 1992, with EPA selecting onsite consolidation and immobilization of the contaminated soils as the remedy, which required demolition of contaminated buildings, excavation of contaminated soils, and natural attenuation for groundwater. While this decision was unpopular with the community and local government, at the time it met the statutory preference for a remedy even though it increased the mass of materials: Radioactive soils were turned into a cement-like block, creating a monolith to be buried in the earth.

EPA conducted a five-year review of the Shattuck Superfund Site and found deficiencies in the monolith design and compliance program. EPA could not be assured



(At left) Denver Radium site map from Colorado Department of Public Health and the Environment, Hazardous Waste Division. This map is a representation of areas of interest to the furnishing agency. It should not be used as an inclusive interpretation of contaminated areas or areas that may be safe for use by the public and environment.

long-term protection of the original remedy. Furthermore, the state of Colorado, city of Denver, elected officials, and the community opposed the permanent disposal of the radioactive waste on the site, instead advocating for EPA to remove contamination from the site. As a result, EPA issued a ROD amendment calling for excavation and removal of contamination, which included the removal of the monolith. Site cleanup began in late 2002 and is estimated to last approximately two years. The site will be cleaned to residential standards, which will make it available for unrestricted use in the future.

Without the cleanup of Shattuck, it is unlikely that co-located brownfields would have much potential for redevelopment. Remediation efforts at the Shattuck site are expected to attract new development to the surrounding commercial and light industrial properties; the cleanup of the site alone is expected to have a positive impact on the marketability of nearby properties. Visioning for the future of properties beyond the Shattuck site could foster compatible and complementary development, and allow for new reuse options.

### **Setting Sights on Redevelopment**

While remediation is taking place, site ownership is being held in trust with a local attorney acting as trustee. Through a consent decree, the owners of the Shattuck property reached a cash-out settlement<sup>2</sup> with EPA and gave the trust ownership of the property. When the remediation is complete, the trustee will sell the property, with proceeds from the sale going toward cleanup costs.

EPA will not be directly involved in the redevelopment of Shattuck, but has contributed to the capacity of the local government and community in visioning development options for the site in preparation for when redevelopment can occur. In July 2000, EPA awarded the city of Denver a \$100,000 Superfund Redevelopment Initiative Pilot award to conduct public meetings and community outreach programs in the Overland Park area and to study reuse and redevelopment issues associated with the site. Outreach efforts were promulgated to enable the local community and government to develop a range of future land-use options for the site once waste has been removed.

Several reuse scenarios for Shattuck were developed and evaluated in accordance with a vision for the redevelopment area. The vision described how the redevelopment area would be 20 years:

A neighborhood where people live and work, where housing is affordable, where there are sufficient employment opportunities, where wages are sufficient and public revenues are being produced, where there are households in number sufficient to enhance climate for businesses...where there is a mix of businesses, goods and services available to the neighborhood, and where the quality of life is generally good.<sup>3</sup>

Based on this vision, the reuse scenarios were narrowed down to light-industrial, multi-tenant industrial-flex, and residential

industrial lofts (*see sidebar*). Economic and fiscal impact analyses indicate that the industrial-flex scenario would perform best; however, the residential industrial-loft scenario is most successful in satisfying local social and economic welfare goals.<sup>4</sup>

The viability of redevelopment for each property in the Shattuck area is tied to its neighboring property in that land uses must be compatible, as well as consistent, with a common set of goals in order for the redevelopment to be sustainable over the long term.<sup>5</sup> The two sites adjacent to Shattuck are currently home to a concrete batch plant and idle lumberyards.

Redevelopment of the lumberyard site is envisioned to feature several different reuses. Part of the site would be developed as two-story brick commercial storefront buildings with retail on the first floor and residential units above. The vision calls for another section of the site to consist of two-story brick townhomes, which will serve as live/work units. The townhomes will be somewhat commercial in appearance, with potential gallery and artist workspace on the first floor and living space above. A third section



### Sidebar: Shattuck Reuse Scenarios

Reuse scenarios identified for Shattuck were light-industrial, multi-tenant industrial-flex, and residential industrial lofts.

*Light-industrial* buildings often consist of office warehouse space and are designed for occupancy by multiple tenants with relatively small-space needs. These low-rise buildings are often equipped with truck doors or docks for shipping and receiving.

*Multi-tenant industrial-flex* is a hybrid commercial real estate product that features complementary aspects of industrial and office space. It is typically designed for multi-tenant occupancy and to meet the needs of different business users within the same property. Multi-tenant industrial-flex space usually has a greater percentage of finished office space than traditional light-industrial or warehouse facilities, and has a higher degree of architectural design with such features as commercial storefront windows and entrances. For these reasons, flex space buildings can attract a broader range of tenants than a traditional industrial-style building.

*Residential industrial-lofts* are live/work spaces in which the tenant can work and reside on the same piece of property. Common forms of residential industrial-lofts are artist's studios or workshops or some type of home office. Loft units are generally built on their own lots, not stacked, and similar to townhomes in form.



A street in the Shattuck Redevelopment Area as it is today (*left*). The neighborhood is envisioned to be redeveloped into a more pedestrian-friendly area with mixed uses (*right*); source: Shattuck District Plan.

of the lumberyards site will be two-story residential buildings.

The concrete batch plant site will become multi-tenant industrial-flex space. These plans constitute a roadmap for development that will hopefully foster reuses consistent with the vision for the Shattuck redevelopment area.

### **Applying a Co-location Approach**

A co-location approach will be important for the Shattuck redevelopment area because the redevelopment vision is a departure from the area's traditional industrial history. A parcel-by-parcel redevelopment approach is unlikely to succeed at changing the nature of land use in the area, which will be necessary for meeting the redevelopment vision. Furthermore, non-industrial redevelopment of the Shattuck site or co-located brownfields would essentially be a non-industrial island surrounded by commercial, industrial, and light-industrial sites. The lack of compatible or complementary land use would make the non-industrial redevelopment impractical and difficult to market.

A co-location approach can also improve the marketability of sites available for redevelopment. The presence of an industrial facility could taint or influence a prospective developer's site reuse considerations. For example, in the case of Shattuck, the neighborhood is known to be "dusty and gritty."<sup>6</sup> Developers may be less likely to invest in the Shattuck site or co-located brownfields while there is an industrial facility in operation, or they might not consider the sites for a non-industrial reuse. However,

the co-location approach and planning efforts serve as a preemptive measure that could prevent this challenge from surfacing.

For example, dust, noise, and truck traffic from the cement batch plant greatly impacts redevelopment of the area because it can be a nuisance to non-industrial land uses. However, the cement batch plant is a short-term obstacle in that the facility only has a lease on the property for approximately three more years, after which the land may be available for purchase by a redeveloper. As such, visioning for the Shattuck redevelopment area has included some planning for potential reuses of the concrete batch plant site, which makes the potential for a mixed use neighborhood more feasible.

Co-location can also create opportunities for land assembly. A study of vacant or redevelopable sites in the Shattuck redevelopment district identified an opportunity to assemble the Shattuck site with two co-located properties—the former lumberyard and the concrete batch plant—into one 16-acre parcel for development. A parcel of this size will have more redevelopment potential and be able to accommodate a wider range of projects. Land assembly would also offer a benefit to the potential developer because she/he will have only one property owner to deal with and will not have to worry about adjacent land uses that might otherwise be incompatible with their proposed development.

### **Conclusion**

Even though remediation of Shattuck will not be complete for over a year, the ef-

forts to assess the redevelopment potential are good examples of the preparation that is necessary to make both site redevelopment and area-wide revitalization a reality. Ideas for redevelopment, such as those generated through community forums made possible with the EPA Superfund Redevelopment Initiative Pilot grant, can also help developers gauge community expectations and preferences for redevelopment. Planning and coordination among stakeholders that takes place in tandem with cleanup can create a common vision so that redevelopment efforts move forward once remediation is complete.

Planning, coordination, and visioning are important for any type of redevelopment, and these elements are of even greater



The Shattuck Site and Redevelopment Area (*at center above*) is 4 miles from downtown. Co-location is necessary transform the into a mixed use neighborhood.

Source: Shattuck District Plan.

significance for co-location. The value of a co-location approach to development is that it can create opportunities out of obstacles that would otherwise hinder redevelopment. Brownfields redevelopment becomes increasingly difficult when nearby properties are also difficult to redevelop, as evidenced in the Shattuck Superfund Site and Redevelopment Area. Although the Superfund site is being cleaned to residential standards, residential reuse would be unlikely without a co-location approach because the site is surrounded by brownfields. Similarly, the brownfields and other idle light-industrial properties adjacent to the Superfund site are unlikely candidates for revitalization because of their proximity to what is currently a contaminated property. Yet, by coordinating the analysis for development potential for both the Superfund and brownfields sites, developers and members of the community can begin to explore options that would be impossible with a site-by-site approach to redevelopment, and significantly change the nature, look, and feel of the area.<sup>7</sup>●

#### Endnotes

<sup>1</sup> Shattuck Redevelopment Plan 44

<sup>2</sup> A cash-out settlement is a mixed funding settlement that requires potentially responsible parties to provide substantial up-front financing toward the cost of the site clean up that will be conducted by EPA. Cash-out settlements may also include a premium to partially offset EPA's risk due to uncertainties (i.e. remedy failure or cost overruns.)

<sup>3</sup> Shattuck Redevelopment Plan 22

<sup>4</sup> Shattuck Redevelopment Plan 3

<sup>5</sup>Shattuck Redevelopment Plan 17

<sup>6</sup>Crummy

<sup>7</sup>Shattuck Redevelopment Plan 3

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