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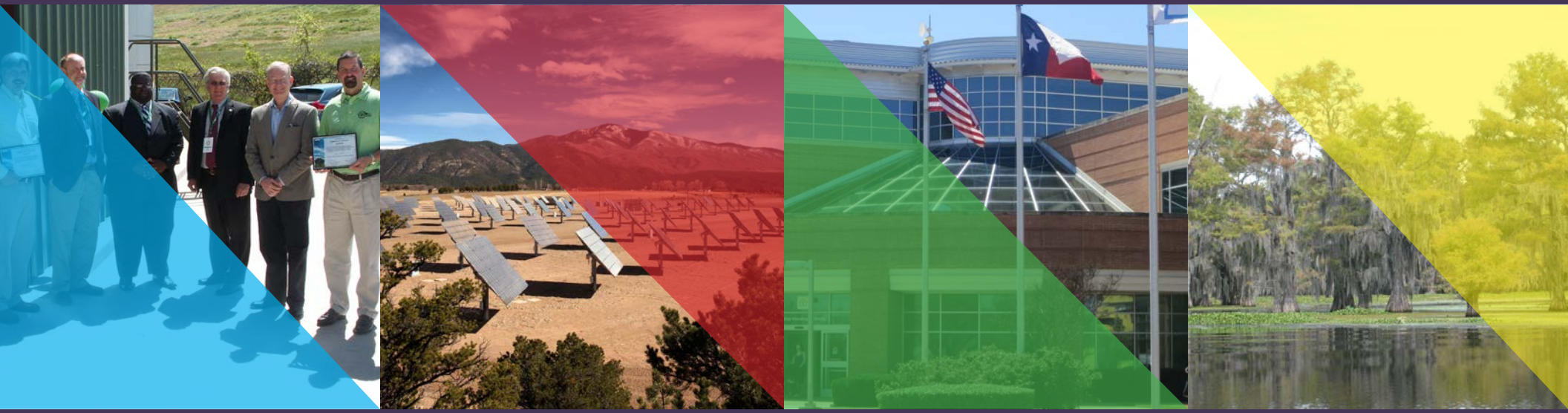
Making a Visible Difference in Our Communities



Region 6 Superfund Redevelopment

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Superfund Redevelopment and EPA Region 6

Every day, EPA's Superfund program makes a visible difference in communities nationwide. The revitalization of communities affected by contaminated lands is a key part of Superfund's mission, delivering significant benefits one community at a time, all across the country. Through EPA's Superfund Redevelopment Initiative, the Agency contributes to the economic, environmental and social vitality of these communities by supporting the return of sites to safe, productive use.

This report highlights these community-led efforts in EPA's South-Central Region. Serving Arkansas, Louisiana, New Mexico, Oklahoma, Texas and 66 tribes, the Region 6 Superfund program plays a vital role in protecting human health and the environment. Supporting communities as they plan and revitalize contaminated lands is a key part of this work, making sure that remedies remain protective over the long term.

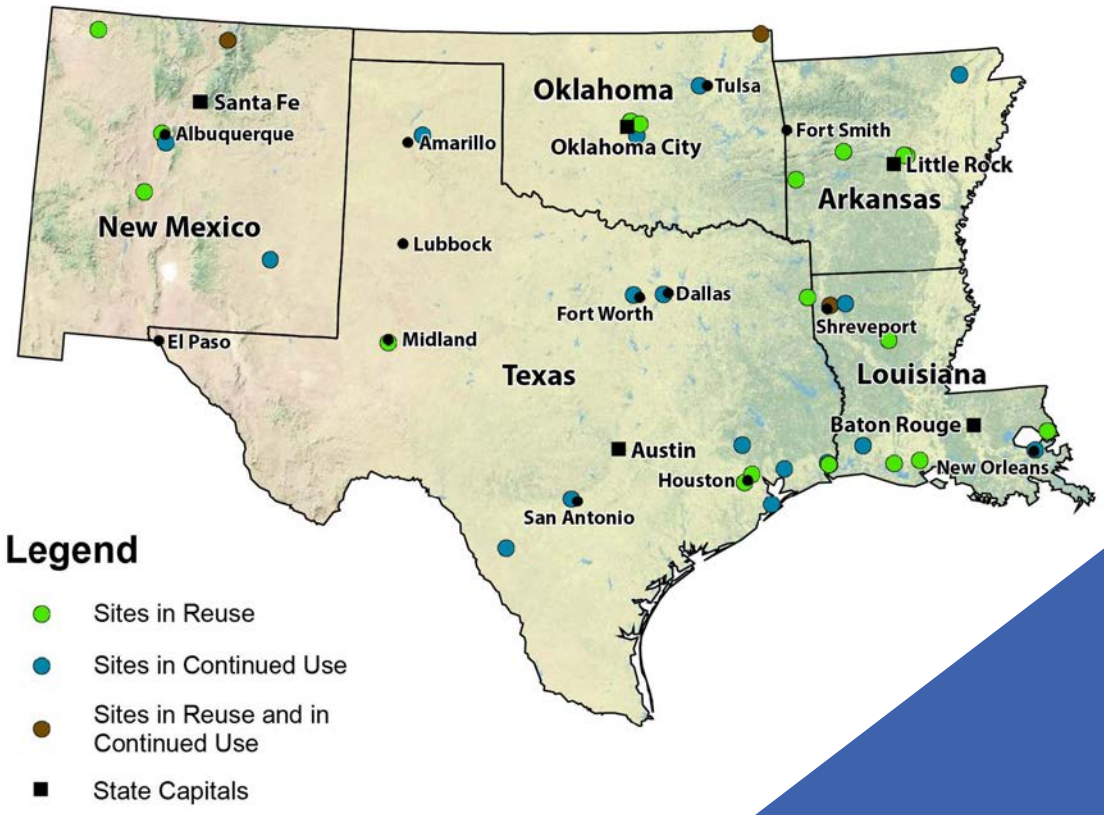
The results are impressive:

- *Superfund sites across EPA Region 6 are now home to restaurants, breweries, auto dealerships, a spa, a bank, hotels and doctor's offices.*
- *Public services offer housing assistance, recycling services, public health assistance, sanitation and safety training.*
- *A municipal airport is located at one site.*
- *People live in homes and apartments on several Superfund sites; one mixed-use residential development is green building-certified for its sustainability.*
- *Some sites are locations for renewable energy projects harnessing wind and solar power; another site is part of an innovative pilot project that converts landfill gas into liquid fuel and other products.*
- *Other Superfund sites host ecological preserves, wildlife habitats, public parks, a boat launch and a riverfront walkway.*

EPA Region 6 works closely with the Superfund Redevelopment Initiative and collaborates with a diverse network of partners – affected communities, tribes, local governments, public nonprofits, private sector organizations and other federal agencies – to make these reuses possible.

This report shares information on how EPA Region 6 helps people turn challenges at Superfund sites into opportunities. It also highlights many of the places in the South-Central Region where Superfund reuse and redevelopment is making a difference, one community at a time.

The South-Central Region



Superfund Sites in Reuse in EPA Region 6, 2015

Industrial facilities	14
Offices and stores	13
Parks and recreation	3
Public services	10
Homes	7
Natural areas	5
Agricultural areas	2
Total:	**54**

Highway 71/72 Refinery (Bossier City, Louisiana)

This former refinery and petroleum facility is now home to a Hilton Hotel complex. The site's responsible party and the project's development team worked with EPA Region 6 to address remaining contamination during the hotel's construction.

Superfund Redevelopment: The Bottom Line

When a Superfund site is restored for reuse, it can revitalize a local economy with jobs, new businesses, tax revenues and spending. Nationally, 2,240 businesses at 373 sites are providing more than 70,000 jobs and contributing an estimated $4.9 billion in annual employment income with about $32.6 billion in annual sales.

Region 6 Sites: Business and Job Highlights

Businesses: 82

Estimated Annual Sales: $147 million

Employment: 2,004 jobs

Estimated Annual Income: $76 million

Gulf State Utilities-North Ryan (Lake Charles, Louisiana)

The site is home to an electrical power production and distribution company. The center employs 77 people and generates about $2.5 million in annual employment income.

Highway 71/72 Refinery (Bossier City, Louisiana)

This new hotel complex near Shreveport is one of several hotels on Superfund sites in EPA Region 6. Homes and businesses are also located across the 215-acre area. Today, 25 on-site businesses employ 635 people and contribute an estimated $11.9 million in annual employment income. Estimated annual sales for the businesses exceed $23.8 million.

Big Tex Grain Co. (San Antonio, Texas)

The $42.7-million Blue Star II development at this former industrial facility includes 334 residential units, 6,000 square feet of retail space and $2.2 million in public improvements, and is part of a larger mixed-use residential, arts and entertainment district in San Antonio. Its riverfront location also provided an ideal spot for the extension of the popular San Antonio River Walk.

Chevron Questa Mine (Questa, New Mexico)

A 21-acre solar facility under northern New Mexico's endless blue sky follows the sun, concentrates its light, and converts it into electrical energy, generating one megawatt of power, enough to power 150 homes. This concentrated photovoltaic (CPV) system is one of the largest such systems in the world. It joins a series of renewable energy facilities on current and formerly contaminated lands nationwide.

Reuse in Action: Renewable Energy

EPA works nationwide with public and private partners through efforts such as the RE-Powering America's Land Initiative to encourage solar and other renewable energy development opportunities on current and formerly contaminated lands. In Region 6, abundant solar and wind resources are leading to major renewable energy projects that generate clean energy and support jobs.

"For 70 years, Pantex has played a vital security role … Now, it is poised to help secure the future of America through utilization of renewable energy as well."

Steve Erhart, Manager,
National Nuclear Security Administration

The Pantex Plant officially opened in June 2014.

Pantex Renewable Energy Project (Carson County, Texas)

The largest federally owned wind farm in the country is located at the Pantex Plant, a U.S. Department of Energy facility near Amarillo in northern Texas. The five-turbine, 11.5-megawatt wind farm produces about 47 million kilowatt-hours of electricity annually, more than 60 percent of the energy needed by the Pantex Plant. The plant is the nation's primary facility for the assembly, disassembly and maintenance of nuclear weapons.

Energy savings from the project are about $2.9 million annually. The project reduces carbon dioxide emissions by over 35,000 metric tons per year, the equivalent of removing 7,200 cars from the road or planting 850,000 trees. The project is also part of an ongoing collaboration with Texas Tech University to make the facility a leader in innovation in the wind energy sector. The University and the National Nuclear Security Administration recently signed a Memorandum of Understanding to explore the creation of a world-class energy research center on site.

"We're very proud of what's been accomplished at the site. It is a success story for the community. We turned lemons into lemonade."

– Jacksonville Mayor Gary Fletcher

Vertac, Inc. (Jacksonville, Arkansas)

This former chemical manufacturing facility is now a mixed-use hub.

Site reuses include a recycling center, office space, a fire department training facility, a driver training pad, a recycling education park, a police firing range and space for a new public safety building.

City facilities employ 146 people on site, providing annual employment income of over $5.5 million.

Reuse in Action: Mixed-Use Revitalization

Superfund sites are often strong candidates for innovative mixed-use projects. They are "well wired" – located near utilities and roads – due to prior land uses. Recycling these lands helps retain development in existing communities, revitalizing downtowns and preserving open space, farmland, natural beauty and important environmental resources.

"Superfund cleanup has been critical to the revitalization of the area."

Tim Lott,
Vice President of Capital Development,
Dallas Housing Authority

RSR Corporation (Dallas, Texas)

Cleanup of a former lead smelter has protected the health of a nearby neighborhood and led to broader land revitalization in the West Dallas area. Site businesses and organizations employ over 900 people and contribute over $27 million in annual employment income to the local community. Area businesses generate nearly $18 million in annual sales.

Fruit Avenue Plume (Albuquerque, New Mexico)

Redevelopment of this former dry-cleaning property is contributing to the economic revitalization of a historic area. A new affordable apartment complex earned a high Energy Star rating for energy efficiency. The complex uses 88 solar panels for domestic hot water and heating. It also features a gray water system that recycles water from bathroom showers and sinks to flush toilets. Cisterns collect rooftop rainwater for the facility's community garden.

Established in 1997 with EPA assistance, the Quapaw Tribe Environmental Office built its technical and operational capacities over time, including establishment of the Quapaw Services Authority, which oversaw cleanup construction activities.

Catholic 40 Site at the Tar Creek Superfund Site (Northeast Oklahoma)

After the Catholic Church closed its facilities on site in 1927, it leased the property for mining in 1937. This led to the area being covered with mine tailings contaminated with heavy metals. Following cleanup, the ruins of the church and school remain on the property today.

Reuse in Action: Tribal Leadership, Historic Preservation

Catholic 40 Site at the Tar Creek Superfund Site (Northeast Oklahoma)

For the first time in the history of EPA's Superfund program, a tribe has led and managed the cleanup of a contaminated property. Seeking to protect and preserve the rich history of the Catholic 40 site, where many tribal members attended boarding school and church from the 1890s to the 1920s, the Quapaw Tribe of Oklahoma signed a cooperative agreement with EPA in 2012.

The Quapaw Tribe Environmental Office led the effort, which included the excavation and off-site disposal of 72,000 tons of contaminated mining waste. The Catholic 40 site and the larger Tar Creek Superfund site are part of the Tri-State Mining District, which spans parts of Oklahoma, Kansas and Missouri. Beginning in the mid-1800s, the district produced large amounts of lead and zinc. After decades of production, mining and milling activities resulted in large areas of contaminated land and water.

Historic structures and landscape features were protected during the cleanup; the tribe plans to access these areas in the future for archeological and educational opportunities. EPA is looking forward to working with the tribe on the cleanup of other parts of the Tar Creek Superfund site.

The Bottom Line

Ecological revitalization translates into dollars and cents for communities. Once restored, natural areas can have a positive effect on nearby property values, tax revenues and tourism, facilitate healthy lifestyles, reduce flood control and stormwater management costs, and improve local air and water quality.

Malone Services Company (Texas City, Texas)

Nature conservancies are planned for this Superfund site near Galveston Bay, the nation's seventh largest estuary.

Scenic Galveston, a community-based, all-volunteer habitat conservation service organization and land trust, is leading the effort.

The group is working to create a scenic marshland passage along both sides of the Interstate 45 transportation corridor leading to Galveston Island and the historic Texas coast.

Reuse in Action: Ecological Revitalization

Ecological revitalization returns land from a contaminated state to one that supports functioning and sustainable habitat for plants and animals.

Restored ecosystems help people live healthier and more enjoyable lives. Ecological revitalization improves soil health and supports diverse vegetation, sequesters carbon, protects air and water quality, and sets the stage for wildlife habitat and environmental education.

Bayou Verdine following cleanup, 2015.

Bayou Verdine (Lake Charles, Louisiana)

Following dredging and storage of contaminated sediments on site, an innovative plan has helped restore the bayou's remarkable natural resources. A former containment pond now provides habitat for fish and other species, while native plantings nearby, including a 500-foot bioswale, provide pollinators – bees, birds, butterflies – with vital sources of food, shelter and safe areas for breeding.

Longhorn Army Ammunition Plant (Karnack, Texas)

This former ammunition manufacturing facility is now the 7,200-acre Caddo Lake National Wildlife Refuge. Open to the public since 2009, the refuge supports diverse wildlife habitat and is a research station for the U.S. Fish and Wildlife Service.

Visitors can hike trails, observe migratory birds, enjoy guided tours, camp and visit the Ramsar Caddo Lake Wetlands Visitors Center. Other buildings include a fire station and offices for the Fish and Wildlife Service, the Caddo Lake Institute, and the Texas Parks and Wildlife Department.

Bayou Bonfouca (Slidell, Louisiana)

The City of Slidell continues to work with EPA and state agencies to explore opportunities to expand recreational facilities at this Superfund site, ensuring that future uses remain compatible with the remedy.

Reuse in Action: Recreation

Recreation opportunities at Superfund sites include parks, playgrounds, trails, picnic areas, bird watching, sports fields, fishing ponds, model airplane flying fields, snow tubing, ice rinks and golf courses. EPA collaborates with several organizations – the Academy of Model Aeronautics, the U.S. Soccer Foundation, the Rails-to-Trails Conservancy and The Trust for Public Land – to support recreational reuse opportunities.

Bayou Bonfouca (Slidell, Louisiana)

Over a mile of this once-contaminated bayou has been restored for aquatic life and recreational and public reuse. The City of Slidell installed a public boat launch on the north shore of Lake Ponchartrain, which improved access to Bayou Bonfouca for boaters and other outdoor enthusiasts. A 54-acre waterfront property, donated to the community by its former owners, now hosts Heritage Park as well as public works facilities. The 2015 Heritage Park Marina Project focuses on encouraging recreational boating in the area, bringing floating docks, piers, new sidewalks and other improvements to this Superfund site.

Reuse in Action: Public Services

These reuses link communities with access to vital public services provided by government agencies and nonprofits. In Region 6, public services located on Superfund sites offer a wide range of assistance.

Fruit Avenue Plume (Albuquerque, New Mexico)

This mixed-use development includes training facilities to help once-homeless community members reenter the job market.

RSR Corporation (Dallas, Texas)

New land uses include office and warehouse space for Goodwill Industries and more than 1,000 units of affordable housing. Goodwill Industries of Dallas operates a 275,000-square-foot facility on site. Focused on providing job training, continuing education and employment to persons with disabilities and disadvantages, the organization has placed over 1,000 people into jobs.

Green Remediation: Maximizing Environmental Outcomes

Cleaning up a hazardous waste site uses energy, water and other natural or material resources. EPA recognizes that much can be done to conserve natural resources, minimize waste generation and reduce energy consumption, improving the environmental performance of Superfund activities while fulfilling the Agency's mission to protect human health and the environment.

State Road 114 Ground Water Plume (Levelland, Texas)

This innovative remedy – a cryogenic compression and condensation treatment system – contains ground water contamination and restores the Ogallala Aquifer. Each month, on average, the site's ground water pump-and-treat system extracts and treats over 7 million gallons of water. Its soil vapor extraction system recovers over 7,000 gallons of hydrocarbons.

South Valley (Albuquerque, New Mexico)

When General Electric (GE) Aviation demolished this jet engine component manufacturing plant (*see above*), the company committed to recycling or reusing all usable building materials. GE Aviation's "green demolition" saved 14,280 tons of building and related materials from local landfills and reduced demolition costs. The green demolition also supported 75 jobs and made the property available for redevelopment.

"This is a prime example of what can happen when [public and private] entities work together. I think [the technology is] also something we can apply in other areas."

– Pete Schultze, Senior District Manager, Waste Management

Mosley Road Sanitary Landfill (Oklahoma City, Oklahoma)

Building on the success of this technology demonstration project, site owner Waste Management of Oklahoma is now working with three joint venture companies on multiple renewable energy projects using this innovative technology both in the United States and abroad.

Awards and Recognition

Every year, Region 6 seeks opportunities to recognize the remarkable community efforts that return Superfund sites to use. Through success story fact sheets and economic impact case studies, we honor the hard work and partnerships that lead to site reuse. Two awards recognize the outstanding achievements of individuals and organizations whose leadership signifies "above and beyond" performance in Superfund redevelopment.

The Greenovations and Green BEAN Awards

Region 6 has developed the Greenovations Award and the Green BEAN Award to recognize parties for taking "Bold Environmental Action Now" to clean up and facilitate reuse at Superfund sites. The awards recognize innovative efforts and projects that have maximized environmental outcomes and minimized environmental impacts through greener cleanups, sustainability and reuse initiatives, and use of renewable and alternative energy resources.

Mosley Road Sanitary Landfill (Central Oklahoma)

This award-winning gas-to-liquid fuel technology demonstration project (*top left*) at a landfill outside Oklahoma City converts methane gas into clean-burning diesel fuel and wax. A total of 120 wells were drilled into the 105-acre area to access the gas. A vacuum then pulls the gas to the surface. Gas flows may continue for up to 30 years.

Pantex Plant (Pantex Village, Texas)

Superfund Division Director Carl Edlund (*left*) presented the Region's Greenovations Award to the U.S. Department of Energy's Pantex Plant (*see page 6*). The Pantex Renewable Energy Project, or PREP, is the nation's largest federally owned wind farm.

Information Resources

Website

Our Superfund redevelopment website (www.epa.gov/earth1r6/6sf/reuse) provides access to many tools and resources, including "getting started" materials, FAQs, case studies and fact sheets.

Videos

To see Superfund redevelopment in action, check out the EPA video highlighting the Chevron Questa Mine site in New Mexico. The video – available on the Superfund Redevelopment Initiative website (www2.epa.gov/superfund-redevelopment-initiative/superfund-redevelopment-videos) – shares key steps, lessons learned and project outcomes.

Site Reuse Fact Sheets and Case Studies

Available on our website, these documents can help you explore Superfund site reuse opportunities for specific sites. They provide an overview of key site information and list contact information for EPA site staff.

Trainings

We regularly take part in trainings at national conferences and EPA webinars on Superfund reuse, sharing case studies and lessons learned. Recent webinars are available online at www.cluin.org/sri.

CONTACT US

EPA Region 6

Casey Luckett Snyder
Superfund Redevelopment Coordinator
(214) 665-7393
luckett.casey@epa.gov

Jacob Piehl
Reuse and Redevelopment Attorney
(214) 665-2138
piehl.jacob@epa.gov

Mailing Address:
1445 Ross Avenue
Suite 1200
Dallas, Texas 75202

EPA Headquarters

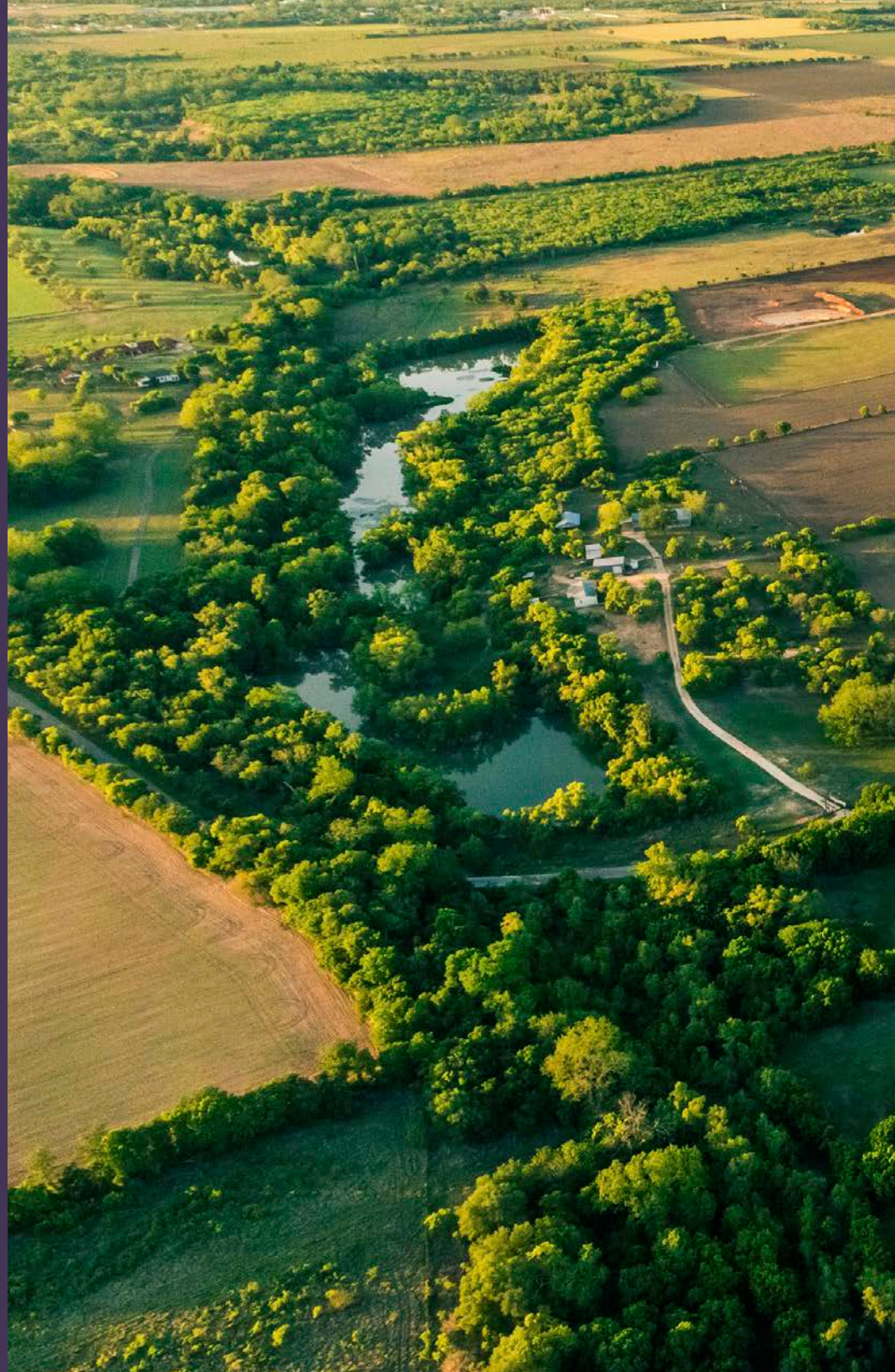
Melissa Friedland
Superfund Program Manager for Redevelopment
(703) 603-8864
friedland.melissa@epa.gov

Frank Avvisato
Superfund Redevelopment Project Officer
(703) 603-8949
avvisato.frank@epa.gov

Mailing Address:
U.S. EPA Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Mail Code: 5204G
Washington, D.C. 20460

The Region 6 Superfund program protects public health and safeguards the environment by directly supporting EPA's seven priorities:

- **Making a visible difference in communities across the country.**
- **Addressing climate change and improving air quality.**
- **Taking action on toxics and chemical safety.**
- **Protecting water: a precious, limited resource.**
- **Launching a new era of state, tribal and local partnerships.**
- **Embracing EPA as a high-performing organization.**
- **Working toward a sustainable future.**



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