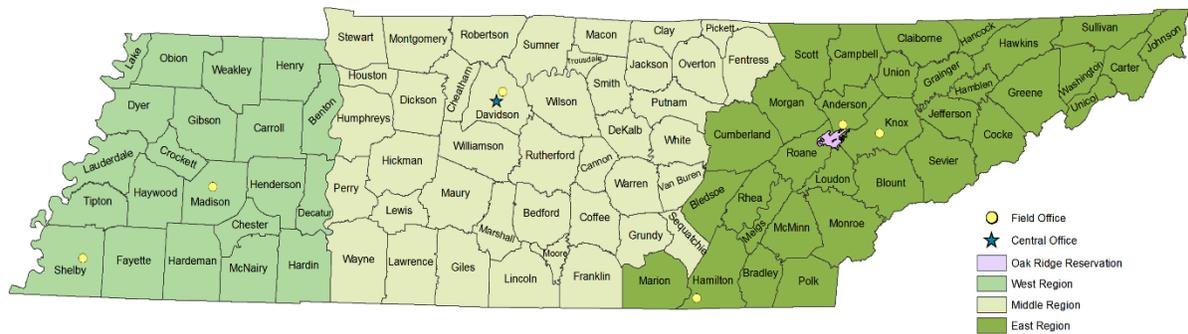




Success Stories from the Division of Remediation



TDEC Division of Remediation

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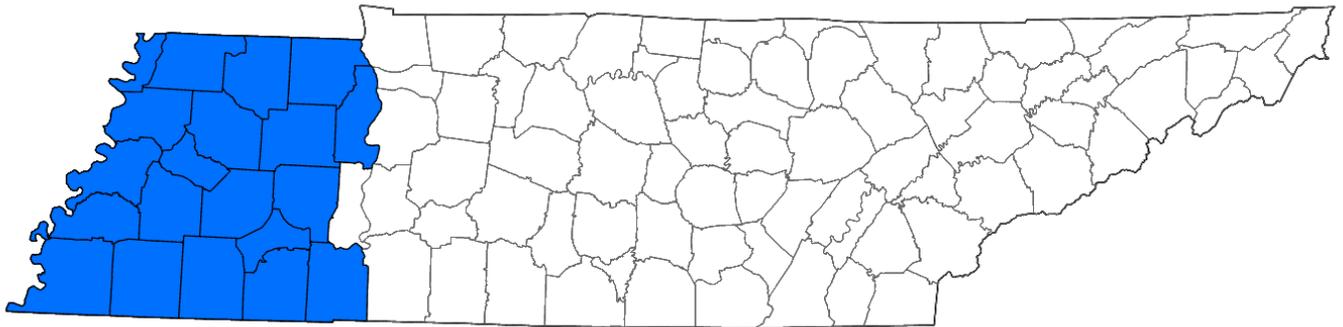
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West Tennessee Success Stories

TDEC Division of Remediation



Proposed Chelsea Avenue Greenline, Memphis, Tennessee

The Chelsea Ave Greenline project involves a 2.4-mile section of abandoned Union Pacific railway from North Evergreen to Washington Park in Memphis. The Greater Memphis Greenline plans to transform this section into a new multi-use trail that links Midtown, New Chicago, Uptown, the Wolf River Greenway, The Mississippi River Trail, St. Jude, Rhodes College, and nearby schools. The proposed Chelsea Avenue Greenline also holds the potential to connect the completed CSX/Shelby Farms Greenline to the Uptown West area and a multi-use trail being funded through a Tiger Grant and tax increment financing.

The three Phase I Environmental Site Assessments that were done on the property in 2012 were funded by Shelby County's EPA Brownfields Community Wide Assessment Grant. These assessments set the stage for the Chelsea Avenue Greenline Project to be included in the Transportation Improvement Program as a City of Memphis Bike and Pedestrian Grouping Project. This project is scheduled to receive over \$1.1 million in federal funds with a local match of \$295,714. Thus, EPA's initial expenditure of \$8,838 for the three Environmental Site Assessments will result in a long-term investment of \$1,478,571 in federal transportation and local funds. The Tennessee Department of Environment and Conservation, Division of Remediation staff provided technical oversight for Shelby County's EPA Brownfields grant.



Left. Proposed Chelsea Avenue Greenline prior to redevelopment Right: Artist rendering of what the Greenline could look like upon completion.

The Former Chisca Hotel, Memphis, Tennessee

The Chisca Hotel has been a fixture in the Memphis skyline for over 100 years. This historic building has served several purposes throughout its life, but notably, it was the broadcast center where Elvis Presley's voice first hit the airwaves. From 1949-56, its mezzanine was the base for WHBQ radio's "Red, Hot, and Blue" program, and from there, DJ Dewey Phillips broadcast Elvis' first record on July 7, 1954. Elvis' first radio interview was also conducted in the hotel by Phillips. Since the late-1990s, the hotel sat empty after the last owner, Church of God in Christ, moved its headquarters. There have been several redevelopment projects proposed for the building since then, including tearing it down, but all plans were abandoned or put on hold because of the 2008 market crash. Starting in 2013, the 300,000 square foot property began undergoing remediation and rehabilitation efforts as developers prepared to turn the historic landmark into a mixed-use building with apartments and retail space. In 2016 the Chisca reopened with 161 apartment units, lofts and penthouses and two ground-floor restaurants.

An EPA Brownfields Community Wide Assessment Grant awarded to Shelby County funded two Phase I Environmental Site Assessments on the property in 2012. This initial \$5,892 investment by EPA resulted in approximately \$2 million short-term investment by the City of Memphis, a long-term investment of \$1 million in Downtown Memphis Commission Funds, and \$19.5-24 million in private capital long-term investment. The Tennessee Department of Environment and Conservation Division of Remediation staff provided technical oversight for the EPA grant awarded to Shelby County.



Left: The inside of the former Chisca Hotel lobby before remediation and renovations. Right: The former Chisca Hotel after remediation and renovation.

Former Foote Homes, Memphis, Tennessee

Foote Homes was the last Section 8 housing project in Memphis to be demolished to make way for modern mixed-income housing, located just south of downtown Memphis at the intersection of South Lauderdale and St. Paul. In 1940, Foote homes were built and later abandoned, leaving this approximately 30-acre property blighted and in disrepair.

In 2015, a \$30 million Choice Neighborhood Planning Grant was granted to the City of Memphis through the US Housing and Urban Development (HUD). This program leverages significant public and private dollars to support locally driven strategies that address struggling neighborhoods with distressed public or HUD-assisted housing through a comprehensive approach to neighborhood transformation. This program also helps communities transform severely distressed public housing into viable mixed-income neighborhoods that include effective schools, public transportation, improved access to jobs, and other public assets.

Funding was leveraged through a variety of agencies that included the Memphis Housing Authority, the City of Memphis, the Tennessee Housing and Development Agency, McCormack Baron Salazar, Chase Bank, RBC Capital Markets, the Women's Foundation for a Greater Memphis, and Urban Strategies Memphis Hope in a projected \$200 million.

The Division of Remediation's involvement was primarily involved with ensuring that future residential properties would not be environmentally impacted. Nearby concerns included potential impacts from nearby properties that were former dry-cleaning locations. On-site concerns were addressed through the Division's Brownfields Voluntary Program that included petroleum-impacted soils and in addition to switches, thermostats, and smoke detectors in the old buildings.



Left: The boarded-up Foote Homes prior to demolition. Right: Artist's rendering of the future mixed-income housing development.

Former Citizens Gas and Light, Jackson, Tennessee

The former Citizens Gas and Light property in Jackson, Tennessee was a manufactured gas plant that operated from 1871-1931. This property is located on the northern fringe of downtown Jackson, between a farmers' market and an underserved community. Originally, the facility heated coal to extract gas, which was stored and distributed from this site. Along with the production of gas, several residual constituents were produced. The locations of the former tar well and gasometer were found to contain contaminants of concern, including PAHs (polycyclic aromatic hydrocarbons).

To address these contaminants, the City of Jackson was awarded a \$200,000 EPA 104(k) Brownfields Cleanup Grant in 2007 to remove source contamination areas and put a soil cover system in place. A multi-agency team from the Jackson Energy Authority, the Tennessee Department of Environment and Conservation Division of Remediation (TDEC DoR), the City of Jackson, US EPA and the private sector worked together to make this cleanup grant a success. A Brownfields Voluntary Agreement was put in place with the Jackson Energy Authority, City of Jackson and the TDEC DoR Voluntary Oversight, Cleanup and Assistance Program. From this downtown property, 610 tons of coal-tar impacted soils were removed.

The property is now an urban pocket park and outdoor amphitheater that complements the vision of downtown Jackson's revitalization. This property also houses the farmer's market office, adjacent to the West Tennessee Farmer's Market. Addressing the former Citizens Gas and Light property was one of the first steps in neighborhood revitalization, acting as a catalyst site to spur further re-investment.

In 2009, the city adopted a long-range development plan for the Center City District which would become Jackson Walk, a 20-acre redevelopment district around Central Creek and the former Citizens Gas and Light property. The City of Jackson selected a master developer for the project and in 2011 construction on Jackson Walk began. \$40 million was leveraged in private investment from Healthy Community, LLC (the master developer). The development has 149 market-rate apartments and ten single-family homes. Six of the homes were sold through the Neighborhood Stabilization Program, a grant-funded, affordable housing program from the U.S. Department of Housing and Urban Development (HUD). Five other homes in the development were sold with first-time homebuyer incentives. For the affordable home construction, acquisition and rehabilitation of existing homes, \$1 million in HUD Neighborhood Stabilization Program funds were leveraged. Additionally, \$1.5 million in HUD funds in the form of Section 108 loan guarantees were also leveraged to invest in public infrastructure in the area including street reconstruction, sidewalks, drainage and street lighting.

In 2013, the anchor of Jackson Walk, an 84,000 ft² facility called "Living in a Fit Tennessee" (LIFT) opened. LIFT is a space where citizens can exercise and visit an urgent care clinic and outpatient rehabilitation center. The center was designed to increase residents' accessibility for health care and a healthy lifestyle and includes a pool, indoor track, climbing wall, café, and

fitness equipment. The LIFT building is a LEED certified building and the area's only medical fitness center.

This Jackson Walk neighborhood is within walking distance to retail shops, a dog park, the outdoor amphitheater, and the farmer's market. In 2012-13, a 1.5-mile-long downtown walking trail was funded by a \$17,100 Tennessee Department of Health Eat Well, Play More grant. An additional \$5,000 sponsorship was funded through the local Jackson High School Class of '63 Living Legacy Fund, bringing the total trail leveraging to \$22,100. From 2012 to 2014, more than 30 new businesses opened in the neighborhood, bringing many new jobs. The LIFT wellness center, urgent care clinic and rehabilitation center brought more than 80 full- and part-time jobs to the area. The banks of Central Creek, which runs through this property and was once an 8-foot-wide-concrete-lined drainage ditch, now have new sidewalks, streetlights, trees and landscaping. In 2013-14, the City of Jackson leveraged a Tennessee Department of Agriculture grant for \$8,765 to plant 73 trees in the Downtown Dogs Group Park.

This project is not yet complete. As of 2017, the second phase of the project is scheduled to break ground on 120 additional apartments and 40 lots for single family homes. It is projected that there will be approximately \$10 million in private investment for the apartments alone.

Downtown Jackson has come a long way from being home to a brownfield site that sat derelict, vacant, and contaminated in an underserved area. Today, that catalyst site is home to community concerts and events and is an amenity for the community.



Left: Vacant building before cleanup. Right: The property was transformed into an outdoor amphitheater.

Former Laycook Clutch, Memphis, TN

The Former Laycook Clutch site is located at 246 (now 270) G.E. Patterson Avenue in downtown Memphis, TN. Automotive and truck repair activities have occurred on portions of the site since 1928. Off-site neighboring property uses included dry cleaners, gas stations, and automotive repair facilities. Prior to redevelopment, the site most recently consisted of four buildings, a gravel parking area, and vacant land. Two of the four buildings were used for storage and the remaining two were used for an automotive and brake repair facility.

The Former Laycook Clutch site had semi volatile organic compound, volatile organic compound, and metals contamination in soil due to historical site usage. Volatile organic compounds were also present in soil gas due to historical site usage. Through investigation, soil removal, the installation of a vapor mitigation system beneath and within one of the new buildings, and placing Land Use Restrictions on the property, the property was safely redeveloped as an apartment complex.

The owner and developers of this property participated in the Division of Remediation's Brownfields Voluntary Program to bring this property back to productive use. The voluntary parties received a No Further Action letter from the Division in March 2019.



Former Reed's Tire Shop, Memphis, Tennessee

The former Reed's Tire Shop is located at 1442 Lamar Avenue near downtown Memphis, TN. The property has been in commercial use since at least 1907. Most recently, the property was the site of a former gas station and tire shop.

The former Reed's Tire Shop site had petroleum contamination in subsurface soils from years of incidental spillage. Through several phases of investigation and some shallow soil removal, it was determined that placing Land Use Restrictions on the site would allow this site to be redeveloped into a dog park, green space, and recreational area to benefit residents of an adjacent apartment building in this up-and-coming neighborhood.

This property went through the Division of Remediation's Brownfields Voluntary Program, which is with the owner of the property to return the site to a productive re-use.



Left: Reed's Tire shop in 2016. Right: Artist rendering of the future dog park, green space, and recreational area.

Success of Saltillo, Tennessee's EPA Brownfields 104(k) Assessment Grant

Saltillo, Tennessee is a small, rural river town in southwest Tennessee, just north of the Alabama border in Hardin County, where the main street dead ends at the Tennessee River. As a river town, Saltillos' population balloons in the summer with boaters, fisherman, and cyclists, but in the off seasons it is a quiet, small town with a population of 303 people (2010 census).

In 2009, the Saltillo mayor and a staff member attended a US EPA Brownfields 104(k) Grant Writing Workshop hosted by the Tennessee Department of Environment and Conservation (TDEC) and US EPA staff in Jackson, Tennessee. TDEC Division of Remediation (DoR) staff worked closely with the City of Saltillo and the private sector on a Brownfields 104(k) grant application. In 2010, the City was awarded a \$250,000 Brownfields 104(k) Assessment Grant, which was used to complete environmental assessments on several properties in the small town.

These vacant, abandoned and underutilized pieces of property hindered redevelopment and economic expansion in the city. These properties also constitute a significant percentage of available commercial land within the city. Losses in the manufacturing base, particularly the closing of a denim plant that previously made blue jeans, have had profound economic impacts on Saltillo. The brownfields assessment funding from EPA served as a catalyst for redevelopment and re-use in Saltillo.

Prior to completing environmental assessments through the grant, the former county school sat vacant and unused. Being one of the properties the City wanted to focus on, an environmental assessment was done through the grant, and asbestos was found to present, but was in stable condition. The asbestos was not friable, thus not posing a risk for the re-use of the building, if it was managed adequately. Local community volunteers came together to transform the facility into a senior center. In addition to EPA funding, FEMA provided approximately \$600,000 to transform the lower floor of the facility into a community storm center. In the summer of 2012, the storm shelter and senior center opened. Leveraging these two funding mechanisms, this small town now has a place to serve its residents and provide safe shelter during storms.

Also completed under the US EPA Brownfields 104(k) grant was a visioning session where community members convened and envisioned a future for Saltillo. This visioning session concentrated on the properties assessed under the EPA grant. One of the focuses for the community was a marina ramp connecting the town center to the river. As a result of the visioning session, community volunteers came together and constructed boat slips to allow easier access from the river to the city.



Before the former county school was assessed under the EPA Brownfields 104(k) grant, it sat vacant and unused. After the EPA Brownfields 104(k) grant and community determination, the former county school is now a community center and storm shelter.



Prior to the EPA Brownfields 104(k) grant being awarded, the marina was closed. With community assistance and ambition, and after the visioning session that was completed under the grant, the marina is now open, and the city has boat slips for boaters to dock and visit the City of Saltillo.

Portion of the Shelby Farms Greenline, Memphis, Tennessee

A portion of the Shelby County Greenline project involved a 13.3 mile stretch of abandoned railway that ran from an old railroad station in Cordova, Tennessee to inner city of Memphis. The first seven miles of this 100-foot-wide corridor was assessed under a \$347,080 EPA 104(k) Brownfields Hazardous Substances Assessment grant, awarded in 2008. These funds helped convert the old rail line into a trail converging at Shelby Farms Park, resulting in quality-of-life benefits to residents and adding potential eco-tourism dollars as a boost to economic development. The EPA funds also helped lay the groundwork for the extension of the greenline to the east. Residential development is dense along the edges of portions of the corridor, which had become a dumping ground for household and industrial debris. Through the environmental assessments completed under the grant, various metals and poly-aromatic hydrocarbons were found in the soil. This information was taken into consideration when designing the trail and contamination was addressed. The Tennessee Department of Environment and Conservation, Division of Remediation staff provided technical oversight for Shelby County's EPA Brownfields grant.

This railroad corridor is surrounded by a canopy of large oaks and other shade trees, providing a source of shade and natural cover for trail users in the summer months. The access to this portion of the greenline has a lot of options, as parts of the route open to residential neighborhoods and links communities to parks and other recreational amenities. This phase of a greater greenline project opened in 2010 and helped inspire a new culture of biking and walking in Memphis. It is estimated that upwards of 200,000 people use the greenline each year.



Before, during construction and after the Shelby Farms Greenline is finished and in use.

South Main Artspace Lofts, Memphis, Tennessee

South Main Artspace Lofts is located at 138 (now 120) St. Paul Avenue in downtown Memphis, TN. Developed since the early 1900s, railroad tracks were historically present on the property. The property was also used for industrial purposes including as a freight depot and a United Warehouse. Most recently, the property was used for warehousing and storage of furniture and miscellaneous goods. The Division of Remediation's John Little Drum site neighbors the South Main Artspace Lofts property to the west. Volatile organic compounds are present in soil, soil gas, and groundwater at the John Little Drum site.

The South Main Artspace Lofts property had semi volatile organic compound contamination in soils due to historical site use. Volatile organic compounds were also present in soil gas due to historical onsite and/or offsite impacts. Through investigation, soil removal, the installation of a vapor mitigation system, the redevelopment of the former United Warehouse basement into a parking garage, and placing Land Use Restrictions on the property, the property was safely redeveloped. The owner of this property participated in the Division of Remediation's Brownfields Voluntary Program and received a No Further Action letter from the Division in November 2018.

The South Main Artspace Lofts mixed-use project includes 58 affordable live/workspaces for artists and 12,000 square feet of event and commercial space, opening in 2019. This project was a partnership between the developer, the City of Memphis and the Hyde Family Foundation that included both historic rehabilitation of the former warehouse and new construction in its former parking lot.



Left: Remedial and redevelopment activities underway in 2017. Right: The property was transformed into artist residences and an art gallery.

Wolf River Conservancy-Epping Way, Memphis, Tennessee

A portion of a 66-acre tract of land located at 2630 Epping Way, in the Raleigh neighborhood of Memphis, was once the estate of a big-game hunter Berry Brooks. Later, the property became the site of a country club. Despite its popularity as a family recreation spot, the country club operated until the early 1980s, after which the owners defaulted on a loan. The property was then sold at public auction in 1990 and gradually deteriorated, with facilities falling into disrepair and illegal dumping becoming more of a problem on the site. In 2007, the property was donated to the former Memphis City Schools system (MCS), which demolished the buildings, filled the pool and secured it from litterers.

After MCS became part of Shelby County Schools, the Wolf River Conservancy began looking at the property for potential use in their county-wide greenway project. School officials agreed to deed the entire property over to the Conservancy, because they determined the property was not going to be used for a school. Under Shelby County's EPA Brownfields Community Wide Assessment Grant, two Phase I Environmental Site Assessments (ESAs) and one Phase II ESA were completed for an investment of \$46,989 to ensure the property was safe for reuse. The Tennessee Department of Environment and Conservation, Division of Remediation staff provided technical oversight for this work.

A subsequent grant from the Plough Foundation for \$120,000 started by the Wolf River Conservation Corps, which is an eight-week, 2-year pilot program targeting North Memphis youth providing environmental education, CPR and first-aid training, canoeing, and kayaking on portions of the Epping Way property. An additional \$25,000 Five Star Grant was awarded to the Wolf River Conservancy with a portion of that funding being used at this property. The Wolf River Conservancy broke ground in 2015 on new sections of the planned 36-mile Wolf River Greenway, which will follow the river throughout Shelby County. The Epping Way property is one of four parcels where the nonprofit conservancy will launch an effort to complete the nearly 22-mile portion of the greenway within the city of Memphis. Using mostly private donations, the conservancy hopes to complete the \$40 million greenway in 2019.

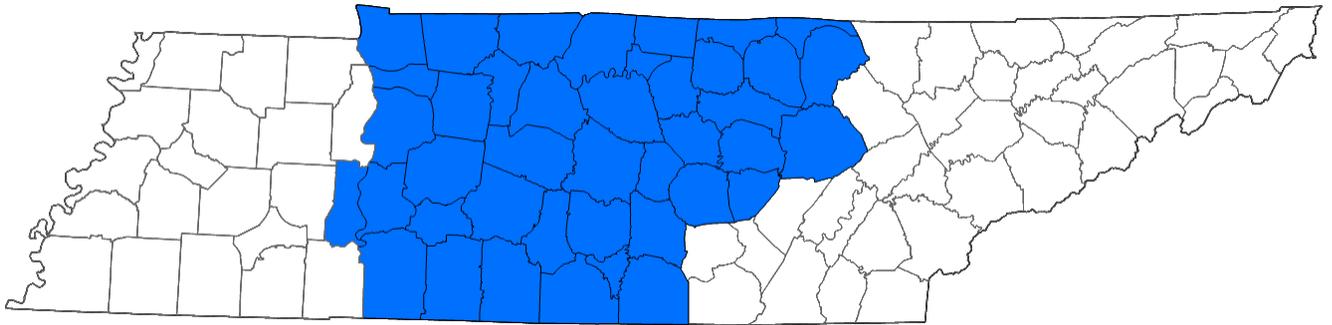


Before (upper left) and after (upper right) photos of Epping Way Property.



Middle Tennessee Success Stories

TDEC Division of Remediation



5400 Centennial Boulevard, Nashville, Tennessee

From the early 1900s to around 2010, the property at 5400 Centennial Boulevard was formerly home to Bruce Hardwoods Manufacturing and Read Phosphate in Nashville, Tennessee. On this 30+ acre property, hardwood floors were manufactured, phosphate processed, and fertilizer produced in an area known as the Nations neighborhood, northwest of downtown Nashville on the banks of the Cumberland River.

After the closure of the hardwood manufacturing plant, the property sat vacant before being purchased by developers who entered the Tennessee Department of Environment and Conservation's Brownfields Voluntary Cleanup, Oversight and Assistance Program through the Division of Remediation. To address the arsenic, polycyclic aromatic hydrocarbons (PAHs), and localized lead contamination found on the property, several Brownfields Voluntary Agreements were implemented in 2019. Excavations of soils for re-use on-site and off-site disposal, in addition to installing vapor barriers on the property were completed to address contamination.

A warehouse structure remains from the property's former uses and was adapted for re-use for office space and retail. Other portions of the property have been developed as apartments and single-family homes that complement the vision of the neighborhood's revitalization.



Left: Before the current development began, the property sat vacant and idle after a hardwood manufacturing business closed. Right: A portion of the property is currently apartments and single-family homes.

Former Thermal Plant, Nashville, Tennessee

In 1974, the first waste-to-energy facility in the United States opened as the Nashville Thermal plant began operations along the banks of the Cumberland River. This facility produced steam to heat and chilled water to cool downtown buildings and was able to burn 1,000 tons of trash per day. A major fire occurred in 2002 that halted the burning of trash for a short time. In 2004, the facility was torn down as a new facility was built at another location. The site sat vacant from 2004 onward and its potential resurgence as a public open space prompted much conversation in the community as it was a prime piece of real estate along the downtown Nashville west riverbank. Numerous investigations of the former Thermal Plant site revealed the presence of arsenic, lead and polyaromatic hydrocarbons associated with the previous use of property.

In 2011, Metro Nashville and Davidson County officially identified the site as an important addition to the city's open space plan. In 2012, the South of Broadway Master Plan was commissioned, which reviewed the planning in downtown Nashville in the aftermath of the 2010 flood and the impending completion of the Music City Center convention center which occupied six blocks within the south portion of downtown. Through those two public processes, the highest and best use of the former thermal plant site was determined to be public open space. A concept plan was developed and in December 2013, a team was selected to move that vision forward. The Tennessee Department of Environment and Conservation's Division of Remediation provided review of the environmental assessments, technical advice on how to address any potential risk and ultimately reviewed and approved Metro's remedial work plans to guide redevelopment. In 2015, the 6,800-seat open-air amphitheater opened for performances; in addition to the amphitheater, there is green space, public art, and a greenway that connects city greenways and other parks in all directions from this pivotal location downtown.



Before (left) and after (right), the former thermal plant was transformed into an amphitheater and public green space in downtown Nashville.

Cumberland Park, Nashville, Tennessee

Along the east bank of the Cumberland River near downtown Nashville, the Nashville Bridge Company began as a bridge builder in the 1890s. It shifted to shipbuilding in 1915 and, by the 1960s, was considered the world's largest inland barge manufacturer. The facility closed in 1996 to make way for the Tennessee Titans' new stadium, leaving much of the riverfront vacant.

Under the New Riverfront Park Plan, the site was targeted for public parks, open space, and recreational amenities. In 2008, environmental site assessments were conducted using EPA Region 4 Targeted Brownfields Assessment assistance, with additional oversight from the Tennessee Department of Environment and Conservation Division of Remediation (TDEC-DoR) funded by EPA 128(a) brownfields grants. These assessments revealed contamination from polycyclic aromatic hydrocarbons, lead, and arsenic. Cleanup strategies included soil removal, engineered caps, and institutional controls to ensure safe reuse.

Today, the Cumberland Play Park is a centerpiece of a broader effort to revitalize three miles of riverfront on both banks. The park features a stone climbing wall, sand play areas, plant mazes, outdoor seating, and meandering paths. Sustainability measures include adaptive reuse, stormwater harvesting for irrigation, capturing 1 million gallons annually—and restoration of 1.6 acres of meadow and riparian grasses. The project also includes an outdoor amphitheater for 1,200 people and the historic Bridge Building, constructed in 1908 for the Nashville Bridge Company, now repurposed as a Metro Parks office, event space, and public amenities.



Left: The Nashville Riverfront when it was home to an active barge manufacturing facility. Right: Today the east bank is home to Cumberland Play Park.

Former Due West Municipal Dump, Nashville, TN

The Due West Landfill site is a 37-acre parcel located in commercial and residential areas of Nashville, Tennessee near Skyline Medical Center. After serving as a landfill for years, the site was closed in 1973 and subsequently monitored for the release of methane, iron, and manganese. The Tennessee Department of Conservation's Division of Remediation issued a No Further Action Letter for the site in July of 2016. On March 5, 2018, Nashville Electric Service (NES) broke ground for the Music City Solar Array (MCSA) located on the former Due West Landfill site.

The MCSA will transform approximately 25 acres of the site into Nashville's first community solar park and is an initiative of the Livable Nashville Committee. The solar park will give NES customers access to sustainable, maintenance-free solar energy. The 2-megawatt facility will use over 17,000 solar panels. It is estimated each panel will generate 14 kilowatt hours of energy for Nashville's electric grid. Division of Remediation staff are working with NES and Metro Nashville on the project to ensure safe re-use of this property.



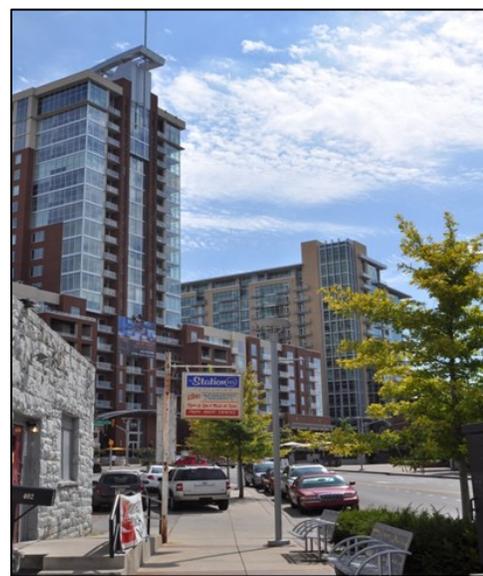
Left: The groundbreaking moment for the Music City Solar Array Project on March 5, 2018. Right: A rendering of the over 17,000 solar panels that will be installed.

The Gulch, Nashville, Tennessee

The Gulch is currently an urban mixed-use neighborhood in downtown Nashville encompassing over 60 acres. The Gulch got its name from its roots as a bustling railroad yard dating to before the Civil War, which included a roundhouse (where rail cars were repaired), a coal yard and a paint shop in subsequent years. In 1956, commuter rail service was discontinued in Nashville and by 1979, passenger rail ceased entirely. The Gulch was a victim of neglect and became a blighted neighborhood. In 1999, a group of private investors and developers purchased 25 acres and created a master plan for the neighborhood.

The Tennessee Department of Environment and Conservation, Division of Remediation staff worked with several key properties and subsequent property owners to complete Voluntary Brownfields Agreements, assessing, and cleaning up any contamination, preparing these properties for revitalization.

Today, The Gulch is a vibrant urban district and a popular local destination for shopping, dining, and entertainment. The Gulch is the only neighborhood in Nashville governed by a privately controlled land use Master Plan and is home to Nashville's only business improvement district outside the downtown Central Business District. In 2007, The Gulch was one of 240 projects worldwide selected to apply for the United States Green Building Council's LEED for Neighborhood Development (LEED ND) pilot program. In 2009, The Gulch became the first LEED ND Certified green neighborhood in the southeastern United States and only the fourth Silver Certified neighborhood in the world. With this distinction, The Gulch has earned international recognition for excellence incorporating the principles of smart growth, urbanism, and sustainability.



Left: The Gulch was home to several railroad lines for decades. Right: The revitalization of the Gulch has taken place to include a variety of mixed-use developments.

State Parking Garage, Nashville, Tennessee

A downtown Nashville property was formerly used for coal storage, an egg breaking plant, beer warehousing, cold storage, wholesale produce sales, a roofing and paving business, steel fabrication, a foundry, housed various dwellings, a restaurant, impoundment lot, and most recently a parking lot. These former uses left behind soil and groundwater impacts with elevated levels of arsenic and poly-nuclear aromatic hydrocarbons (PAHs). Environmental assessments were completed in 2013-14 prior to the construction of the multi-level parking structure, which began in 2014.

Remediation efforts on the site included removal of approximately 169 cubic yards of soil impacted with coal and cinders, capping the majority of the soils on-site with concrete from the slab and foundation of the structure, installation of a vapor barrier underneath the footprint of the structure, capping the outlying soils with either concrete or asphalt used as sidewalks and entrance ways, and bringing in clean fill from off-site.

The Tennessee Department of Environment and Conservation's Division of Remediation staff worked closely with contractors, environmental consultants, and other State agencies to complete the development of a new four-story parking garage. The state parking garage officially opened on January 4, 2016, and serves a multitude of State employees who conduct business in downtown Nashville in addition to providing parking for the nearby home of the Nashville Sounds baseball team.

The result alleviates some of the need for parking in the downtown area, accounts for the re-use and development of three acres of impacted land and has enhanced cooperation of multiple State agencies via the Division of Remediation's Brownfields Voluntary Cleanup, Oversight and Assistance Program which provided technical oversight for the project.



Left: Construction of the garage. Right: The finished parking garage.

Rolling Mill Hill, Nashville, Tennessee

Rolling Mill Hill was the home to Nashville General Hospital from 1890 to the 1990s. Offering sweeping views of downtown Nashville, this 34-acre site encompassed several buildings and structures, including one in a notable Art Deco style architecture, a Victorian building with its original copper roof from the 1800s, and a smokestack. The property was also home to six red-brick, single-story buildings which were completed sometime between 1938 and 1941, by the Works Progress Administration, and were used to house several city public works departments. Prior to 1890, the property was used as a processing terminal for wheat, corn and lumber, which would go through roller mills and be carried away by steamboats to other towns and factories along the river, hence the property is commonly known as Rolling Mill Hill. In the 1990s, when the hospital moved to another location, those buildings became vacant. As for the former Public Works Garage buildings, they remained in use until the mid-2000s. In 2004, Metropolitan Development and Housing Agency (MDHA) were the recipient of an EPA 104(k) Brownfields Assessment grant, a cleanup grant, and a Revolving Loan Fund grant to address environmental issues from previous property uses. Lead, thallium and polycyclic aromatic hydrocarbons were found on the property because of the assessments. The MDHA entered into Brownfields Voluntary Agreements, containing risk-driven land use restrictions, with the Tennessee Department of Environment and Conservation, Division of Remediation, and now, this property is back to productive re-use.

The existing former-hospital buildings of historical significance were re-used in the form of apartments. The original Public Works Garages, added to the National Register of Historic Places in 2010, are now artists' lofts and are home to several companies and non-profit offices. Nance Place, which includes additional buildings built on-site, is a Tax Credit Workforce Housing Development and is Platinum LEED certified. While Nance Place is the first Platinum LEED multi-family project registered in Tennessee, the entire site is being designed as a LEED neighborhood development. \$50 million in commercial and residential investment was leveraged on the redevelopment of Rolling Mill Hill, where the mixed-use community complements the continued resurgence of downtown Nashville.



Left: The former Nashville General Hospital property. Right: The former Metro Public Works garages are now home to non-profits, artist lofts, and several companies.

The Silos, Nashville, Tennessee

Two parcels of land totaling 3.58 acres are brownfields being redeveloped as a complex known as The Silos. One parcel was historically used as a grain storage facility/feed mill from the early 1900s and most recently used as a home for an environmental services company. The second parcel was recently home to an ethanol transfer facility. This project, which is in the third phase of redevelopment of this area by Vintage South Real Estate in 2020, encompasses the two parcels, and centers around the grain silos, formerly known as Mid-South Feed.

In 2016, the site joined the Tennessee Department of Environment and Conservation's Brownfields Voluntary Cleanup, Oversight and Assistance Program through the Division of Remediation. During site investigation, elevated levels of metals, arsenic, PAHs, naphthalene and benzene were found. To address these contaminants, a Soil Management Plan was put into place prior to removal of contaminated soil. Vapor mitigation systems were also installed. As a result, the site has been investigated and remediated for commercial redevelopment, specifically for retail and restaurant space. The site will be an expansion of the Stocking 51 mixed-use development, which is located to the west of the property and houses multiple local businesses, restaurants, a construction company, and coffee shop.

The old grain silos will be saved and re-purposed to highlight the site's industrial past. The multi-story, three-building, new construction will wrap around the silos with a ground level plaza area, providing connectivity to the neighborhood.



Left: Before, the site had many uses including a grain storage facility and feed mill. Right: Artist rendering of project when completed.

Nissan USA Redevelopment Project, Smyrna, Tennessee

Nissan USA purchased blighted, vacant, and contaminated property to expand their operations in the Smyrna, Tennessee area. The property consists of 76.22 acres and was once considered a hazardous substance site, after industrial waste had historically been dumped into on-site sinkholes decades ago. The sinkholes once used for dumping were addressed by cross-divisional collaboration.

In 2015 the developer, PDC Inc. joined the Brownfields Voluntary Cleanup, Oversight and Assistance Program (VOAP) through the Tennessee Department of Environment and Conservation (TDEC) Division of Remediation (DoR). During construction, soil and water were tested to determine if contamination was still present on site. DoR worked with the TDEC Division of Water Resources to remediate and reconstruct the sinkholes to allow for the construction of the new facility. Contaminated soils were removed and properly disposed of during the excavation and construction of the new building.

Through VOAP, the site was investigated, remediated, and put back into use as the new supply and training facility for the Nissan Smyrna automotive plant creating 1,000 new supplier jobs for the area. This \$160 million expansion included a new 1.5 million square foot facility that is used by Nissan suppliers as an integrated logistics center. It also provides essential space to support the on-site suppliers necessary for continued growth, while further supporting Nissan's overall strategy to bring more production to the United States. In 2016, the construction of the new building was completed, creating new jobs and bringing economic growth to the Nashville area.

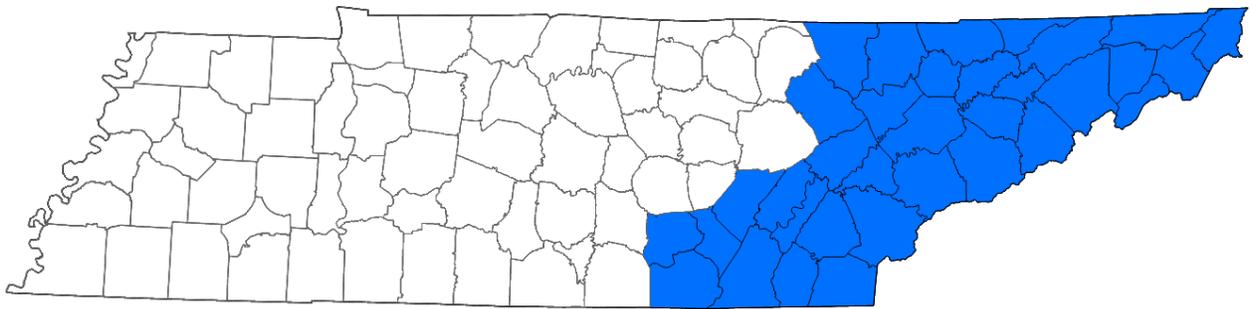


Left: Before remediation and redevelopment, the property sat vacant. Right: After project completion, the Nissan USA facility opened in 2016.



East Tennessee Success Stories

TDEC Division of Remediation



Former La Follette Post Office, Campbell County, Tennessee

The former U.S. Post Office in La Follette, Tennessee was built by the Works Progress Administration (WPA) in ca. 1936 and functioned as a post office until 2008. Prior to 1936, the property was home to commercial buildings that were used for retail, warehousing, wagon storage, and as stables. During the 1950s, the basement of the historic building functioned as a bomb shelter for the city. From 2008 to 2013, the building was vacant when La Follette Post Office operations moved into a new facility. In 2013, the city purchased the historic building at auction. In 2014, the Campbell County Historical Society, acting as a physical agent for a community group which later became the non-profit Postmark La Follette, approached the city to hold several different events within the building and began its transformation into an arts, culture, and history center. They partnered with the Campbell County High School Junior Leadership team and used the Christmas event to demonstrate their vision of what the building could be like in the future. Since that time, Postmark La Follette has operated out of the building partnering with the city. This historic two-story brick building on 0.6-acres is located at 119 South Tennessee Avenue in downtown La Follette, Tennessee.



Left: The former post office sat vacant from 2008 to 2014. Right: Lead-based paint was found throughout the building.

Before this brownfield was transformed into a community asset, Campbell County completed a Phase I Environmental Site Assessment (ESA), Lead-Based Paint (LBP) Survey, Asbestos Survey, and Analysis for Brownfields Cleanup alternatives (ABCA) on the 6,760 square foot building using their EPA 104(k) Brownfields Assessment Grant. No Recognized Environmental Conditions (RECs) were determined to be present; however, asbestos was found to be present in caulking, insulation, flooring mastic, and floor tile in addition to the presence of lead-based paint. The ACM was found to be in non-friable condition, and the Lead Based Paint was peeling in places. La Follette leveraged \$3,500 from the city budget to send their codes inspector to a lead-based paint abatement training program to remove and encapsulate the Lead Based Paint so it would not be a risk to users of the former post office. The fire

department was then leveraged to paint the interior of the former post office. The Phase I ESA, LBP and Asbestos Surveys, and ABCA expended \$10,000 of the EPA grant, but the city was able to pull in additional resources and partners to transform the former post office into the community asset it is today.



Left: The Former post office before new windows were installed. Right: Window replacement began in 2019.

The property is now called Postmark La Follette and is a collaborative, creative placemaking project to establish and maintain an arts, culture, and history center within a historic structure to strengthen social and economic opportunities for the public through the arts. Throughout 2015, 198 volunteers donated a total of 16,243 hours to the county's nonprofit and arts and cultural organizations. This represents an estimated aggregate value of \$382,685 in leveraged time. The Tennessee Arts Commission invested \$6,000 in 2016 through a Creative Placemaking Grant to repurpose the former post office. In 2017, Postmark La Follette became a 501(c)3 and hosted several events and programs by grants funded by the Tennessee Arts Commission, the East Tennessee Foundation, and the Campbell Enhancement Fund. Also in 2017, a \$50,000 grant from the Tennessee Department of Economic and Community Development Agency's (ECD) Asset Enhancement Grant funded a new heating and cooling system, lighting, and roof for the former Post Office. ECD partnered with the University of Tennessee Institute for Public Service to develop action-oriented, short-term goals based on the assets in distressed counties in Tennessee to drive economic development, which, at the time Campbell County was considered a distressed county. In 2018, The East Tennessee Foundation granted \$4,000 to paint the basement of the former post office to function as a green room for stage performances in addition to dressing rooms, a kitchen, and to provide storage. In fiscal years 2018-2019, State Senator Yager brought this project to the State Legislature, and the Legislature approved a line item of \$50,000 for the replacement of period-appropriate replacement windows for the former post office as a capital improvement project.

The new windows meet the Department of Interior's Standards for Historic Rehabilitation on this National Register of Historic Places-listed property.

In 2019 and 2021, Postmark La Follette received two Campbell County Enhancement Fund grants totaling \$4,550 to host a free art camp for youth ages 10-18 in the summertime, supplying all materials needed and hiring an art teacher to teach the class. Some of the programming included learning the dying art of regionally significant crafts including straw-weaving and making rugs out of rags. An in-kind match of 20% was provided by community members in the form of volunteer labor for the camps. In 2019, the Tennessee Arts Commission granted \$8,000 to Postmark La Follette for hosting a monthly radio program titled Postmark Jamboree broadcast from the Postmark Arts, Culture and History Center. The radio broadcasts and TV simulcasts featured local storytellers and musicians in addition to honoring historical broadcasts of decades past. These events were held in the former post office building.

In 2019, Postmark La Follette was invited by the Tennessee Arts Commission to apply for \$10,000 Seed Learning Grant from the Central Appalachian Assembly, to fund start-up needs for the Co-op, which provides a marketplace for local artisans to support one of Postmarks' goals of economic development.

In 2019 and early 2020, seven Campbell County students completed films they made by interviewing Campbell Countians to create documentaries through the Film Works Grant. Students paired with local mentors in learning the basics of doing a film documentary and these films then debuted to the community at Postmark La Follette.

In 2020, the Tennessee Arts Commission, through an Arts Build Communities Grant, contributed \$1,290 for an interactive television show showcasing the history, traditions, culture, and uniqueness of Campbell County. The first episode of The Trunk Show focused on heirloom seeds featuring seeds, memories, native plants of the region, and a performance to close the show by the Postmark Jamboree. This format was originally going to be an in-person roundtable, but due to the pandemic of 2020, the platform was shifted to a community public television station (WLAJ) and online at Postmark La Follette's Facebook page and website.

In 2020, Postmark La Follette Arts, Culture and History Center received the 2020 Region Strong award from the Cumberland Gap Region Tourism Association recognizing exceptional contributions in their community including grant programs and community outreach projects in Campbell County.

In 2021, The BOSCH Community Fund awarded \$13,500 to Postmark La Follette to launch a STEM Project. STEM stands for science, technology, engineering, and math. The funding was used to hire STEM teachers to work with students on a project titled We are the Future, where students-built models of what they envisioned their community to look like in the future.

The former postmaster's office has been converted into the Art Consortium, located within Postmark La Follette, and hosts several artists, artisans, crafters, and authors as well as musicians providing them the opportunity to showcase their handmade goods to sell within the space.

The city of La Follette plays an integral role in the continued success of this adaptive re-use by providing utilities, including trash removal, electricity, and water at the Postmark. Many government agencies, community members, non-profits, foundations, and private sector entities came together to provide funding, services, and time making this adaptive re-use of a former brownfields a community asset for this rural Appalachian community of La Follette.



Above: The Postmark Jamboree 2018 performance.

Former Baptist Hospital Complex, Knoxville, TN

The former Baptist Hospital Complex is along the Tennessee River just south of downtown Knoxville and is currently under redevelopment to be transformed into a multi-purpose riverfront complex. The hospital has been a seemingly ever-present fixture on the Knoxville River front for over 50 years, but time has not been favorable to the campus. The property sat vacant since 2008, with potential and unknown contamination hindering its redevelopment. The City of Knoxville received an EPA Brownfields Community Wide Assessment Grant in 2009 to provide six Phase I Environmental Site Assessments (ESAs) and three Phase II ESAs for the parcels in the complex. Lead-based paint and asbestos surveys were also completed at the hospital complex under the EPA grant. Approximately \$150,000 of the \$400,000 EPA grant was spent characterizing this property. These ESAs were critical to spurring developer interest in the former hospital complex. With approximately \$160 million in private investment, the plans for redevelopment include 300 apartment units overlooking the Tennessee River, 225 student housing suites, a 150-room waterfront hotel and approximately 40,000 square feet of retail and office space. The Cityview Riverwalk will also be extended, leveraging a Tennessee Department of Transportation Enhancement Grant to extend this greenway for public access along the river. These redevelopments will also complement Suttree Landing Park, a former industrial site that is nestled in the Old Sevier Neighborhood area and is currently being developed by the City of Knoxville, which will include a river walk, arboretum, children's play area, boat deck and festival lawn. The Tennessee Department of Environment and Conservation's Division of Remediation provided technical oversight for Knoxville's EPA Brownfields grant work.



Left: The former Baptist Hospital Complex along the Tennessee River. Right: After development.

Former Brookside Mills, Knoxville, Tennessee

The 19.4-acre vacant former Brookside Mills site in Knox County, Tennessee started its industrial life in 1885, when it was a textile mill and at its peak employed about 1,000 people. It was formerly used for fabric weaving, dyeing, sewing operations and as a department store. During a portion of its history, coal was used as an energy source. After 1969, several of the buildings were leased to a department store and clothing sewing operations. In 1996, the buildings were demolished and the site was left vacant and prime for illegal dumping and other illicit activities.

In 2004, Knox County received an EPA Brownfields Assessment Grant to conduct environmental assessment activities at the site, including Phase I and Phase II Environmental Site Assessments (ESAs). The Tennessee Department of Environment and Conservation, Division of Remediation (TDEC DOR) staff provided technical oversight for this grant work. The findings of the Phase II ESA indicated environmental impacts were present, requiring several actions prior to redevelopment. These actions were approved by TDEC and ready for implementation once a future purchaser was identified. A Voluntary Agreement was then negotiated between the City of Knoxville and the TDEC DOR Voluntary Cleanup, Oversight and Assistance Program to promote redevelopment of the property. In 2011, Holston Gases purchased the property and announced that they would expand their business on the former Brookside Mills property. This encompassed a \$10 million private investment and generated around 20-30 jobs when operations began in November of 2012. The company developed an office complex, gas-pumping facility, and warehouse on the former brownfield property. After generating no tax revenue for many years, this property brought the City of Knoxville over \$68,000 in tax revenue for 2015.



Left: Before redevelopment, the property was a prime location for illegal dumping. Right: After redevelopment, the Former Brookside Mills is now Holston Gases and is back on the tax rolls.

Hydroponics, Campbell County, Tennessee

Until 1979, a one-acre lot in Campbell County, Tennessee was a strip mine site managed by the Diamond Mine Company. It was one of several strip mines in Campbell County over the years. After the mine's closure, local community members saw potential in the land as a worthwhile redevelopment investment. The Woodland Community Land Trust hired local contractors and built a home on the land. Unfortunately, the home burned down shortly after being built. After the fire, the site was left vacant and abandoned again and became overgrown with invasive plant species and was a haven for illegal trash dumping.

With the help of the Clearfork Community Institute, the Woodland Community, and Environmental Protection Agency (EPA) funding, the community was able to redevelop the land. In 2017, Environmental Site Assessments were completed on the property through Campbell County's EPA 104(k) brownfields assessment grant. The Environmental Phase II Assessment determined that arsenic concentrations in the soil were below background levels in East Tennessee, so no cleanup was needed. Project and community leaders decided to use the land to produce several crops (broccoli, kale, hot-peppers, and asparagus rhizomes) with the goal of becoming a competitive producer in the Appalachian region.

The University of Tennessee in Knoxville helped to install and monitor a new field hydroponic system in 2018. This hydroponic system provides a sustainable and environmentally friendly setting where plants grow in ideal growing conditions. Private donations from individuals and organizations (such as the Mountain Women's Exchange) totaling \$4,800 provided initial startup costs to foster the first harvest. This initiative provides a form of economic self-sustainability for this rural Appalachian County in upper east Tennessee.



Left: The land was an abandoned mining site before its transformation. Right: Today the site is home to crops and a field hydroponic system.

Former Lupton City Mill, Chattanooga, Tennessee

The former Lupton City Mill property in Chattanooga, Tennessee was previously a textile mill constructed ca. 1923 and continued operating until ca. 2009 manufacturing cotton hosiery. After the mill closed, a purchaser bought the site for the purpose of salvaging materials from the industrial buildings. The demolition and salvage operations began in 2012, stripping the site of any valuable materials and leaving an ugly debris field and environmental hazards, including asbestos, throughout the 12-acre property. The nearby residents faced a reality of residual contamination and a huge community eyesore.

In 2017, the city entered the site in the Tennessee Department of Environment and Conservation's Division of Remediation Voluntary Oversight and Assistance Program (VOAP). The VOAP allowed the City of Chattanooga and the state to work cooperatively to ensure the minimization of risk to human health and the environment on the property. The City also received liability protection through VOAP because they did not cause the contamination and did not own the property when the contamination occurred. There were legal complexities and environmental challenges that had to be addressed before cleanup work could begin on the property. Through a tax sale in 2019, the City of Chattanooga acquired the property to protect the community from the hazards and the blight on that area. The City went on to hire specialized contractors to address the various problems on the property by removing the hazardous materials and grading and covering the demolition debris in place. The entire site will be covered by geotextile fabric plus at least two to three feet of clean fill (soil). The end use of the site will be as a green space for the local community and be a benefit, not an eyesore, for the Lupton City neighborhood.



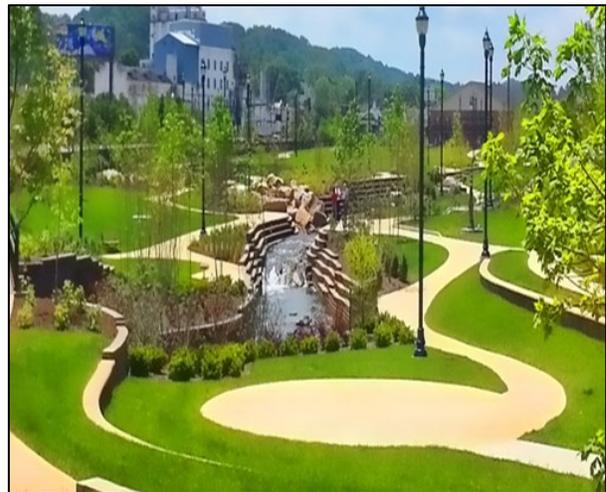
Left: Before the former Lupton City Mill was cleaned up, hazardous debris, including asbestos, was spread across the 12-acre property. Right: During cleanup of the former Lupton City Mill site hazardous materials were removed and the property was graded and covered.

Former Young's Warehouse, Johnson City, Tennessee

Flooding in the historic downtown district of Johnson City, Tennessee was identified as a major barrier to reinvestment and redevelopment. As a result, the city had limited economic and cultural investment in the downtown core. The former Young's Warehouse property was identified in the Johnson City Downtown Drainage and Redevelopment Project as property which could be used to provide relief for flooding. Historic uses of the property included a former gas station, tire retreading facility, bulk petroleum storage, and a drycleaner.

The City worked in collaboration with the Tennessee Department of Environment and Conservation's Division of Remediation staff to develop a plan to address contaminated soils, left by previous industrial uses, ensuring that the reuse of the property would be safe for the citizens who would enjoy the future park. As a result of the cooperation shown in this project, Johnson City was able to transform this downtown property to not only address flooding but also create public greenspace by building a five-acre greenway and park along the new creek bank.

Founder's Park and the adjacent Farmer's Market, a \$2.8 million 5-acre greenspace and flood mitigation project on the west side of downtown, were completed in 2014. The park hosts a 200-seat amphitheater area on the east side, allowing for concerts and performances, and a "great lawn" on the west side, allowing for everything from sports, events, and festivals to take place. Since its completion, Founder's Park has sparked redevelopment in the downtown area by developing a sustainable greenspace for community activities and bringing flood control improvements to an area historically affected by flooding.



The former Young Warehouse property in Johnson City is now Founders Park, functioning as public green space in addition to providing relief for flooding.

North St. Elmo Drainage Improvement Project Connecting Brownfields and Infrastructure

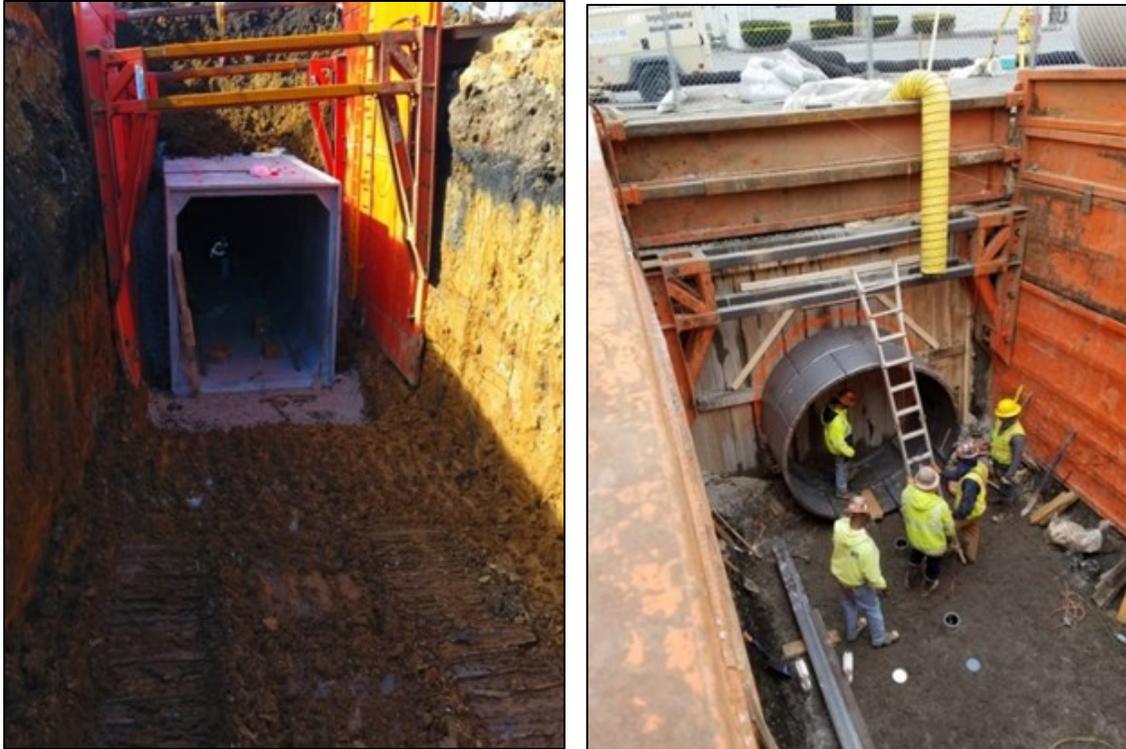
The Tennessee Department of Environment and Conservation (TDEC), Division of Remediation (DoR) is utilizing US EPA 128(a) Brownfields funding to provide technical assistance and oversight on the City of Chattanooga's North St. Elmo Drainage Improvement Project.

Since the 1800's, foundry operations were very active in Chattanooga. As a result, large volumes of foundry sand and other byproducts (i.e. slag) were generated and commonly used to fill low lying areas throughout downtown Chattanooga. Consequently, most brownfields in downtown Chattanooga must address foundry residuals.

A portion of the current drainage system runs beneath the Wheland St. Elmo hazardous waste foundry landfill and the associated 7'x10' corrugated metal pipe is in the process of collapsing. This project involves installation of approximately 3,285 feet of drainage infrastructure to drain over 1,100 acres of south Chattanooga at a total project cost of over \$15.1 million for the City of Chattanooga. If the existing culvert fails, parts of the city would experience significant flooding. Additionally, there is a high probability that foundry sand would be released to the Tennessee River via Chattanooga Creek, which is approximately 150 feet from the outfall of the St. Elmo drainage system.

Due to the crucial and time critical nature of this project, DoR utilized the US EPA 128(a) Brownfields funding to conduct oversight, assistance and work with the City of Chattanooga to complete a Brownfield Voluntary Agreement (BVA). The EPA 128(a) funding allows DoR to provide substantial support to the city for technical assistance and oversight. The BVA also limits the City's future liability for the large portions of the storm water conveyance that run through historical fill, comprised of foundry wastes (sand, slag) and solid waste.

This project was started in the fall of 2016 and is anticipated to be completed in 2018. The final design of this project will include streetscape improvements that will be tied into existing infrastructure including the Riverwalk Greenway



Left: Foundry fill is shown above the native soil. Shortly after this section of the alignment, the foundry fills dramatically increased, along with solid waste and other fill as the sub-surface composition changed throughout the project. Right: The tunnel portion of the alignment project excavation.



Above: Finished portion of alignment, with outfall construction underway. Note the foundry sand landfill just to the left (southwest) of the alignment.

Southside Lead NPL Site, Chattanooga, Hamilton County, Tennessee

The Chattanooga Southside Lead National Priorities List (NPL) Superfund site contains eight residential neighborhoods located in the downtown Chattanooga area. Historically, foundries in the area provided foundry waste that resembled topsoil to residents to use in their yards as fill material. This material contained high levels of lead and resulted in the addition of the Southside Lead Site to the NPL in 2018. The TDEC-Division of Remediation (DoR) is currently aiding in EPA's identification efforts by conducting surface soil screening at properties outside the defined NPL study area using an x-ray fluorescence analyzer (XRF). The XRF is a screening instrument used in the field that identifies metals (such as lead) in soil in real-time. To request a screening, homeowners can visit this EPA website to determine if their property is located within NPL boundaries. If a property is outside the NPL study area, EPA will refer the property owner to the DoR's Chattanooga Environmental Field Office. Upon request, the DoR will provide initial screening of surface soils in residential yards to determine if lead in soil is above either the NPL site target cleanup level of 360 parts per million (ppm) or the NPL site time critical removal level of 1,200 ppm. This is done at no cost to residents. From 2018 to late 2025, DoR staff have screened nearly 300 properties outside the study area responding, listening, and advocating for the concerns of the citizens of Chattanooga. In addition, the DoR regularly submits reports to EPA where this information is intended to inform potential decisions on how the initial NPL site boundaries may expand in the future.

Using the data obtained when residents requested DoR staff to screen their yards, 23 properties were identified and met specific criteria for further assessment and ultimately time critical removal. Soil removal actions for the 23 properties started in late September 2025. DoR has compiled and submitted a second list of additional properties for referral to EPA as of late 2025. Cooperation between State and Federal agencies has successfully resulted in properties being addressed outside the boundaries of the NPL site while also helping to alleviate apprehensions of Chattanooga communities outside the current NPL boundary that their concerns are being addressed



Left: A front yard in St. Elmo during remediation. Center. Front yard of a residence where soil with elevated lead levels was removed. Right: After a front yard in St. Elmo that has been remediated

Cavalier, Chattanooga, Tennessee

Cavalier is one of the oldest industrial sites in Chattanooga. Originally the products made at this site were lumber, furniture and wooden iceboxes. In recent decades, refrigerated vending machines for soft drinks and other beverages were made on the property. Cavalier Corporation declared bankruptcy in 1987. The property was then purchased by the Southeast Local Development Corporation (SLDC) in 1996 for redevelopment. SLDC later became Bright Bridge, Inc. SLDC began renovation and remediation of the site in 1996. Under the Division of Remediation's voluntary Cleanup Oversight and Assistance Program (VOAP), groundwater monitoring and site characterization began in 1999. Six wells were installed on-site, and groundwater monitoring began in 1999. Contaminants found on the site included petroleum hydrocarbons and chlorinated solvents. Remediation consisted of asbestos abatement and UST removal. Areas identified with elevated soil contamination (potential source areas) were addressed by Chemical Oxidation and limited removal in 2009. Groundwater monitoring is ongoing at the site. Also in 1999, work was conducted on the Bailey Avenue Bridge, which involved installing new bridge piers on this site. The installation of the piers revealed buried and oily metal scraps that were previously used to lubricate machinery to produce metal parts to make vending machines.

The site was subsequently sold by Bright Bridge to the Electric Power Board (EPB), which conducted additional soil remediation and redevelopment activities under a Brownfield Voluntary Agreement with the Division of Remediation during 2010-2011. The EPB was able to double their square footage and save approximately two million dollars by utilizing the Cavalier site instead of the property that was originally considered for purchase. As a direct result of the work done by EPB and Bright Bridge, improvements were also expanded into the nearby community by purchasing surrounding dilapidated housing. These homes were torn down and acquired by other home-building entities. Some of these homes are now home to several UT Chattanooga Fraternity organizations.



Left: The land was previously home to one of the oldest industrial sites in Chattanooga. Right: The property is now undergoing groundwater monitoring.

Former Coke and Chemical Facility, Chattanooga, Tennessee

On 24 acres of land once owned the Chattanooga Coke and Chemical Company produced coke, aromatic solvents, light oils, and coal tar were produced from 1918 to 1987. The coke produced at the company was a highly carbonated fuel, with few impurities, used to make metals in iron ore smelting. Coke was also produced to be used as fuel in stoves. After over a decade of negotiations, the Chattanooga Coke and Chemical facility has undergone remediation conducted by the Responsible Party, Mead Westvaco, under oversight of the Division of Remediation (DOR).

Removal of contaminated soil began in January of 2013, where the coal tar source areas were removed by June of 2013. A total of 23,904 tons of soil were disposed of offsite as special waste. Polycyclic Aromatic Hydrocarbon-impacted soil was removed to a minimum depth of two feet. Coal tar saturated soils were removed, where conditions permitted, until coal tar was no longer present. The maximum depth of coal tar was excavated up to twelve feet below the ground surface. 1,269,264 gallons of shallow groundwater/contact water were disposed of via the Publicly Owned Treatment Works (POTW). An additional 700 cubic yards of soil contaminated with benzene were sent off site by rail for incineration in Ohio. Excavations were backfilled with 25,506 cubic yards of imported clean clay fill.

Following remedial actions, LKQ Automotive worked with the DOR through the Division's Voluntary Cleanup Oversight and Assistance Program (VOAP) to redevelop the property in 2013. LKQ covered the entire site with geotextile fabric and approximately eight inches of compacted gravel, which further served to eliminate potential for exposure to any residual contamination. The site is currently an environmentally friendly automotive parts salvage operation that opened in 2014. Vehicles received by LKQ are drained of all fluids upon delivery and recycled approximately three months after arriving at the site, after parts that have been salvaged from the vehicles have been removed for re-use.



Left: The former Chattanooga Coke and Chemical Facility during its redevelopment. Right: After the redevelopment, the former Chattanooga Coke and Chemical Facility is now an automotive parts salvage facility.

Suttree Landing Park, Knoxville, Tennessee

Suttree Landing Park is an 8-acre, linear park along the south bank of the Tennessee River in Knoxville. The Suttree Landing property was previously home to a bulk oil storage facility, a textile dyeing operation, and an engine parts manufacturer from the 1940s until 2004. After 2004, the property was vacant and abandoned.

In 2009, The City received a \$400,000 Community-Wide Brownfield Assessment grant from the EPA. They used the funding to complete an environmental assessment for properties along the waterfront to examine environmental impacts. The City of Knoxville saw the property as an opportunity and negotiated a Brownfield Voluntary Agreement with the Tennessee Department of Environment and Conservation's Division of Remediation in 2010. The City of Knoxville worked closely with the Division of Remediation to make sure the property met the standards for safely turning the property into a park. As a result, they identified 12 properties along the waterfront with significant redevelopment potential to become part of the park.

After strategic planning and community engagement to establish a common vision, the City of Knoxville opened the park in 2016. The park contains a Riverwalk, two festival lawns, overlook areas with seating and picnic tables, an ADA-accessible children's playground, launch areas for kayaks and canoes, multi-use path for bicyclists and pedestrians, and parking. The project also contains an irrigation system that pumps water from the river and bio-swales to manage water run-off. In 2017, the project received a Governors Environmental Stewardship Award.



Left: The property was previously home to a bulk oil storage facility, a textile dyeing operation and an engine parts manufacturer. Right: After revitalization, the property was transformed into an award-winning park.

Glover Tract Cleanup Grant, Chattanooga, Tennessee

The Glover tract covers approximately 55.65 acres of land along 38th Street in Chattanooga, TN. The property was a wooded flood plain contaminated with coal tar residue and polycyclic aromatic hydrocarbons from the South Chattanooga Creek since 1893.

In 2017, the City of Chattanooga negotiated a Brownfield Voluntary Agreement with the Tennessee Department of Environment and Conservation's Division of Remediation to redevelop the property. The city received a \$200,000 EPA brownfields 104(k) cleanup grant and utilized a \$40,000 match from private local investors.

The project period started in 2017 and is expected to be completed in 2019. Working with TDEC's oversight, approximately 2,400 yards of contaminated soil were removed from the site. From oversight by TDEC and city engineers, the Tennessee Department of Transportation (TDOT) donated approximately 2,400 yards of clean soil valued at \$45,000 to replace the contaminated soil as fill.

Although the project will not be completed until late 2019, the City of Chattanooga accepted the donation of a nearby abandoned rail corridor that will be redeveloped become a riverwalk pedestrian and bike corridor. They are planning for the trail to go from the current terminus through the Glover Tract site to link neighborhoods together, so the Glover tract provides a critical connector for the riverwalk.