EPA

REGION 3
ECONOMIC
PROFILE

PUTTING SITES TO WORK

How Superfund Redevelopment in Region 3 Is Making a Difference in Communities

2023 DATA

Cover page photos:
Chisman Creek (Virginia), Mid-Atlantic Wood Preservers, Inc. (Maryland), E.I. Du Pont De Nemours & Co., Inc. (Delaware).

Figure 1. The ice rink in RMU Island Sports Center at the Ohio River Park site (Pennsylvania).

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PREFACE

The EPA's Superfund Program is a cornerstone of the work that the Agency performs for citizens and communities across the country. The revitalization of places affected by contaminated lands is a key part of Superfund's mission, meeting community needs for thriving economies and improved environmental and public health outcomes. Through the EPA's Superfund Redevelopment Program, the Agency contributes to these communities' economic vitality by supporting the return of sites to productive use.

The EPA is focused on accelerating work and progress at all Superfund sites across the country, and supporting redevelopment and community revitalization. Using resources from the 2021 Bipartisan Infrastructure Law, the EPA is providing necessary funding to enable delayed cleanup efforts at over 100 Superfund sites to move forward. As of early 2024, nearly 80% of the funding from the Bipartisan Infrastructure Law has gone to sites in communities with potential environmental justice concerns. The EPA is leading the way to support the return of these and other once-contaminated sites to productive use.

These regional profiles highlight community-led efforts as the EPA expedites cleanup and remediation and engages with partners and stakeholders to support redevelopment and community revitalization.

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INTRODUCTION

EPA's Region 3 office serves Delaware, Maryland, Pennsylvania, Virginia, West Virginia, the District of Columbia and 35 Tribes. Since the 1950s, the states in EPA Region 3 – the Mid-Atlantic – have faced major changes in the manufacturing sector. Spurred by globalization, advances in technology and a transition to a service-based economy, these changes have contributed to significant job losses and substantial neighborhood and downtown declines in communities across the region. While continuing to emphasize manufacturing as an economic cornerstone and a source of jobs, state and local leaders are helping communities adjust to these large-scale economic changes. Much of this work centers on investing in workforce development, retaining existing businesses, encouraging new business development and repurposing old industrial land, including Superfund sites. The Superfund program in EPA Region 3 is proud to play a role in these efforts.

The cleanup and reuse of Superfund sites often restores value to site properties and amenities to surrounding communities that have been negatively affected by contamination. Site redevelopment can revitalize a local economy with jobs, new businesses, tax revenues and local spending.

Region 3 Sites in Reuse and Continued Use: Business and Job Highlights

In 2023...

533
businesses operating

$3.4B
annual sales

13,245
people employed

$985M
annual employee income

Figure 2. The Haverford Township Area YMCA at the Havertown PCP site (Pennsylvania).

1 Business and property value tax figures represent only a subset of the beneficial effects of sites in reuse or continued use in Region 3. There are 87 Superfund sites in reuse or continued use in Region 3 for which the EPA does not have business data, including 32 federal facilities on the Superfund National Priorities List (NPL). Not all sites in reuse involve an on-site business or other land use that would employ people. Several sites without businesses have beneficial effects that are not easily quantified, such as properties providing ecological or recreational benefits (e.g., parks, wetlands, ecological habitat and open space). In addition, there are 85 sites in reuse or continued use in Region 3 for which EPA does not have property value or tax data, including 32 NPL federal facilities.

Through efforts such as the Superfund Redevelopment Program, EPA Region 3 helps communities reclaim cleaned-up Superfund sites. Factoring the reasonably anticipated future use of Superfund sites into the cleanup process promotes their safe redevelopment. In addition, EPA Region 3 works closely with state and local officials to remove barriers that have kept many Superfund sites vacant or underused. EPA Region 3 works to ensure that businesses on properties being cleaned up under Superfund can continue operating in a way that protects human health and the environment during site investigations and cleanup work. This continuity enables these businesses to remain open and serve as a source of jobs and income for local communities.

Superfund sites across Region 3 are home to commercial and industrial parks, retail centers, condominiums and single family homes. Many sites continue to host industrial operations, including large-scale manufacturing facilities. Some sites now support alternative energy projects. Others have been transformed into ecological preserves, parks and recreation complexes. On-site businesses and organizations at current and former Region 3 Superfund sites provide an estimated 13,245 jobs and contribute an estimated $985 million in annual employment income. Sites in reuse and continued use in Region 3 generate $14 million in annual property tax revenues for local governments.[1]

This profile looks at how redevelopment activities at Superfund sites make a difference in communities across Region 3. In particular, it describes some of the beneficial effects of redevelopment and continued use of current and former Superfund sites. The profile also describes the land values and property taxes associated with Superfund sites returned to use and sites that have remained in use throughout the cleanup process. The EPA updates these profiles periodically. The beneficial effects may increase or decrease over time due to changes in:

- The number of sites in reuse or continued use.
- The number of on-site businesses.
- Data availability.
- Changes in business and property value data.

Figures presented represent only a subset of all Superfund sites in reuse or continued use in Region 3.

Figure 3. The RMU Island Sports Center at the Ohio River Park site (Pennsylvania).

Figure 4. Renaissance Park, a commercial office park, at the Crater Resources, Inc./Keystone Coke Co./Alan Wood Steel Co. site (Pennsylvania).

SUPPORT FOR SUPERFUND REDEVELOPMENT

EPA Region 3 is committed to improving the health and livelihood of Americans by cleaning up and returning land to productive use. In addition to protecting human health and the environment through the Superfund program, Region 3 partners with stakeholders to encourage redevelopment opportunities at Superfund sites. Region 3 helps communities and cleanup managers consider redevelopment during cleanup planning and evaluate remedies already in place to ensure appropriate redevelopment. In addition, the EPA participates in partnerships with communities and encourages opportunities to support Superfund redevelopment projects that emphasize environmental and economic sustainability.

Specific redevelopment support efforts in EPA Region 3 include:

- Identifying and evaluating local land use priorities to align with site cleanup plans through the redevelopment planning process.
- Facilitating cleanup and redevelopment discussions to help resolve key issues between parties interested in site redevelopment.
- Supporting targeted projects intended to help Region 3 communities and the EPA find the right tools to move site redevelopment forward.
- Making efforts to help address communities' and developers' liability, safety and reuse concerns through development of educational materials, comfort letters, developer agreements and environmental status reports – known as Ready for Reuse Determinations – that provide information about the appropriate use of sites.

Figure 5. The Biggs Museum of American Art at the Dover Gas Light Co. Superfund site in Delaware.

- Supporting partnerships with groups committed to returning Superfund sites to productive use, such as the Rails-to-Trails Conservancy, the U.S. Soccer Foundation, the U.S. Fish and Wildlife Service and local economic development organizations
- Developing reuse fact sheets, websites, webinars and reuse case studies to share opportunities and lessons associated with Superfund Redevelopment.

These efforts have helped build expertise across Region 3, making it easier to both consider future use of Superfund sites prior to cleanup and to identify opportunities for removing reuse barriers. These efforts also help Tribes, state agencies, local governments, communities, potentially responsible parties, site owners, developers, and other partners and stakeholders to better understand potential future uses for Superfund sites. This helps stakeholders engage early in the cleanup process, ensuring that Superfund sites are restored as productive assets for communities. Most importantly, these efforts lead to significant returns for communities, including jobs, annual income and tax revenues.

SUPERFUND REDEVELOPMENT: THE BIG PICTURE

The EPA can take and oversee immediate action at contaminated sites through short-term cleanup actions, also called removal actions.[2] The EPA refers sites warranting long-term cleanup to its remedial program or to state programs. The EPA's National Priorities List (NPL) is a list of sites the Agency is targeting for further investigation and possible remediation through the Superfund program. Once the EPA places a site on the NPL, the Agency studies the contamination, identifies technologies that could address the material and evaluates alternative cleanup approaches. The EPA then proposes a cleanup plan and, after collecting public input, issues a final cleanup plan. The Agency then cleans up the site or oversees cleanup activities. The EPA has placed 229 sites in Region 3 on the NPL.

Whenever possible, the EPA seeks to integrate redevelopment priorities into site cleanup plans. In Region 3, 160 NPL sites and eight non-NPL Superfund sites are in use. These sites have either new uses in place or uses that remain in place from before cleanup. Many of these sites have been redeveloped for commercial, industrial and residential purposes. Others have been redeveloped for recreational, ecological and agricultural uses. Businesses and other organizations also use some site areas for memorials and parking areas. Many redeveloped sites support multiple uses and have the capacity to support additional uses and further redevelopment. The following sections take a closer look at the beneficial effects of businesses operating on current and former Superfund sites in Region 3.

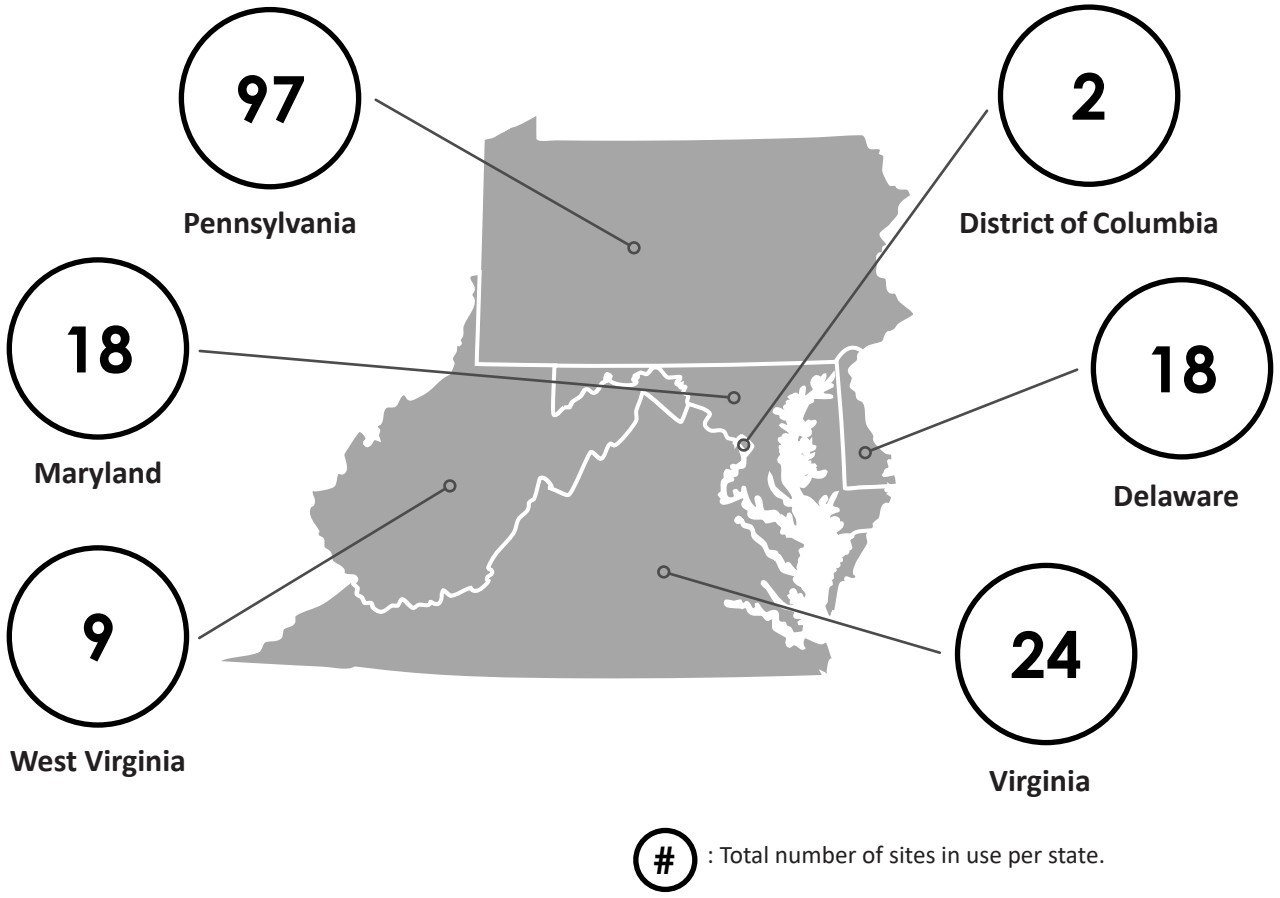


Figure 6. Sites in reuse and continued use in Region 3.

2 Removal actions may be taken at sites on the NPL and sites not on the NPL.

Figure 7. Culpeper Wood Preservers, Inc. (Virginia).

Figure 8. Woodlawn County Landfill (Maryland).

Sites in Reuse and Continued Use: A Closer Look

Reuse Type	Description	Region 3 Example
In Reuse	*Part or all of a site is being used in a new, different manner than before Superfund involvement. Or, the property was vacant and cleanup was designed to support a new, specific land use.*	*Enterprise Avenue (Pennsylvania) - After cleanup, the EPA took the site off the NPL in 1986. In 1999, the Philadelphia Department of Aviation completed a 5,000-foot commuter runway for Philadelphia International Airport on-site. The runway reduces flight delays and traffic congestion.*
In Continued Use	*Historical uses at a site remain active, and/or the site is still used in the same general manner as when the Superfund process started at the site.*	*Culpeper Wood Preservers, Inc. (Virginia) - A wood treatment facility opened at the Site in 1976. Cleanup activities enabled the continued industrial use of the property. Culpeper Wood Preservers remains active on-site.*
In Reuse and Continued Use	*Part of a site is in continued use and part of the site is in reuse.*	*Palmerton Zinc Pile (Pennsylvania) – Following cleanup the Site now support the Lehigh Gap Nature Center and Wildlife Refuge. The refuge provides habitat for local wildlife and migratory species, as well as trails for hikers, birders and outdoor enthusiasts. It also offers programs in environmental education, wildlife viewing and native habitat restoration research. The Site also supports continued residential, commercial and industrial uses.*

62 **23** **83** = **168 SITES IN USE**

33 **9** **39** = **81 SITES WITH BUSINESSES**

BENEFICIAL EFFECTS OF SUPERFUND SITE REDEVELOPMENT IN REGION 3

Businesses and Jobs

The EPA has collected economic data for 533 businesses businesses, government agencies and civic organizations operating on 78 NPL sites and three non-NPL sites in reuse and continued use in Region 3. (See the State Redevelopment Profiles for each state's reuse details.) Businesses and organizations at these sites are part of several different sectors, including lodging, professional trade, industrial trade and health care services.

Businesses and organizations at Region 3 Superfund sites include hotels, schools, grocery stores, restaurants, civic and social organizations, freight transportation facilities, health care centers and manufacturing facilities.

Figure 9. A commercial business at the Ohio River Park site (Pennsylvania).

The businesses and organizations at these sites generate about $3.4 billion in estimated annual sales and employ about 13,245 people, earning an estimated $985 million in annual employment income. This income injects money into local economies and generates revenue through personal state income taxes. These businesses also help local economies through direct purchases of local supplies and services. On-site businesses that produce retail sales and services also generate tax revenues through the collection of sales taxes, which support state and local governments. Table 1 provides more detailed information.

Table 1. Site and Business Information for Region 3 Sites in Reuse and Continued Use (2023)

	Sites[a]	Sites with Businesses	Businesses[b]	Total Annual Sales	Total Employees	Total Annual Employee Income
In Reuse	*62*	*33*	*129*	*$412 million*	*2,956*	*$183 million*
In Continued Use	*23*	*9*	*9*	*$347 million*	*870*	*$62 million*
In Reuse and in Continued Use	*83*	*39*	*395*	*$2.6 billion*	*9,419*	*$740 million*
Totals	***168***	***81***	***533***	***$3.4 billion***	***13,245***	***$985 million***

[a] 32 sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.

[b] Also includes other organizations such as government agencies, nonprofit organizations and civic institutions. Business information is not available for all businesses on all Superfund sites in reuse or continued use. Throughout this report, sales and annual employee income may not sum exactly to the totals presented due to rounding.

Property Values and Property Tax Revenues

Properties cleaned up under the Superfund program and returned to use have the potential to increase in value significantly. This increased value can boost property tax revenues, which help pay for local government operations, schools, transit systems and other public services. Site properties at the Crater Resources, Inc./Keystone Coke Co./Alan Wood Steel Co. site in Pennsylvania are now valued at nearly $68.4 million.

Identifying increases in property values and property taxes following cleanup and reuse is challenging. This is due to several factors, including limited data on past property values and the frequency and timing of local property value assessments. Likewise, many factors affect property values, including external economic and neighborhood factors not related to a site's contamination or Superfund status. It is also difficult to isolate the effects of Superfund cleanup and redevelopment using current property values. However, these values do provide insight into the current value of Superfund properties and the potential loss in economic value if the properties were not cleaned up and made available for reuse or continued use.

Region 3 Sites in Reuse and Continued Use: Property Value and Tax Highlights

$853M

total property value

$14M

total annual property taxes

Figure 10. Residential development at the Former Nansemond Ordnance Depot site (Virginia).

The EPA has collected property value and tax data for 84 Superfund sites in reuse and continued use in Region 3.[4] These sites span 2,360 property parcels and 8,925 acres. They have a total property value of $853 million. The average total property value per acre is $94,032.

Land and improvement property value information is available for 76 sites. These properties have a total land value of $206 million and a total improvement value of $589 million.[5]

Property tax information is available for 84 sites. The properties generate a combined $14 million in local property taxes annually.

Table 2. Property Value and Tax Information for Sites in Reuse and Continued Use in Region 3[a]

Total Land Value (76 sites)	Total Improvement Value (76 sites)	Total Property Value (84 sites)	Total Property Value per Acre (84 sites)[b]	Total Annual Property Taxes (84 sites)
$206 million	$589 million	$853 million	$94,032	$14 million

[a] Results are based on an EPA Superfund Redevelopment Program effort to collect on-site property values and property taxes for a subset of Superfund sites. The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which varied from 2021 to 2024. Throughout this report, property and tax values may not sum exactly to the totals presented due to rounding.

[b] Based on total property value amount for sites that have acreage information divided by total acreage of 8,925.

4 There are 84 additional sites in reuse or continued use in Region 3 for which the EPA does not have property value or tax data, including 32 NPL federal facilities.

5 Property values consist of land value and the value of any improvements (buildings and infrastructure) placed on a property. When sites are redeveloped, some or all of these improvements may be new or already in place. In some cases, the breakdown showing the land value and improvement value is not always available; only the total property value may be available.

BENEFICIAL EFFECTS FROM ENHANCED RECREATIONAL AND ECOLOGICAL AMENITIES

In addition to hosting commercial developments, retail centers and industrial facilities, many Region 3 sites in reuse and continued use provide recreational and ecological benefits. Green space and habitat reuses help attract visitors and residents and indirectly contribute to local economies.

Figure 11. A baseball/softball field in Chisman Creek Park at the Chisman Creek site (Virginia).

Careful planning can enable the integration of green spaces and habitat into site cleanup plans, resulting in the transformation of contaminated properties into valuable community and wildlife assets. Green spaces are integral components of sustainable communities – they help protect the environment and human health while providing other social and economic benefits. Parks, community gardens and other public green spaces create opportunities for people to gather, exercise and connect with nature. The creation of green spaces and habitat at once-contaminated properties serves to re-introduce ecosystems and biodiversity into urban and suburban landscapes by providing corridors for migrating species and preserving habitat. They can also mitigate stormwater runoff problems by slowly absorbing and naturally filtering stormwater, resulting in improved water quality due to decreased runoff and erosion.

Parks, natural areas and scenic landscapes also have great economic value – supporting regional economies through tourism, agriculture and other activities. Economic impacts of recreation activities can include outdoor recreation spending and reduced public costs related to healthcare and infrastructure. In 2021, outdoor recreation contributed $862 billion to the U.S. economy, supporting 4.5 million jobs and 1.9% of the total gross domestic product (GDP). Outdoor recreation's contribution to the GDP grew 18.9% compared to the overall economy that grew 5.9% in 2021.[5] Protected green space can also increase the property values of nearby homes by providing amenities that draw people to live and work in the community. Many sites in Region 3 provide recreational and ecological benefits.

3 State of the Outdoor Market, Fall 2022. Outdoor Industry Association. Available at www.outdoorindustry.org/wp-content/uploads/2022/12/OIA-State-of-the-Outdoor-Market-Report-Fall-2022.pdf.

CROYDON TCE

Nature Preserve Wins EPA Reuse Award Following Groundwater Cleanup

The Croydon TCE Superfund site is in Bristol Township, Pennsylvania. In 1985, the EPA found contamination at the site after an investigation at a neighboring industrial plant discovered a plume of groundwater contamination in the vicinity. Groundwater was contaminated with various solvents and degreasers, affecting eight residential wells. Harmful chemicals detected include volatile organic compounds (VOCs). No source of the contamination was identified.

Figure 12. Land preserved by the Heritage Conservancy at the Croydon TCE site (Pennsylvania).

The EPA added the site to the National Priorities List (NPL) in 1986. The EPA led a human health risk assessment in 1990. It found that exposure to contaminated groundwater posed an unacceptable risk to people using well water. Cleanup began in 1989 and included the connection of affected homes to the public water supply, extraction and treatment of contaminated groundwater, institutional controls and groundwater monitoring. The EPA and the Pennsylvania Department of Environmental Protection (PADEP) are exploring ways to address remaining groundwater contamination.

Ownership of the site property, known locally as Croydon Woods, transferred from Dow Chemical to the Heritage Conservancy in 2016. In 2019, the conservancy opened Croydon Woods Nature Preserve to the public. The preserve is one of the last remaining coastal plain forests in Pennsylvania. It provides green space to the community and habitat for local wildlife. Area schools and clubs visit the preserve for field trips and education opportunities.

In 2019, the EPA recognized the Heritage Conservancy with its Excellence in Site Reuse Award. Future plans for the preserve include the addition of more trails, a pollination station and a bat house. Other site uses include recreational amenities such as athletic fields and walking trails, as well as residential, commercial, ecological and industrial areas.

LOWER DARBY CREEK AREA

Wildlife Refuge at Former Landfill Supports Ecological and Recreational Reuse

The Clearview and Folcroft Landfills, the source areas of the Lower Darby Creek Area Superfund site in southeast Pennsylvania, were active from the 1950s to the 1970s. They accepted municipal, demolition and hospital wastes. Waste disposal practices contaminated Darby Creek and Cobbs Creek, wetlands, groundwater, soil and fish with hazardous chemicals. The EPA added the site to the National Priorities List (NPL) in 2001.

Figure 13. The evapotranspiration cover and mitigation wetland at Eastwick Regional City Park at the Lower Darby Creek Area site (Pennsylvania).

In 2011 and 2012, the EPA addressed high levels of polychlorinated biphenyl (PCB) and polycyclic aromatic hydrocarbon (PAH) contamination along the southern part of the Clearview Landfill by leading a time-critical removal action. This included the removal and off-site disposal of nearly 4,000 tons of waste. The EPA expanded the removal action in 2016 to excavate contaminated soils from 31 residential properties adjacent to Clearview. The Clearview Landfill cleanup, selected in the 2014 Record of Decision for Operable Unit 1 (OU-1 ROD), began in 2017. It included excavation and consolidation of contaminated soils and waste, capping of the landfill with an innovative evapotranspiration (ET) cover, mitigation wetland construction and stormwater management. During

the cleanup, the EPA removed over 25,000 tons of contaminated soil from the Eastwick neighborhood and remediated nearly 200 residential properties. Cleanup of the Eastwick Regional City Park began in 2019 and included excavation of contaminated soil and restoration with new grass, trees and a berm that helps to manage stormwater. The park now serves as a recreational path that is part of the East Coast Greenway. Construction of the landfill cap was completed at the end of 2023 and resulted in 46 acres of new ET cover, 4.5 acres of new mitigation wetlands and over 4,000 feet of restored streambank.

A group of potentially responsible parties (PRPs) has completed the remedial investigation at the Folcroft Landfill. The investigation identified potential ecological risks from contaminants in soil on the landfill and groundwater contamination in the shallow aquifer beneath the landfill and John Heinz National Wildlife Refuge. Contaminants include trichloroethene (TCE) and 1,4-dioxane. The PRP-led feasibility study is currently in development and is expected to be finalized in 2025.

In December 2021, the EPA selected the site to receive $30 million in cleanup funding under the Bipartisan Infrastructure Law (BIL). The funding was used to accelerate cleanup activities at the Clearview Landfill, leading to construction of the remedy for OU-1 more than a year ahead of schedule. Today, the OU-1 ET cover and wetlands provide ecological reuse and have already seen a substantial improvement in wildlife diversity since remedy construction. The U.S. Fish and Wildlife Service (USFWS) and Department of Interior own the Folcroft Landfill as part of John Heinz National Wildlife Refuge, the first urban wildlife refuge in the United States. The EPA is currently working with USFWS and the U.S. Geological Survey (USGS) to evaluate aquatic areas within the refuge that are potentially impacted by historic releases from the site. Refuge activities include emergent wetland management, invasive species management and other wildlife conservation efforts. It offers interactive education opportunities as well as fishing, canoeing and more than 10 miles of hiking trails. Over 150,000 people visit each year. The refuge is home to hundreds of plant and animal species. The National Audubon Society has designated it as an Important Bird Area.

Why Are Wetlands Economically Important?

Superfund site reuse can support wetland habitat, as seen at several sites in Region 3. Restoration of wetland areas at the Avtex Fibers, Inc. site in Front Royal, Virginia has resulted in a return of native vegetation, wildflowers, butterflies and birds including the prairie warbler and the great blue heron. The Smithsonian Institution and the Friends of the Shenandoah River also do species assessments and counts at the site. At the Tybouts Corner Landfill Superfund site in New Castle, Delaware, cleanup restored contaminated lands to natural habitat and native vegetation. The potentially responsible parties used wildflowers and native grasses to stabilize the ground and prevent erosion on the landfill cap. The Dorney Road Landfill site in Upper Macungie Township, Pennsylvania includes 14 acres of wetlands, including about seven acres of open-water habitat. The wetlands support native plants and attract a wide range of waterfowl and pollinators.

Figure 14. Pond and wetlands at the Avtex Fibers, Inc. site (Virginia).

Wetlands provide a variety of benefits. The combination of shallow water, high levels of nutrients and primary productivity is ideal for organisms that form the base of the food web and feed many species of fish, amphibians, shellfish and insects. Wetlands are extremely effective in removing pollutants from water and acting as filters for future drinking water. Wetlands play a role in reducing the frequency and intensity of floods. They can store large amounts of carbon. They also provide recreational amenities.

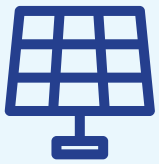
These benefits also have economic value. Replacing wetlands' water treatment services with manmade facilities, for example, would be expensive. Worldwide, wetlands provide an estimated $47.2 trillion in ecosystem services. To learn more, see:

- EPA's *Economic Benefits of Wetlands*: www.epa.gov/sites/default/files/2021-01/documents/economic_benefits_of_wetlands.pdf
- EPA's *Ecosystem Services at Superfund Sites: Reuse and the Benefit to Community:* https://semspub.epa.gov/src/document/HQ/100003256
- EPA's *Why Are Wetlands Important?*: www.epa.gov/wetlands/why-are-wetlands-important
- EPA's *Functions and Values of Wetlands*: www.epa.gov/sites/default/files/2021-01/documents/functions_values_of_wetlands.pdf

BENEFICIAL EFFECTS FROM ALTERNATIVE ENERGY PROJECTS

Alternative energy projects provide a range of beneficial effects. They support construction and operations jobs, spur local investment for manufacturing and materials, create benefits for landowners in the form of land lease and right-of-way payments, lower energy costs, and reduce greenhouse gas emissions. They also help hedge against energy price and supply volatility, support local business competitiveness and technology supply chain development, provide outreach and public relations opportunities for site owners and communities, and contribute to broader economic development planning. Alternative energy projects at Superfund sites and other contaminated lands help support White House priorities to strengthen resilience to climate change and increase access to clean energy sources. These projects also can help communities reclaim and return contaminated lands to productive uses, while supporting the EPA's mission to protect human health and the environment.

As of September 2023, the EPA is tracking three alternative energy projects at three Superfund sites in Region 3. These projects have an installed capacity of about 15 megawatts. One of these projects directly powers site-related cleanup activities.



3
Solar Projects

Alternative energy projects tracked in **Region 3** generate an estimated **19,931 megawatt hours** each year.[6] This is equivalent to the following emission reductions...

13,924 metric tons of carbon dioxide

The carbon dioxide emissions from **1,816** homes' energy use for one year

The greenhouse gas emissions from **3,314** gasoline-powered passenger vehicles driven for one year

6 Equivalencies were calculated using power production. Production values were not available for one project in Region 3. Estimated power production for solar projects was calculated using facility capacity (megawatts) with the National Renewable Energy Laboratory's PVWatts Calculator pvwatts.nrel.gov. To learn more about equivalencies, visit www.epa.gov/energy/greenhouse-gas-equivalencies-calculator.

ENVIRONMENTAL JUSTICE AND ECONOMIC REVITALIZATION

Communities with environmental justice concerns are disproportionately affected by environmental pollution and hazards and typically include marginalized, underserved, low-income groups and people of color, including Tribal and indigenous people. Superfund cleanups and redevelopment are opportunities to evaluate how to reduce impacts on these communities and, through meaningful community involvement efforts, engage communities in productive dialogue to increase local benefits through reuse opportunities that meet community needs.

In 2021, President Biden issued two executive orders – Executive Order 13985 (Advancing Racial Equity and Support for Underserved Communities Through the Federal Government) and Executive Order 14008 (Tackling the Climate Crisis at Home and Abroad). The executive orders directed federal agencies to develop and implement policies and strategies that strengthen compliance and enforcement, incorporate environmental justice considerations in their work, increase community engagement, and ensure that at least 40% of the benefits from federal investments in climate and clean energy flow to underserved communities.

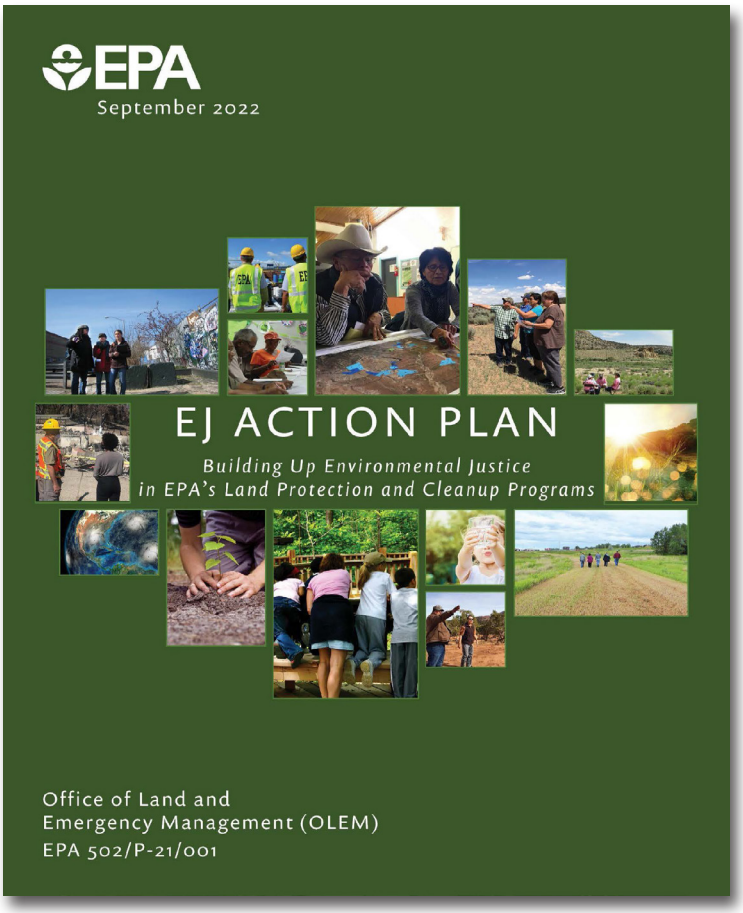


Figure 15. The EPA's EJ Action Plan aims to address cleanup issues in overburdened communities across the country.

The EPA has taken this charge to heart and, in September 2022, issued the *EJ Action Plan: Building Up Environmental Justice in EPA's Land Protection and Cleanup Programs (EJ Action Plan)*, intended to address land cleanup issues in overburdened communities across the country. The plan includes strategies to enhance nearly two dozen projects while addressing the need for stronger compliance, increased environmental justice considerations in EPA regulations, and improved community engagement. The plan also complements the recommendations for integrating environmental justice into the cleanup and redevelopment of Superfund and other contaminated sites highlighted in the May 2021 National Environmental Justice Advisory Council (NEJAC) report, *Superfund Remediation and Redevelopment for Environmental Justice Communities*.

In addition, the EPA is using investment from the Bipartisan Infrastructure Law to fund new cleanup projects and expedite ongoing cleanup at over 100 Superfund sites across the country. As of early 2024, nearly 80% of the funding from the Bipartisan Infrastructure Law has gone to sites in communities with potential environmental justice concerns. This historic investment will finance cleanup at 15 sites in Region 3.

CLIMATE ADAPTATION AT SUPERFUND SITES

Remedies at contaminated sites may be vulnerable to the impacts of climate change and extreme weather events. The EPA's Superfund program has developed an approach that raises awareness of these vulnerabilities and applies climate change and weather science as a standard operating practice in cleanup projects. The approach involves periodic screening of Superfund remedy vulnerabilities, prioritizing the Superfund program's steps to adapt to a changing climate, and identifying measures to assure the climate resilience of Superfund sites. The EPA is working to ensure that its programs, policies, rulemaking processes, enforcement and compliance assurance activities, and operations consider the current and future impacts of climate change and how those impacts may disproportionately affect overburdened and underserved communities.

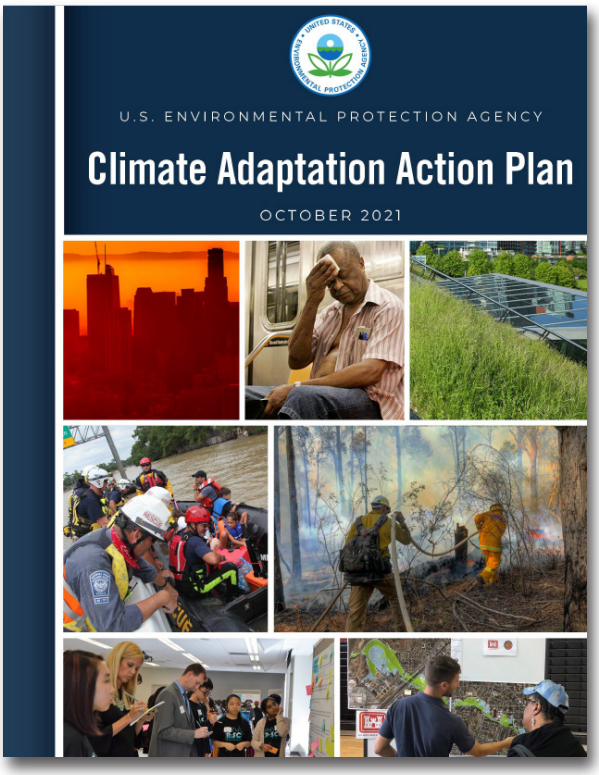


Figure 16. In January 2021, President Biden signed Executive Order 14008, requiring federal agencies to develop climate action plans that describe their climate vulnerabilities and steps to increase resilience to the impacts of climate change. In October 2021, the EPA released its updated Climate Adaptation Action Plan, which includes five climate adaptation priority actions that the Agency is taking to increase human and ecosystem resilience as disruptive impacts associated with climate change increase.

The EPA's Superfund program has done studies to identify potential vulnerabilities of cleanup actions and evaluate strategies to mitigate these vulnerabilities. In 2012, the EPA did a preliminary vulnerability assessment of all NPL sites. The EPA found that a significant number of the sites were susceptible to flooding associated with sea-level risk or floodplain proximity. A 2018 EPA study assessed the status of remedies in place at 251 Superfund sites in EPA Regions 2, 4 and 6 that were exposed to tropical-force winds or flooding associated with three major hurricane events the previous year. It found that climate resiliencies built into the remedies implemented at these sites were critical to successfully maintaining long-term protectiveness. These studies have helped inform climate adaptation planning for the Superfund program.

Strategies for mitigating vulnerabilities and increasing remedy resilience in light of climate change may apply to existing or planned remediation systems. The strategies also may be applied to cleanups conducted under other regulatory programs or through voluntary efforts to increase remedy resilience to the potential effects of climate change.

Examples of climate adaptation measures that increase resiliency include:

- Vegetating landfill cap covers with native plants provides a ground cover that is tolerant of local seasonal temperature and precipitation extremes and mniimizes the need for maintenance, such as mowing and watering.
- Designing and constructing capping systems to withstand significant storm and flood events.
- Raising the elevation of critical electrical instrumentation for remedial components and using water-tight materials to construct and protect remedial components.
- Restoring wetlands to reduce wave action in floodplain and intertidal zones to minimize erosion from storm events.
- Integrating specifications regarding tolerance of extreme weather and other natural hazards into building and remedial infrastructure designs.
- Routinely reassessing site vulnerability to wildfires and implementing resilience measures as recommended by firefighting agencies.

GREEN INFRASTRUCTURE AND SUSTAINABLE LANDSCAPE AND BUILDING PRACTICES AT SUPERFUND SITES

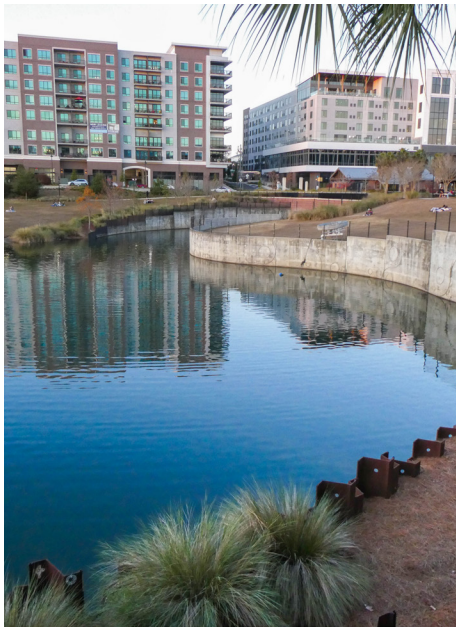
Cleaning up Superfund sites and planning for their future use offers communities opportunities to explore exciting and innovative ways to approach infrastructure, landscape and building design. Collaboration among the EPA and communities has led to award-winning examples of green infrastructure and sustainable landscape and building projects at Superfund sites across the country.

Examples of green infrastructure include ponds, stream corridors, rain gardens, green roofs and porous pavement. Green infrastructure helps manage stormwater naturally, reduces flood risk, improves air and water quality, and addresses climate change. It provides many of the same functions as traditional "grey" infrastructure, often at a fraction of the cost. It uses plants, soil, landscape design and engineered techniques to retain, absorb, filter and reduce polluted stormwater runoff. These features cut down on the need to send stormwater into overburdened, aging sewer systems, while enhancing water quality and conservation, flood-risk mitigation, habitat diversity and access to green space. Green infrastructure also enhances local quality of life for communities with Superfund sites, providing attractive green spaces, public parks and trails, and natural habitats in once-contaminated areas. Recent projects also show how reusing Superfund sites to link regional natural resources together and create interconnected landscapes provides a unique sense of place that attracts people, jobs and investment.

Sustainable landscapes, much like green infrastructure, restore and recreate natural processes, enabling water conservation, water filtration and irrigation. Sustainable building practices result in facilities that minimize energy and water use and rely on environmentally friendly materials. Projects using these approaches follow a variety of methods to improve air, soil and water quality, while also addressing urban heat island effects. By providing new habitats and reducing the use of materials that affect native plant and animal populations, sustainable buildings and landscapes support biological diversity and site stewardship. Greening once-contaminated areas also supports economic revitalization through new jobs, amenities and services, recreational assets and housing.

Key Considerations

- Green infrastructure projects rely on a detailed assessment of the area's natural resources, including waterways, forests, agricultural areas and habitat, and the services they provide.
- Early consideration of community priorities and existing initiatives is an important part of green infrastructure planning. Working with diverse stakeholders locally and regionally makes sure projects identify all linkage opportunities and any potential issues.
- Superfund reuse projects can incorporate sustainable landscape and building best practices at different scales. Some features require skilled labor and significant investment. Other efforts, such as putting in rain gardens, natural lighting and energy-efficient appliances, are simple to implement and offer significant returns.
- Reducing impervious areas – conventional pavement and roofs – is a key part of innovative projects. Using porous materials such as permeable pavers allows rain to soak into the soil, preventing sewer overflows, flooding and stream erosion.



Green infrastructure and sustainable landscape and building projects include features such as rain gardens, green roofs and permeable pavers to reduce the amount of stormwater entering sewers; "floodable" parks to provide drainage areas during major storm events; green space, parks and trails to support walkable communities; buildings using high-efficiency and environmentally friendly materials; and LEED-certified facilities.

A.I.W. FRANK/MID-COUNTY MUSTANG
Cleanup Paves the Way for New Housing Developments

The A.I.W. Frank/Mid-County Mustang Superfund site is in Exton, Pennsylvania. It includes the 15-acre A.I.W. Frank property and the 1-acre Mid-County Mustang property. From 1962 to 1981, facilities at the A.I.W. Frank property made Styrofoam cups and plates. An appliance manufacturing company bought the property in 1981. It produced refrigerators, freezers and warming cabinets. The 1-acre property at the site has hosted auto repair and body shop services since the 1940s. Solvents and degreasers used at the auto shop went into floor drains. Improper disposal of use solvents and degreasers contaminated soil and groundwater at both properties.

In 1985, the owners of the Mid-County Mustang property sealed the floor drains with cement, dug up contaminated soil in the drain field and shipped it off-site for proper disposal. The EPA added the site to the National Priorities List (NPL) in 1989. Cleanup included the extension of a public water supply line in 2000, treatment of contaminated groundwater, removal and disposal of contaminated soil and debris, and institutional controls. Groundwater treatment and monitoring are ongoing. In 2015, the township rezoned both site properties to allow residential and commercial office uses.

Today, the site hosts commercial and residential areas, including the Lochiel Farm housing development. The developer of Lochiel Farm worked closely with the EPA and the Pennsylvania Department of Environmental Protection to ensure the integrity of the remedy and protection of human health throughout site development. All new homes at Lochiel Farm include vapor-mitigation systems to make sure residents are not exposed to site contaminants. Another housing development, Summerhill (originally Exton Knoll), is under construction on-site. Summerhill adjoins the Chester Valley Trail and Exton Park and includes several amenities for residents, including a 7,700 square-foot clubhouse with a pool. When completed, the two housing projects will provide about 460 new residential units in the community. An auto services business is also active on-site.

Figure 17. The Lochiel Farm Housing Development at the A.I.W. Frank/Mid-County Mustang site (Pennsylvania).

DELAWARE CITY PVC PLANT
Former PVC Plant Now Hosts Industrial Business Park

The Delaware City PVC Plant Superfund site is in New Castle County, Delaware. From about 1966 to 1981, Stauffer Chemical Company produced polyvinyl chloride (PVC) at a plant on-site. PVC manufacturing by Formosa Plastics continued until 2018. Facility operations included disposing of PVC wastes and sludge in earthen lagoons and pits. In 1982, sampling found contamination in a water supply well on a nearby property. Waste disposal practices resulted in contamination of soil, groundwater and nearby wetlands.

The EPA added the site to the National Priorities List (NPL) in 1983. In 1986, the EPA selected the remedy for site contamination. Remedy construction took place from 1988 to 2001. It included pumping and treating contaminated groundwater, digging up contaminated materials and soil for off-site disposal, capping former waste management areas, cleaning and repairing plant areas used for wastewater treatment, and connecting affected businesses and homes to the public water supply. Groundwater treatment significantly reduced contamination in the plant area and nearby areas to the north and west. The EPA is in the process of selecting a remedy to address groundwater contamination flowing to the east and modifying the existing remedies to include institutional controls. The groundwater is not being used in the public water supply, and restrictions are in place to prevent its future potable use. Groundwater monitoring is ongoing to ensure remedies in place continue to be protective.

Cleanup set the stage for the site's successful redevelopment. Today, the area is home to Delaware Logistics Park (DLP). It includes four industrial-use buildings that offer 2 million square feet of distribution and fulfillment space. The state provided DLP's developer, NorthPoint Development, with a $3.9 million capital expenditure grant in 2019. DLP now hosts business tenants that support several hundred jobs. Additional distribution centers are expected to open at DLP in coming years, bringing more jobs to the area.

Other site uses include an automotive dealership and a telecommunications utility service center. The former on-site plastics manufacturing plant was demolished in 2020 and put up for sale. That large expanse of vacant property provides additional opportunities for site redevelopment. Agricultural, industrial and commercial land uses remain active above site areas affected by groundwater contamination. Together, the site's continued use and reuse have bolstered the regional economy and attracted new businesses to the area.

Figure 18. Dart Container's facility for packaging products for the food service industry at the Delaware City PVC Plant site (Delaware).

FORMER NANSEMOND ORDNANCE DEPOT
Restoration and Redevelopment Efforts Earn EPA Reuse Award

The Former Nansemond Ordnance Depot (FNOD) Superfund site, originally known as Pig Point Ordnance Depot, is in Suffolk, Virginia. The U.S. Army built FNOD during World War I and operated it for military purposes through 1960. FNOD was used for munitions storage, shipment, classification, reconditioning, loading and destruction. After World War II, the U.S. Navy used FNOD for the destruction of explosives, ammunition and chemicals. These practices resulted in widespread contamination of soil, sediment and groundwater. After the depot closed down in the early 1960s, Tidewater Community College opened on-site. In the 1980s, officials found explosive TNT and other munitions waste around the property. Site inspections in the late 1980s and 1990s found extensive contamination in disposal pits, fill and demolition areas, an on-site landfill, holding tanks, trenches, and an offshore dumping area extending from the low tide line to 1 mile offshore.

Starting in 1988, several emergency response and removal actions addressed immediate threats to human health and the environment. The EPA added the site to the National Priorities List (NPL) in 1999. The U.S. Army Corps of Engineers (USACE) is the lead agency for cleanup, with oversight from the EPA and the Virginia Department of Environmental Quality. Of the 21 separate projects initiated at the site, 12 have been completed. While site investigations and cleanup activities continue across several site areas, redevelopment initiatives in recent years have incentivized community involvement, revitalized the local economy and brought hundreds of jobs to the site.

Today, after extensive cleanup and redevelopment, the site hosts a variety of businesses and amenities that benefit area communities. Commercial and industrial businesses on-site include the 708,000-square-foot Ashley Capital Bridgeway Business Center, restaurants, hotels and healthcare centers. The site also hosts several public services, including the Hampton Roads Sanitation District (HRSD) wastewater treatment plant, offices for the Virginia Department of Social Services and private schools. HRSD is home to the Sustainable Water Initiative for Tomorrow (SWIFT) Research Center, which opened its doors in May 2018. It initiated SWIFT to protect the region's environment and to enhance the local groundwater supply through sustainable methods. SWIFT reserves highly treated water that would otherwise be discharged to local waterways and filters it through advanced carbon-based treatment processes to meet drinking water quality standards. The water is then added to the Potomac Aquifer, the primary source of groundwater for eastern Virginia. Once SWIFT is fully implemented in 2032, HRSD intends to recharge the Potomac Aquifer with up to 100 million gallons per day.

In November 2021, Brookwood Capital Partners (BCP) broke ground on a 45-acre development spanning the former Main Burning Ground area and the GE Pond area at the site. BCP worked with the EPA, USACE, the Virginia Department of Environmental Quality (VDEQ) and other stakeholders to ensure that cleanup of the area supported the future vision for the property. The 338,000-square-foot RoadOne IntermodaLogistics facility opened on site in 2023. Construction and operation of the facility created more than 300 jobs. In September 2023, EPA Region 3 recognized Brookwood Capital Partners and Hana Engineers and Consultants, LLC with its Excellence in Site Reuse award for their innovation and cooperation in returning the site to beneficial use.

The site also supports a wide range of new housing developments, with more residential development underway. Looking forward, additional cleanup projects will open the door for expanded business and community opportunities. Ongoing planning and collaboration among government partners, the private sector and community members will help ensure that public health, environmental protection and economic growth remain core components of long-term revitalization at the site.

Figure 19. Exterior view of the RoadOne IntermodaLogistics facility at the Former Nansemond Ordnance Depot site (Virginia).

HAVERTOWN PCP
Former Industrial Area Supports New Businesses, Public Health and Recreation

The 12-acre Havertown PCP Superfund site is located in Haverford Township, Pennsylvania. From 1947 to 1991, National Wood Preservers operated a wood treatment facility on site. Improper disposal of wood-treating process wastes contaminated soil, sediment and groundwater. The EPA added the site to the NPL in 1983. To date, the EPA has removed contaminated materials and capped areas to protect public health. In April 2024, the EPA started construction on a new, larger groundwater treatment plant to address site-related groundwater contamination. The 10,000 square-foot plant will have an increased treatment capacity of 175 gallons per minute and is expected to treat about 82 million gallons of groundwater per year. Groundwater treatment and monitoring are ongoing during construction of the new plant. The EPA is working closely with Haverford Township to keep the community informed about the project and to minimize construction-related impacts to the area.

Today, parts of the site remain in continued use and support new uses. Philadelphia Chewing Gum Company closed its on-site plant in 2003. Recognizing the opportunity presented by a large, developable parcel in an underserved area, the YMCA approached Haverford Township about using the property for a new gymnasium. The YMCA worked with EPA and Haverford Township on plans for the site's redevelopment. Crews began construction in May 2012 and the 80,000-square-foot Haverford Area YMCA facility opened in October 2013. Serving 24,000 members, the facility features an indoor track, gymnasium, swimming pools, a childcare area, a 10,000-square-foot wellness center and classrooms. In October 2015, the YMCA facility received EPA Region 3's 2015 Excellence in Site Reuse Award.

In 2015, reuse of the National Wood Preservers portion of the site west of North Eagle Road moved forward. A Mr. Storage self-storage facility was built on top of the 3-acre cap installed in 1997. The EPA, the state and Haverford Township reviewed construction plans and monitored the project to make sure it did not impact the protectiveness of the cap or the operation of the groundwater treatment system. Construction of the 21,000-square-foot, 3-story facility finished in 2016. The storage facility's slab built over the cap helps further protect the site's remedy. Once a blighted and abandoned former industrial area, the Havertown PCP site has been restored to productivity as a bustling hub that supports businesses, recreation and public health.

Figure 20. Mr. Storage facility at the Havertown PCP site (Pennsylvania).

REDEVELOPMENT ON THE HORIZON IN REGION 3

DRAKE CHEMICAL
Former Chemical Plant Site Will Soon Be Home to a Restored Public Park

The Drake Chemical Superfund site is in Lock Haven, Pennsylvania. A chemical plant was active on-site from the 1960s to 1981. The facility included six buildings, 10 chemical storage tanks and four lagoons used for wastewater treatment. Improper waste disposal practices contaminated soil, groundwater and structures with hazardous chemicals. The EPA added the site to the National Priorities List (NPL) in 1983.

As part of cleanup, the EPA removed 1,700 exposed drums and drained and neutralized tanks that were filled with chemical compounds. In 1986, the EPA dug up contaminated soil from a stream area and directed the runoff into a sewer line. Structures were demolished and taken off-site for disposal in 1988. Over 295,000 tons of contaminated soil from other areas of the site were dug up and treated in an on-site incinerator. Processed soil was backfilled on-site and mixed with compost to facilitate the growth of newly planted grass. Remedy construction finished in 2000. The institutional controls required by the remedy are in place and groundwater treatment and monitoring are ongoing.

Castanea Township owns several parcels at the southern end of the site, known as Lower Creek Road Park. The park, which includes two Little League fields and a pavilion, has not been in use for several years. The Chestnut Grove Recreation Authority is working with the township to reopen the area as the Robbie Gould Youth Sports Complex. Project partners anticipate that the facility will host youth baseball players from across the region. The complex will include six baseball fields, a playground and parking areas. The park development plans are compatible with the site's remedy. The EPA will continue to collaborate with the Pennsylvania Department of Environmental Protection and the site's potentially responsible parties during park development. The site also supports a commercial storage facility and parking for a trucking business.

Figure 21. Park signage at the Drake Chemical site (Pennsylvania).

HELLERTOWN MANUFACTURING CO.
Former Manufacturing Plant to Host New Medical Facility

The Hellertown Manufacturing Co. Superfund site is in Hellertown, Pennsylvania. From 1930 to 1975, the Hellertown Manufacturing Company made spark plugs at the site. Workers put industrial wastes from zinc plating, chrome dip, cleaners and cutting oils in unlined lagoons. Trichloroethylene (TCE), a volatile organic compound and known carcinogen, was among these industrial wastes. Disposal practices led to the contamination of soil and groundwater with hazardous chemicals. The EPA added the site to the National Priorities List (NPL) in 1989.

The EPA placed an impermeable cover over the former lagoon area in 1994. In 1996, a groundwater extraction and treatment system was put in place. The groundwater treatment system operated consistently until 2012, when it became damaged. The EPA and the Pennsylvania Department of Environmental Protection (PADEP) evaluated the groundwater contaminant levels and decided not to restart the treatment system. A vapor intrusion study conducted from 2008 to 2010 found no vapor intrusion threat to off-site properties nearby. Because numerous monitoring wells met the criteria, PADEP abandoned them in 2021. Limited groundwater monitoring is ongoing, and land and groundwater use restrictions are in place at the site.

The EPA has been in discussions with the state and the property owner since early 2022 about the reuse of the property. The owner is working with a developer who would like to build a 3-story medical building on-site. Conceptual drawings and preliminary plans have been submitted to the EPA, which provided a comfort letter to the developer. Hellertown's Planning Commission approved the project in September 2023. The proposed facility will expand the Lehigh Valley Health Network and provide the community with a three-story, 22,000-square-foot “micro-hospital”. Plans for the facility include 11 emergency beds and 10 in-patient beds, hosting an estimated 10,000 to 12,000 patients a year. Medical offices will be located on its upper floors. As of May 2024, the existing manufacturing building has been demolished and the crushed masonry has been stockpiled on site for reuse. The developer is currently awaiting final approval of their land development documents.

Figure 22. Elevation drawings for a proposed medical building at the Hellertown Manufacturing Co. site (Pennsylvania). Image used with permission of Cerminara Architect.

CONCLUSION

The EPA works closely with its partners at Superfund sites across Region 3 to make sure sites can safely be reused or remain in continued use during and following cleanup. The EPA also works with businesses and organizations at Superfund sites throughout the cleanup process to make sure they can remain open.

The businesses and organizations at these sites provide jobs and income for communities and generate local and state taxes. Cleanup and redevelopment also helps stabilize and boost property values. There are 160 NPL sites and eight non-NPL Superfund sites in Region 3 that have either new uses in place or uses that have remained in place since before cleanup. Future uses are planned for many more Superfund sites in Region 3. The EPA remains committed to working with all stakeholders to support Superfund redevelopment opportunities in Region 3.

Figure 23. A disc golf course at Jackson Recreational Park at the Whitmoyer Laboratories site (Pennsylvania).

The redevelopment of Superfund sites takes time and is often a learning process for project partners. Ongoing coordination among the EPA, Tribes, state agencies, local governments, communities, potentially responsible parties, site owners, developers, and nearby residents and business owners is essential. EPA tools, including reuse assessments and plans, comfort letters and partial deletions of sites from the NPL, often serve as the foundation for moving forward. At some sites, parties may need to take additional actions to ensure reuses are compatible with site remedies.

Across Region 3, Superfund sites are now home to major commercial and industrial facilities, mid-size developments and small businesses providing services to surrounding communities. The EPA is committed to working with all stakeholders to support the restoration and renewal of these sites as long-term assets.

EPA Superfund Redevelopment Resources

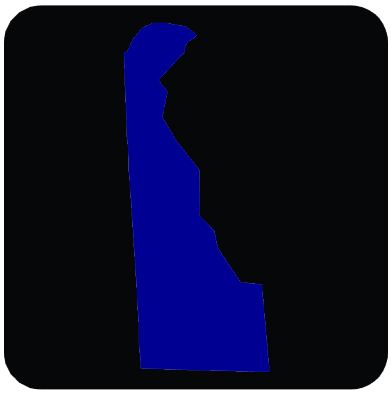
EPA Region 3 Superfund Redevelopment Coordinator
Jaclyn Kondrk | (215) 814-3358 | kondrk.jaclyn@epa.gov

Superfund Sites in Reuse: find more information about Superfund sites in reuse
www.epa.gov/superfund-redevelopment/find-sites-reuse

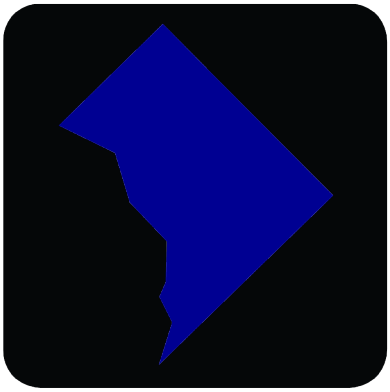
EPA Superfund Redevelopment Program Website: tools, resources and more information about Superfund site reuse
www.epa.gov/superfund-redevelopment

EPA Office of Site Remediation Enforcement Website: tools that address landowner liability concerns
www.epa.gov/enforcement/landowner-liability-protections

STATE REDEVELOPMENT PROFILES





DELAWARE REDEVELOPMENT PROFILE

The EPA partners with the Delaware Department of Natural Resources and Environmental Control to oversee the investigation and cleanup of Superfund sites in Delaware. Delaware has 18 Superfund sites with either new uses in place or uses that have remained in place since before cleanup. The sections below present economic data, property values and tax data for sites in reuse or continued use in Delaware.

Businesses and Jobs

The EPA has collected economic data for 91 businesses and organizations operating on 11 sites in reuse or continued use in Delaware.

Table 3. Detailed Site and Business Information for Sites in Reuse and Continued Use in Delaware (2023)

	Sites[a]	Sites with Businesses	Businesses	Total Annual Sales[b]	Total Employees	Total Annual Employee Income
In Reuse	*9*	*5*	*15*	*$10 million*	*141*	*$7 million*
In Continued Use	*2*	*2*	*2*	*$2 million*	*10*	*$1 million*
In Reuse and in Continued Use	*7*	*4*	*74*	*$300 million*	*1,931*	*$139 million*
Totals	***18***	***11***	***91***	***$312 million***	***2,082***	***$147 million***

[a] One site is a federal facility. Federal facility sites are excluded from all other detailed site and business data presented above.
[b] Annual sales figures are not available (or applicable) for every organization that makes jobs data available.

Property Values and Property Tax Revenues

The EPA has collected property value data for 11 Superfund sites in reuse or continued use in Delaware. These sites span 169 property parcels and 911 acres.

Table 4. Property Value and Tax Information for Sites in Reuse and Continued Use in Delaware[a]

Total Land Value (11 sites)	Total Improvement Value (11 sites)	Total Property Value (11 sites)	Total Annual Property Taxes (11 sites)
$10 million	*$74 million*	*$84 million*	*$2 million*

[a] The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which was 2023 for all data collected.

Figure 24. Halby Chemical Co. site (Delaware).

Did You Know?

Wastewater from a chemical manufacturing and storage facility contaminated sediments and groundwater at the Halby Chemical Co. Superfund site in New Castle, Delaware. Successful cleanup in 2002 allowed several auto and trucking businesses to move on-site. These businesses support about 50 employees and generate over $6.8 million in sales annually.

MARYLAND REDEVELOPMENT PROFILE

The EPA partners with the Maryland Department of Environment to oversee the investigation and cleanup of Superfund sites in Maryland. Maryland has 18 Superfund sites with either new uses in place or uses that have remained in place since before cleanup. The sections below present economic data, property values and tax data for sites in reuse or continued use in Maryland.

Businesses and Jobs

The EPA has collected economic data for eight businesses and organizations operating on four sites in reuse or continued use in Maryland.

Table 5. Detailed Site and Business Information for Sites in Reuse and Continued Use in Maryland (2023)

	Sites[a]	Sites with Businesses	Businesses	Total Annual Sales[b]	Total Employees	Total Annual Employee Income
In Reuse	*7*	*4*	*8*	*$19 million*	*270*	*$13 million*
In Continued Use	*1*	*0*	*-*	*-*	*-*	*-*
In Reuse and in Continued Use	*10*	*0*	*-*	*-*	*-*	*-*
Totals	***18***	***4***	***8***	***$19 million***	***270***	***$13 million***

[a] Nine sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.
[b] Annual sales figures are not available (or applicable) for every organization that makes jobs data available.

Property Values and Property Tax Revenues

The EPA has collected property value data for seven Superfund sites in reuse or continued use in Maryland. These sites span 12 property parcels and 231 acres.

Table 6. Property Value and Tax Information for Sites in Reuse and Continued Use in Maryland[a]

Total Land Value (7 sites)	Total Improvement Value (7 sites)	Total Property Value (7 sites)	Total Annual Property Taxes (7 sites)
$4 million	*$4 million*	*$8 million*	*$105,139*

[a] The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which varied from 2023 to 2024.

Figure 25. Woodlawn County Landfill site (Maryland).

Did You Know?

A municipal landfill was once active at the Woodlawn County Landfill Superfund site in Colora, Maryland. The area now hosts environmental education resources for the community. Local schools and the Boy Scouts and Girl Scouts of America visit the site's wildlife area for nature and science projects.

PENNSYLVANIA REDEVELOPMENT PROFILE

The EPA partners with the Pennsylvania Department of Environmental Protection to oversee the investigation and cleanup of Superfund sites in Pennsylvania. Pennsylvania has 97 Superfund sites with either new uses in place or uses that have remained in place since before cleanup. The sections below present economic data, property values and tax data for sites in reuse or continued use in Pennsylvania.

Businesses and Jobs

The EPA has collected economic data for 337 businesses and organizations operating on 51 sites in reuse or continued use in Pennsylvania.

Table 7. Detailed Site and Business Information for Sites in Reuse and Continued Use in* Pennsylvania *(2023)

	Sites[a]	Sites with Businesses	Businesses	Total Annual Sales[b]	Total Employees	Total Annual Employee Income
In Reuse	*36*	*17*	*80*	*$366 million*	*2,366*	*$151 million*
In Continued Use	*17*	*6*	*6*	*$332 million*	*850*	*$60 million*
In Reuse and in Continued Use	*44*	*28*	*251*	*$2.1 billion*	*5,953*	*$494 million*
Totals	***97***	***51***	***337***	***$2.8 billion***	***9,169***	***$705 million***

[a] Seven sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.
[b] Annual sales figures are not available (or applicable) for every organization that makes jobs data available.

Property Values and Property Tax Revenues

The EPA has collected property value data for 57 Superfund sites in reuse or continued use in Pennsylvania. These sites span 1,793 property parcels and 6,788 acres.

Table 8. Property Value and Tax Information for Sites in Reuse and Continued Use in Pennsylvania[a]

Total Land Value (49 sites)	Total Improvement Value (49 sites)	Total Property Value (57 sites)	Total Annual Property Taxes (57 sites)
$164 million	*$448 million*	*$670 million*	*$11 million*

[a] The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which varied from 2022 to 2024.

Figure 26. Saegertown Industrial Area site (Pennsylvania).

Did You Know?

Industrial manufacturing operations at the Saegertown Industrial Area Superfund site in Saegertown, Pennsylvania, led to the contamination of a municipal supply well. Industrial activities continued at the site during cleanup. An adhesive and urethane coating manufacturer recently expanded its facility on-site. The business supports over 150 employees and generates nearly $45 million in annual sales.

VIRGINIA REDEVELOPMENT PROFILE

The EPA partners with the Virginia Department of Environmental Quality to oversee the investigation and cleanup of Superfund sites in Virginia. Virginia has 24 Superfund sites with either new uses in place or uses that have remained in place since before cleanup. The sections below present economic data, property values and tax data for sites in reuse or continued use in Virginia.

Businesses and Jobs

The EPA has collected economic data for 62 businesses and organizations operating on nine sites in reuse or continued use in Virginia.

Table 9. Detailed Site and Business Information for Sites in Reuse and Continued Use in Virginia (2023)

	Sites[a]	Sites with Businesses	Businesses	Total Annual Sales[b]	Total Employees	Total Annual Employee Income
In Reuse	*6*	*4*	*22*	*$18 million*	*170*	*$12 million*
In Continued Use	*1*	*0*	*-*	*-*	*-*	*-*
In Reuse and in Continued Use	*17*	*5*	*40*	*$160 million*	*1,256*	*$94 million*
Total	***24***	***9***	***62***	***$178 million***	***1,426***	***$106 million***

[a] 11 sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.
[b] Annual sales figures are not available (or applicable) for every organization that makes jobs data available.

Property Values and Property Tax Revenues

The EPA has collected property value data for five Superfund sites in reuse or continued use in Virginia. These sites span 164 property parcels and 687 acres.

Table 10. Property Value and Tax Information for Sites in Reuse and Continued Use in Virginia[a]

Total Land Value (5 sites)	Total Improvement Value (5 sites)	Total Property Value (5 sites)	Total Annual Property Taxes (5 sites)
$16 million	*$36 million*	*$52 million*	*$170,432*

[a] The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which was 2023 for all data collected.

Figure 27. Abex Corp. site (Virginia).

Did You Know?

From 1928 to 1978, the Abex Corporation/Railroad Products Group (Abex) ran a brass and bronze foundry in the area now known as the Abex Corp. Superfund site. The disposal of foundry waste sands and emissions from the smelting furnaces contaminated site soil, surrounding residential yards, a playground and a rehabilitation center. Cleanup by the site's potentially responsible party paved the way for new development. Today, the site supports a fire department headquarters, a police training facility, a shopping center with numerous tenants, a gas station and a beverage distribution center.

WEST VIRGINIA REDEVELOPMENT PROFILE

The EPA partners with the West Virginia Department of Environmental Protection to oversee the investigation and cleanup of Superfund sites in West Virginia. West Virginia has nine Superfund sites with either new uses in place or uses that have remained in place since before cleanup. The sections below present economic data, property values and tax data for sites in reuse or continued use in West Virginia.

Businesses and Jobs

The EPA has collected economic data for 35 businesses and organizations operating on six sites in reuse or continued use in West Virginia.

Table 11. Detailed Site and Business Information for Sites in Reuse and Continued Use in* West Virginia *(2023)

	Sites[a]	Sites with Businesses	Businesses	Total Annual Sales[b]	Total Employees	Total Annual Employee Income
In Reuse	*3*	*3*	*4*	*-*	*9*	*$1 million*
In Continued Use	*2*	*1*	*1*	*$12 million*	*10*	*$1 million*
In Reuse and in Continued Use	*4*	*2*	*30*	*$19 million*	*279*	*$13 million*
Total	***9***	***6***	***35***	***$31 million***	***298***	***$15 million***

[a] Two sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.
[b] Annual sales figures are not available (or applicable) for every organization that makes jobs data available.

Property Values and Property Tax Revenues

The EPA has collected property value data for four Superfund sites in reuse or continued use in West Virginia. These sites span 222 property parcels and 307 acres.

***Table 12. Property Value and Tax Information for Sites in Reuse and Continued Use in* West Virginia[a]**

Total Land Value (4 sites)	Total Improvement Value (4 sites)	Total Property Value (4 sites)	Total Annual Property Taxes (4 sites)
$12 million	*$26 million*	*$38 million*	*$628,045*

[a] The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which varied from 2022 to 2023.

Figure 28. Fike Chemical, Inc. site (West Virginia).

Did You Know?

Chemical processing wastes in lagoons and burial areas at the Fike Chemical, Inc. Superfund site in Nitro, West Virginia, contaminated soil and groundwater. Cleanup included removal of hazardous materials and soils, surface and groundwater treatment, and capping. Companies now use capped parts of the site for tanker trucks and employee parking.

DISTRICT OF COLUMBIA REDEVELOPMENT PROFILE

The EPA partners with the District of Columbia's Department of Energy & Environment to oversee the investigation and cleanup of Superfund sites in Washington, D.C. The District of Columbia has 2 Superfund sites with either new uses in place or uses that have remained in place since before cleanup. The sections below present economic data, property values and tax data for sites in reuse or continued use in the District of Columbia.

Businesses and Jobs

The EPA has collected economic data for zero businesses and organizations in the District of Columbia.

Table 13. Detailed Site and Business Information for Sites in Reuse and Continued Use in the District of Columbia (2023)

	Sites[a]	Sites with Businesses	Businesses	Total Annual Sales[b]	Total Employees	Total Annual Employee Income
In Reuse	*1*	*0*	-	-	-	-
In Continued Use	*0*	-	-	-	-	-
In Reuse and in Continued Use	*1*	*0*	-	-	-	-
Totals	***2***	***0***	**-**	**-**	**-**	**-**

[a] Two sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.
[b] Annual sales figures are not available (or applicable) for every organization that makes jobs data available.

Figure 29. Washington Navy Yard site (Washington, D.C.).

Did You Know?

The 63-acre Washington Navy Yard is in southeast Washington, D.C. It is the oldest continually operating U.S. Navy facility in the United States. It opened in 1799. Originally, it was a shipbuilding yard built on land set aside by presidential order. Today, it is an administrative, training, supply and storage facility. Several museums and parks are also on-site.

REUSE INFORMATION SOURCES

Write-ups of sites in reuse or continued use included in this profile are based on available EPA resources, including Superfund Redevelopment Program case studies as well as other resources. Links to the EPA's Superfund Redevelopment Program case studies and other resources are included below.

EPA Resources

Abex Corp. EPA Site Profile. www.epa.gov/superfund/abex

A.I.W. Frank/Mid-County Mustang. EPA Site Profile. www.epa.gov/superfund/aiwfrank

A.I.W. Frank/Mid-County Mustang. 2021. Fourth Five-Year Review Report. semspub.epa.gov/src/document/03/2314118

Croydon TCE. EPA Site Profile Page. www.epa.gov/superfund/croydon

Croydon TCE. 2020. Site Redevelopment Profile. semspub.epa.gov/work/HQ/403535.pdf

Croydon TCE. 2021. Fifth Five-Year Review Report. semspub.epa.gov/work/03/2321358.pdf

Delaware City PVC Plant. 2023. Draft Explanation of Significant Differences for OU1/OU2 and Proposed Plan for Record of Decision for OU3. semspub.epa.gov/work/03/2357304.pdf

Delaware City PVC Plant. 2022. Beneficial Effects Economic Case Study. semspub.epa.gov/work/HQ/100003004.pdf

Delaware City PVC Plant. 2019. Fifth Five-Year Review Report. semspub.epa.gov/src/document/03/2282846

Drake Chemical. EPA Site Profile. www.epa.gov/superfund/drake

Drake Chemical. 2023. Fifth Five-Year Review Report. semspub.epa.gov/work/03/2355123.pdf

Fike Chemical, Inc. EPA Site Profile. www.epa.gov/superfund/fike

Former Nansemond Ordnance Depot. Region 3 Excellence in Site Reuse Award Webpage. www.epa.gov/superfund-redevelopment/region-3-excellence-site-reuse-award

Former Nansemond Ordnance Depot. 2023. EPA Press Release. www.epa.gov/newsreleases/epa-recognizes-excellence-va-superfund-cleanup

Former Nansemond Ordnance Depot. 2024. Beneficial Effects Economic Case Study. semspub.epa.gov/work/HQ/100003486.pdf

Halby Chemical Co. EPA Site Profile. www.epa.gov/superfund/halby

Havertown PCP. EPA Site Profile. www.epa.gov/superfund/havertownpcp

Havertown PCP. 2010. Fourth Five-Year Review Report. semspub.epa.gov/work/03/2121541.pdf

Hellertown Manufacturing Co. EPA Site Profile. www.epa.gov/superfund/hellertown

Hellertown Manufacturing Co. 2020. Fifth Five-Year Review Report. semspub.epa.gov/work/03/2317258.pdf

Lower Darby Creek Area. EPA Site Profile. www.epa.gov/superfund/lowerdarby

Lower Darby Creek Area. 2022. Site Redevelopment Profile. semspub.epa.gov/work/HQ/100003154.pdf

Saegertown Industrial Area. EPA Site Profile. www.epa.gov/superfund/saegertown

Washington Navy Yard. EPA Site Profile. www.epa.gov/superfund/washingtonnavyyard

Woodlawn County Landfill. EPA Site Profile. www.epa.gov/superfund/woodlawn

Other Resources

A.I.W. Frank/Mid-County Mustang. Summerhill Development Website. www.livesummerhill.com/

Drake Chemical. 2022. The Record Article "Robbie Gould Youth Sports Complex site work taking shape." therecord-online.com/site/archives/85090

Drake Chemical. Chestnut Grove Recreation Authority Facebook page. www.facebook.com/p/Chestnut-Grove-Recreation-Authority-100065252900054/

Hellertown Manufacturing Co. 2023. Lehigh Valley News Article “Hellertown reviews LVHN’s proposal for micro-hospital.” www.lehighvalleynews.com/health-news/hellertown-reviews-lvhns-proposal-for-micro-hospital

Hellertown Manufacturing Co. 2024. KFF Health News Article “Micro-Hospitals Arrive In Pennsylvania To Fill Coverage Gaps.” kffhealthnews.org/morning-breakout/micro-hospitals-arrive-in-pennsylvania-to-fill-coverage-gaps/

Former Nansemond Ordnance Depot. WHRO Article “EPA Leaders Celebrate Progress at Suffolk Superfund Site.” www.whro.org/2023-09-19/epa-leaders-celebrate-progress-at-suffolk-superfund-site

Former Nansemond Ordnance Depot. 2023. Fact Sheet. usace.contentdm.oclc.org/digital/collection/p16021coll11/id/637/

Lower Darby Creek Area. USFWS John Heinz National Wildlife Refuge at Tinicum Website. www.fws.gov/refuge/john-heinz-tinicum/what-we-do

Lower Darby Creek Area. Friends of Heinz Refuge Website. fohrefuge.org/about-the-refuge

BUSINESS, JOBS, SALES AND INCOME INFORMATION

Information on the number of employees and sales volume for on-site businesses comes from the Hoovers/Dun & Bradstreet (D&B) (https://www.dnb.com) database. The EPA also gathers information on businesses and corporations from D&B. D&B maintains a database of over 330 million businesses worldwide.

When Hoovers/D&B research was unable to identify employment and sales volume for on-site businesses, the EPA used the ReferenceSolutions database (https://thereferencegroup.com). In cases where ReferenceUSA did not include employment and sales volume for on-site businesses, the EPA used the Manta database (https://www.manta.com). The databases include data reported by businesses. Accordingly, some reported values might be underestimates or overestimates. In some instances, business and employment information came from local newspaper articles and discussions with local officials and business representatives. While sales values typically exceed estimated totals of annual income, sales can sometimes be lower than estimated income. This can be attributed to a number of business conditions and/or data reporting.

The EPA obtained wage and income information from the U.S. Bureau of Labor Statistics (BLS). Part of the U.S. Department of Labor, the BLS is the principal federal agency responsible for measuring labor market activity, working conditions and price changes in the economy. All BLS data meet high standards of accuracy, statistical quality and impartiality.

The EPA used the BLS Quarterly Census of Employment and Wages database to obtain average weekly wage data for site businesses. Average weekly wage data were identified by matching the North American Industry Classification System (NAICS) codes for each type of business with weekly wage data for corresponding businesses in site counties. If weekly wage data were not available at the county level, the EPA sought wage data by state or national level, respectively. In cases where wage data were not available for the six-digit NAICS code, the EPA used higher-level (less-detailed) NAICS codes to obtain the wage data.

To estimate the annual income earned from jobs at site businesses, the EPA multiplied the average weekly wage figure by the number of weeks in a year (52) and by the number of jobs (employees) for each business.

Business and employment data used for this profile were collected in 2023. Estimated annual employment income was calculated using 2023 jobs data and BLS average weekly wage data for those jobs from 2022 (the latest available wage data at the time of this profile). Federal facility sites are included in calculations of total sites in reuse or continued use only. Federal facility sites are excluded from all other calculations (i.e., number of sites with businesses, number of businesses, total jobs, total income and total annual sales). All sales and income figures presented have been rounded for the convenience of the reader. Throughout this report, sales and annual employee income may not sum exactly to the totals presented due to rounding.

PROPERTY VALUE AND TAX INFORMATION

The EPA collected on-site property values and property taxes included in this profile for a subset of Superfund sites by comparing available site boundary information with available parcel boundary information and gathering information for selected parcels from county assessor datasets. The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which typically varied from 2022 to 2024. Throughout this report, property and tax values may not sum exactly to the totals presented due to rounding.

Back cover photos: Atlantic Wood Industries, Inc. (Virginia), Former Nansemond Ordnance Depot (Viginia), Lower Darby Creek (Pennsylvania).

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