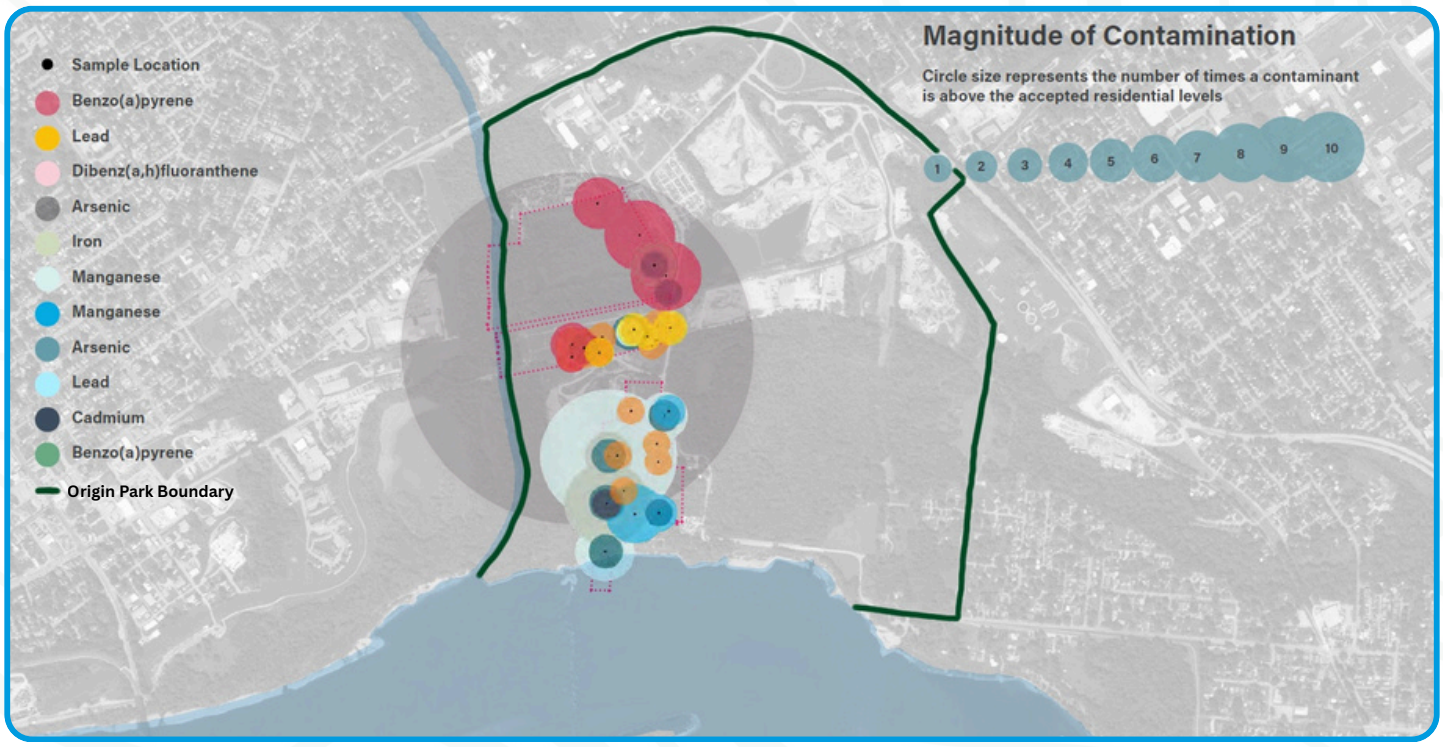
# Restoring Nature in origin park

The north bank of the **Ohio River** in Clarksville, Indiana, tells a story shaped by millennia of **natural and human activity**, from prehistoric peoples and migrating wildlife to early American settlers. Over the centuries, **industrial development** including **mills, factories, railroads**, and **landfills** reshaped the riverfront, leaving behind **brownfields** and **environmental challenges**. Through Origin Park, River Heritage Conservancy (RHC) is **transforming** this 400+ acre post-**industrial landscape** into a **sustainable** and **accessible park**, restoring ecological health, reconnecting communities to the river, and celebrating the Ohio River's rich cultural, environmental, and historical **legacy**.

Origin Park encompasses **Census Tract 504.01** (a certified **Opportunity Zone** (OZ)). It is bound to the South by a 3-mile stretch of the Ohio River, Silver Creek to the west, Highway US 31/I-65 to the east, and Brown Station Way to the north. The residents in this area live in modest neighborhoods adjacent to 400 acres of the area's brownfields including **junkyards, auto salvage, trash transfer stations, open dumps**, and other **industrial uses**. Clark community and catholic schools are located just blocks away from the site of Origin Park. Many of these brownfields are magnets for **vandalism, crime, illicit drug use**, and the **unhoused**. Since **2018**, RHC has been acquiring and subsequently assessing **brownfield sites** for the development of Origin Park. While the region continues its post-industrial economic revitalization, Origin Park is working to **restore this forgotten landscape** and **connect over 1.2 million people** to the shores of the **Ohio River.** According to **EPA's EJScreen** data, the **surrounding community** faces **elevated environmental** and **health burdens,** 48% of residents are low-income, 44% are people of color, and rates of asthma and disability exceed state averages highlighting the park's potential to **bring healing, access,** and **opportunity** to an **overburdened population.**

RHC has identified **30 existing and potential brownfields** (former manufacturing plants, salvage yards, open dumps) in the 400+ acre Origin Park Area. Previous environmental assessments conducted across the site have identified environmental contaminants that include **volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs)**, and **heavy metals** including **lead, arsenic, mercury, zinc** and other pollutants in the **soil, groundwater, and sediments**. Many of these sites are located two to three blocks from **neighborhoods** and exposure can potentially affect the **health** and **welfare of residents**, particularly sensitive populations, through direct contact, ingestion, and inhalation of contaminants.




## Brownfield Sites

The five sites below (map on page 6) serve as an example of the **assessment** and **cleanup efforts** required in transforming **Clarksville's formerly industrial riverfront** into the **vibrant** and **restored landscape** of Origin Park.

## Site 1: CAB-X

**CAB-X** is located in the floodplain of the north bank of the **Ohio River**, just blocks from **nearby homes**. The **21-acre site** was historically mined for soil, sand, and gravel as part of a highway construction project in Louisville. In 1980, the site operated as an **unregulated waste disposal facility** for over **30 years**. Reportedly, after leaving the site with mined material, returning trucks would dump **wastewater treatment sludge** from the Louisville Metropolitan Sanitary District on the site. The existing **landfill cap** is now **compromised**, and **contaminated leachate** is escaping. **Remediation work** on this site will focus on **repairing the cap, preventing leachate migration**, and remediating **contaminated site soils** (VOCs, metals, and methane) and **contaminated riverfront sediments** (arsenic, barium, lead, manganese, nickel, and zinc).

# Site 2: Marrs Landfill

Marrs Landfill is a **22 acre** site located 400 feet from the Ohio River to the south, 300 feet from Silver Creek on the west, adjacent to CAB-X landfill on the east, and the Ohio River Greenway on the North. Once an agricultural site, it was eventually mined for soil, sand, and gravel followed by **brick reclamation** operations and **open dumping** in the late 1960s. Throughout the 1970's, the site was inspected by the Indiana State Board of Health (now identified as the Indiana Department of Environmental Management) and the Clark County Health Department where inspections identified evidence of open dumping of various solid wastes.

*Image of leachate eruption on Western side*

Because of this, environmental investigations associated with **illegal** open dumping and **landfilling operations**, including inspections and the collection of soil samples and drum contents, have been conducted periodically on the site since the 1980s. Evidence of operations as an unpermitted landfill and registered complaints in the 1980s resulted in the identification and subsequent removal of **15 buried drums** and In 2011, **65,000 cubic yards of contaminated soil** and **13,720 cubic yards of concrete** were removed from the site.

*Images of stockpiled soil and debris*

Landfill operations **ceased** in 2023 after a **cease-and-desist** order was issued by **IDEM**. Site investigations that same year identified concentrations of volatile organic compounds (**VOCs**), semi-volatile organic compounds (**SVOCs**), **pesticides**, polychlorinated biphenyls (**PCBs**), and **metals** (aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, zinc, and cyanide) **above** their respective laboratory **reporting limits.** Contaminated runoff (**leachate**) was also documented to be leaching from the site onto the western and eastern adjoining site and into the nearby Silver Creek with identified **concentrations** of several **metals** above their respective laboratory **reporting limits**.

# Site 3: Marshall's Auto


*The images above capture the Marshall's Auto brownfield site's journey from its original state to a restored landscape.*

**Marshall's Auto** was once an **auto salvage yard**. The **10.5 acre site** is located near **Silver Creek** and within a **half mile** of the **Ohio River**. It's also near **residential** neighborhoods and a catholic high **school**. The salvage yard had operated since the late 1960s and ceased operations in October 2022. Numerous **junk cars, piles of scrap metal, miscellaneous equipment,** and **containers of automotive fluids** have been stored throughout the site. **Aboveground storage tanks (ASTs)** were also used to store **gasoline, diesel and used oils**. The site had been issued numerous **violations** from the **Indiana Department of Environmental Management (IDEM)** for **water** and **solid waste** and **open dumping violations**; releases of **oil from car crushers**, absence of a **spill prevention plan**, and no **auto salvage yard license**. **Contaminants of Concern (COCs)** are **RCRA metals** including **lead** and **arsenic** in soil. Site contaminants include **naphthalene** in soil and **arsenic and lead** in the groundwater.

# Site 4: Kentuckiana Wood Products

**Kentuckiana Wood Products** (KWP) is a **1.7 acre site** located less than **400ft from the Ohio River** and immediately adjacent to the **103 acres** of Buttonbush Woods. Historically the site had been agricultural land, a pallet manufacturer, dumpster service, and most recently an **automotive repair shop** and **salvage yard**. The site possessed numerous **junk cars** and **heaps of scrap metal, car batteries,** various **containers of fluids, solvents, paints, urethane reducers, muriatic acid**, as well as a variety of **compressed gas cylinders**. ASTs were used to store **gasoline**, **diesel, and spent oil**s. COCs are RCRA metals including **arsenic and lead** in the **groundwater** as well as **migrating contaminants** from the north western **adjoining property of CAB-X**.


*The images above depict the KWP brownfield site before cleanup and after completion, showcasing the park's dedication to environmental renewal.*

# Site 5: Graveyard Auto

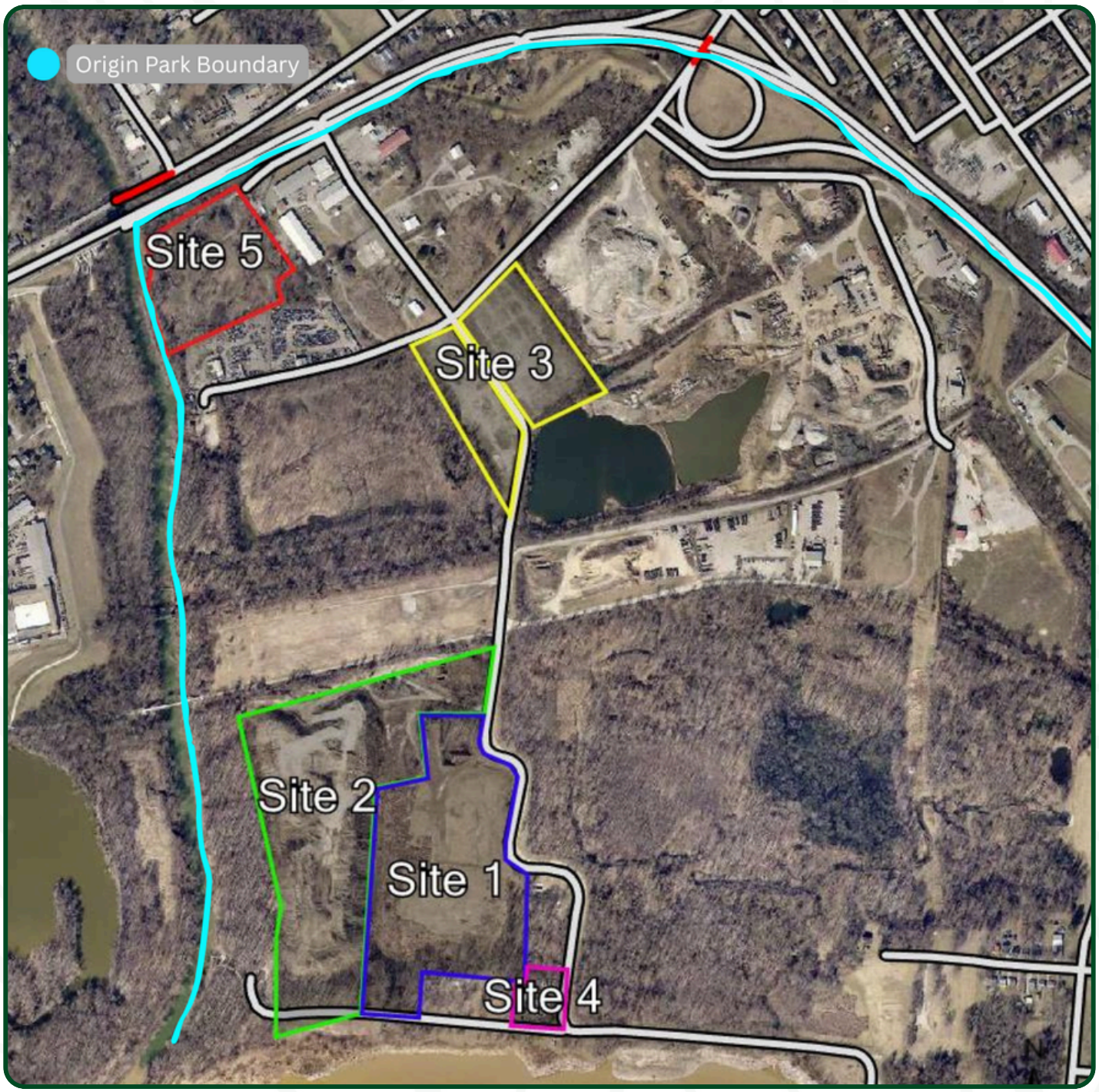
**Graveyard Auto** (Graveyard) is an **8.2 acre site** adjacent to **Silver Creek** on the West, Brown Station Way and **residential housing** to the North, and **industrial businesses** and **residential housing** on the East and South. The Graveyard Site operated as a **trailer park** and then subsequently as an **automobile salvage yard** (Graveyard). The site had a **storied history of environmental issues**, including a 1998 Indiana Department of Environmental Management (IDEM) investigation and citation of **open burning of 100,000 tires**, which generated **emissions and particulate contaminants** of **lead, benzene, methyl ethyl ketone (MEK), pyridine, tetrachloroethylene** and **trichloroethene.**

| | |
|---|---|
| **4,026.65** | tons of lead, arsenic, and iron-contaminated soil |
| **5** | drums of hazardous solid waste |
| **26** | drums of flammable liquid waste |
| **1** | drum of corrosive solids |
| **11** | drums of waste paint |
| **18** | drums of non-RCRA regulated solid waste |
| **5** | gallons of PCB waste |
| **30** | pounds of fluorescent bulbs |
| **2.14** | tons of RCRA empty drums |
| **83.3** | tons of construction debris |
| **12** | batteries |
| **332,026** | pounds of scrap metal |
| **19.84** | tons of tires |
| **1,862** | tires were recycled. |
| **1** | above Ground Storage Tanks |

*Materials removed from the Graveyard Auto brownfield site during remediation.*

In 2019, the **US EPA** were called in to conduct **time critical removal activities** which involved the removal of **metal-contaminated surficial soil**, one aboveground storage tank (AST), and numerous other hazardous wastes. COCs are **benzo(a)pyrene, arsenic** and **lead** in **soil** and **RCRA metals** and **naphthalene** in the **groundwater**.

# Referenced Brownfield Sites




*Map highlighting the five brownfield sites discussed within the Origin Park footprint.*

RHC unveiled the **Origin Park Master Plan** schematics and specifications in August 2020 which aligns with the Town's vision for the West Riverfront. RHC and the Town have been working together to individually **acquire brownfields sites** and **assess and remediate existing environmental contamination** in the footprint of Origin Park. To date, RHC alone has **invested $10.6 MM** acquiring sites, many of which are designated **brownfields sites**. RHC and the Town continue to work closely with local, state, and federal agencies to ensure that environmental contamination is addressed appropriately.

# Sustainability and Ecology

Origin Park, designed by Philadelphia's **OLIN Studios**, is the **first park of its kind** in the upper south and Midwest and is an **intentionally planned amphibious park**, designed to **accept floods**. It **heals the landscape** and then allows it to function as a **sponge** by flexing with **floodwaters**. Biological inventories of the park found over **180 species of birds**, **20 species of mammals**, and select **wildlife and plants** on the **Threatened and Endangered Species List**.

Origin Park is a **sustainable approach** to **regenerate ecology** along a **3-mile stretch of the Ohio River** with **50 acres** of **new urban forest**, **150 acres** of **new meadow and savanna**, and **250 acres of enhanced and protected urban forest**. The addition of **75,000 trees** will help cool neighborhoods and reduce the **"urban heat island effect"** in the Metro Area. This project will create the **largest new urban forest** in the United States in the last fifty years – and do so in a **region** that has been identified as an **urban center most negatively impacted** by the urban **heat island effect.**

> The changes that have been made to the Origin Park area have been dramatic. Once a blighted part of Southern Indiana, the area now is being restored to its natural beauty, one of the most interesting geological and historical sections in the United States.
> -Bob Grable, community member