

Prepared by:
Leslie Berger · LAND241



Site Analysis

Mill Race Park

Proposal to add natural play area



About Mill Race Park

Mill Race Park is located in downtown Columbus, Indiana on an active floodplain of the White River. After decades of recurring flooding issues, the city hired Michael Van Valkenburgh Associates to redesign the park into a viable community space featuring the iconic circular lake, amphitheater, covered bridge, 84-foot observation tower, and much more.

Geographic Context



City Outskirts

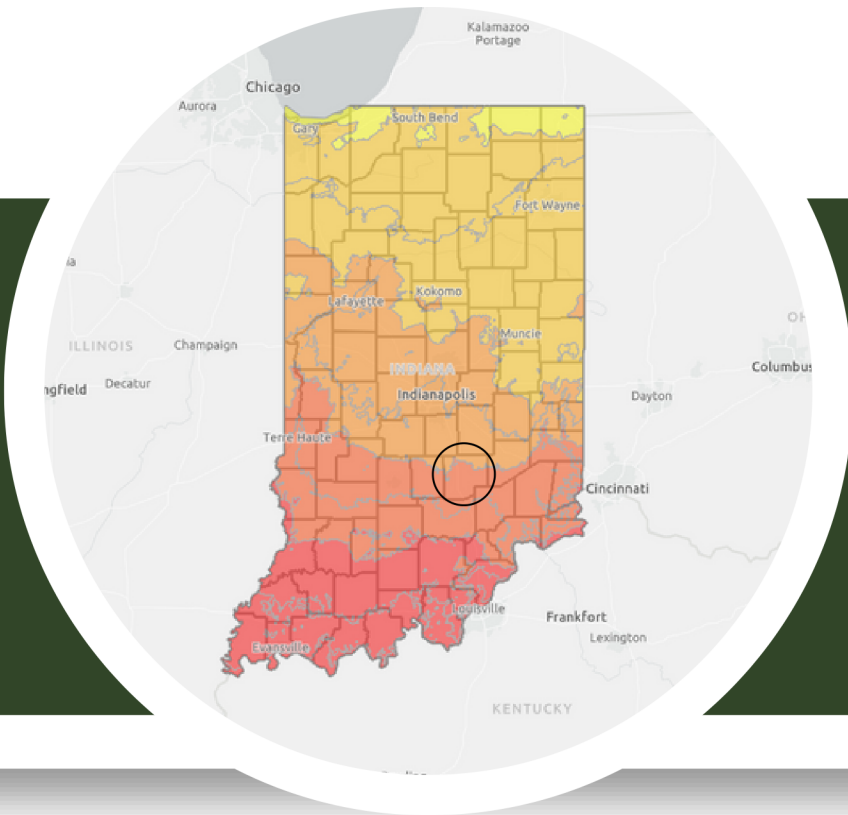
Mill Race Park is located on the southwest side of Columbus, separating the developed city life and agricultural areas surrounding.



America's Midwest

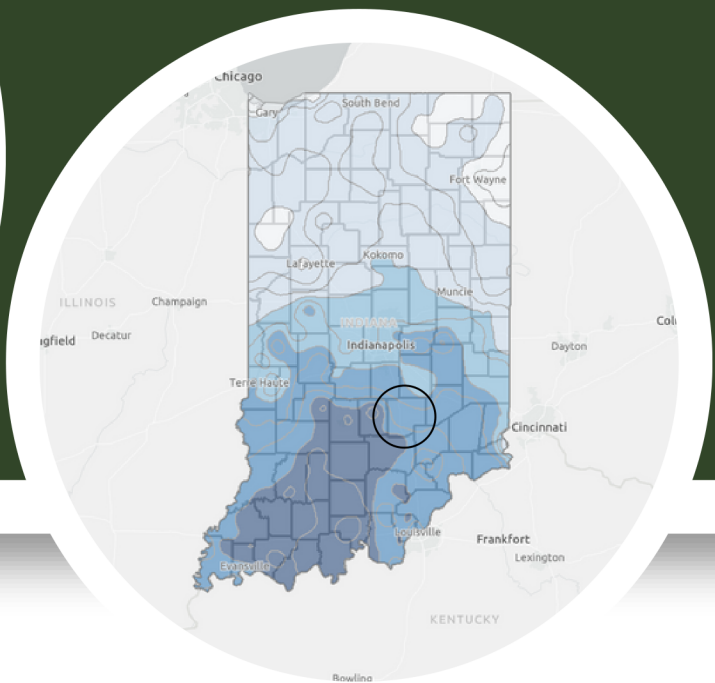
Indiana is one of several states that make up the Midwest, sitting just above the Appalachian Mountains. Indiana is considered part of the Great Plains, as well as the Corn Belt.

Geographic Context



Temperate Climate

Indiana boasts a temperate climate, with annual average high temperatures ranging from 57° F in the northern portion of the state to 67° F in the southern parts.



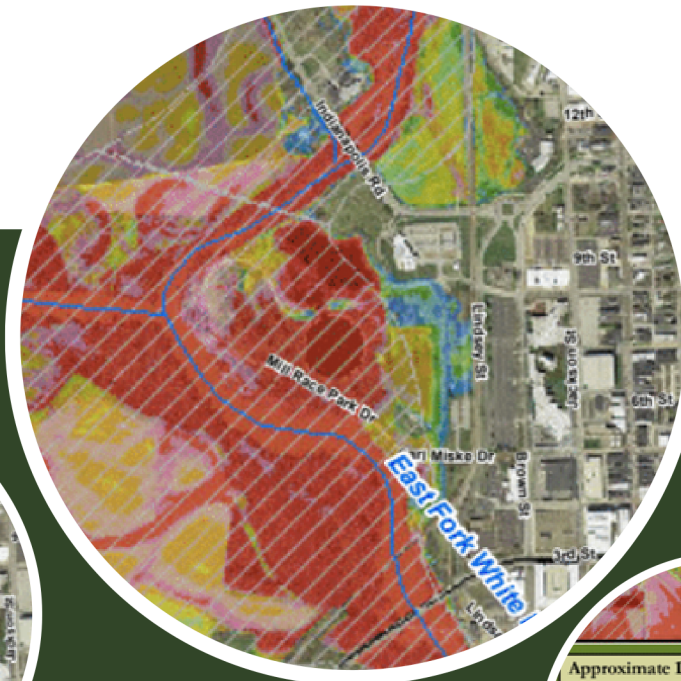
America's Midwest

Indiana's annual average precipitation ranges from 36" in the north to 48" in the south, which includes typically six months of snowfall with high frequency of severe spring storms.

100-year flood



10-year flood



500-year flood



Approximate Depth of Flooding (in feet)



City of Columbus Planning Jurisdiction

Effective Floodway (2014-12-09)

PROJECT NO.

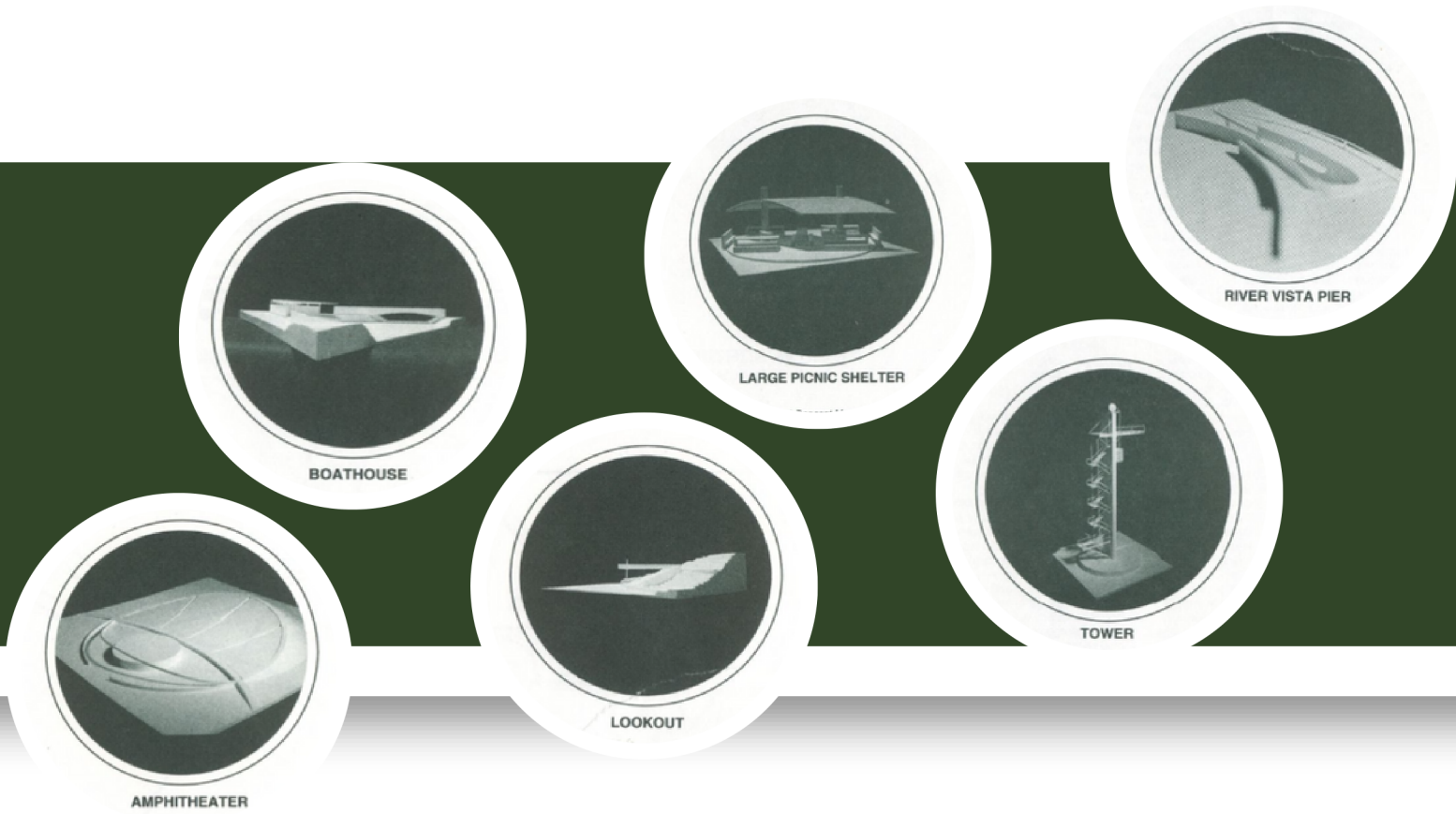
Floodplain Data

Flooding is the main focus of MVVA's design at Mill Race Park. Utilizing the flood hazard information that Columbus has put together, one can visualize how various flooding events would impact the park and surrounding areas. In a 10-year flooding event, roughly half of the park would be under 8+ feet of water, with a northern portion remaining unaffected. Looking at a 100-year flooding event would show over 75% of the park under 8 feet of water. This information is critical when deciding where to amend the topography or build structures - and how water resistant said structures need to be.



Site History

Before MVVA set out to create a top 100 park, the area to the southwest of Columbus, Indiana was once a dismal place to live. This area, affectionately called Death Valley, was an impoverished subdivision that repeatedly flooded and was constantly battling rat infestations. Residents had shelter, but nothing very stable, as each flooding event would cause immense damage. These residents were cut off from the rest of Columbus by the railroad, which ran dangerously close to some homes. Non-residential included a 26-acre gravel pit and a tannery, which added to the filthy conditions, repulsive smell, and numerous health issues. Due to the horrible living conditions and the frequent floods, many people perished over the century of Death Valley's existence.



Death to Design

The biggest hurdle facing this area was the frequent flooding, sometimes reaching 10 feet. There were few attempts to revitalize this land, but none were able to overcome the hurdle of Mother Nature - until Michael Van Valkenburgh Associates. MVVA chose to work with the threat of floods rather than against it. They were able to create a beautiful city park out of a seemingly tameless landscape.



Development

According to MVVA*, "the park's design integrates the annual flooding into the experience of the site." The firm worked to ensure that proper materials were carefully selected, creating an efficient design. When the Round Lake was dug, the fill was moved to create the amphitheater and berms that protect other parts of the site. The restroom walls were raised to allow for flood waters to flow unhindered. The current playground structure and the amphitheater are located in elevated and/or protected areas that the flood waters won't reach. MVVA carefully curated a variety of native plants and trees that can withstand the weather, even the heavily saturated soils post-flood.

*www.mvvainc.com



Smale Riverfront Park

Design Feature

The design feature proposed to be added to the Mill Race Park in Columbus, Indiana is a child's nature play area. This design will feature natural materials and landforms to create a unique play experience. Along with creating a one-of-a-kind play space, the natural materials will withstand the frequent flooding that this location experiences. This proposal utilizes the ideas that Sasaki and KZF Designs implemented at Smale Riverfront Park in Cincinnati, Ohio - another civic park facing similar flooding challenges. The proposed design feature could be created in various locations within Mill Race Park, but collecting pertinent data will help determine the best location(s) that will offer the highest quality experience. This analysis will include diagrams of all data layers, including pedestrian circulation, topography, floodplain, tree canopy, sun angles, surface drainage, and wind.



The proposed design location was determined based on all of the compiled data. The location was selected due to the lack of current activities on the north end of the park and the high point located there.