

## 2024 ASCE INDIANA SECTION PROJECT OF THE YEAR NOMINATION

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### Project Name and Location

Broad Ripple Avenue Improvement Project  
Indianapolis, Indiana

### Project History

Broad Ripple Village is one of seven cultural districts in the city with an important nightlife, dining, and local retail district and approximately 17,000 residents. The City of Indianapolis and the Broad Ripple Village Association (BRVA) had a desire for aesthetic improvements as well as addressing the recurrent flooding due to safety concerns and property damage. The history of drainage complaints stemmed from an almost entirely impervious surface, an undersized system, and no downstream capacity.

### Project Purpose and Details

The Broad Ripple Avenue project began as a dire need for stormwater improvements to the corridor to eliminate flooding on the street and adjacent businesses. The City's goal along Broad Ripple Avenue was also to create a safer, more pedestrian- and multi-modal friendly environment through the study corridor with greater trail access to nearby facilities while maintaining acceptable traffic operating conditions. Broad Ripple Avenue is a high-volume traffic corridor with commercial use from College Avenue to Compton Street and residential use from Compton Street to Primrose Avenue. The area is known for intense flooding during rain events with standing water on the street and to the faces of adjacent buildings.

### Project Description

Lochmueller Group's Roadway Design team designed approximately 0.7 miles of Broad Ripple Avenue from College Avenue to Winthrop Avenue, which is in a high-traffic, high-profile location at the western end of the Commercial District. The roadway is built-up and urban in nature, with high patronage of the adjacent businesses by vehicular and pedestrian traffic.

To meet the goal of a more accessible pedestrian corridor, the parking lane on the



Before Project Construction: Ponding water in the roadway and up to the face of buildings at 825 Broad Ripple Avenue.



Project "Digital Twin" renderings used for public meetings, showing new pavement, wider sidewalks, trees, and proposed storm infrastructure.

south side of the roadway was removed to accommodate a wider multi-use path to connect College Avenue to the Monon Trail.

Lochmueller's Roadway Design team, led by Jessica Hawley, worked closely with Lochmueller's Hydraulic Design team, led by Emily Nelson, and the City of Indianapolis to create solutions that meet the needs of stormwater collection as well as multi-modal mobility of the corridor. The challenge of a tight corridor and designing from building face to building face was overcome by altering the profile of the road, where possible, to get water to drain to the roadway instead of toward buildings, but also by implementing collection solutions within the sidewalk itself using permeable articulated blocks, developed by PaveDrain.

In addition to the improvements to Broad Ripple proper, the BRVA and the City partnered to fund a 12' wide multi-modal connection between the Monon Trail and Broad Ripple Park, located at Primrose Avenue east of the village. Douglas Valmore with Butler, Fairman & Seufert, Inc., (BF&S) lead the design of the River Walk trail and drainage improvements for the trail corridor. Coordination between BF&S, Lochmueller, BRVA, and Indianapolis DPW made combining the projects into one construction contract possible.

Project work included:

- » Centerline profile revisions to allow for widened sidewalk & drainage improvements.
- » Widening existing sidewalk on the south side of Broad Ripple Avenue by 9.5 feet to improve pedestrian accessibility & connect the new IndyGo Rapid Transit bus stop at College Avenue to the Monon Trail.
- » Design of curb ramps at all intersections within the project area to ensure compliance with modern ADA standards, as well as improving the Monon Trail crossing.
- » Major drainage improvements to address flooding conditions that were frequent & damaging.
- » Implementation of large water quality units to improve the outflow quality of stormwater into the White River.
- » Traffic signal modernization for five signals, including pedestrian signal and button upgrades.
- » Design of ornamental lighting to improve visibility and safety of the corridor, as well as provide a placemaking opportunity for the BRVA.
- » Design of a 12' wide trail connecting the Monon Trail and Broad Ripple Park.



**Articulated permeable blocks, PaveDrain, were used to collect stormwater within the sidewalks to provide ADA compliant slopes.**



Overall, the project positively impacted the community by enhancing regional connectivity, increasing multi-modal access, improving safety, improving drainage capacity and water quality, and maintaining community identity.

### **Project Costs**

Original Design Fee: \$1,153,690.00

Final Design Fee: \$1,153,690.00

Engineer's Estimate: \$6.4M

### **Name and Address of Engineer**

Lochmueller Group, Inc.  
3502 Woodview Trace, Suite 150  
Indianapolis, Indiana 46268

### **Name and Address of Owner**

City of Indianapolis  
Department of Public Works  
200 E. Washington Street  
Indianapolis, Indiana 46204

### **Name and Address of Contractor**

Rieth-Riley Construction Co., Inc.  
1751 W. Minnesota Street  
Indianapolis, Indiana 46221

### **Unique Characteristics of the Project**

Broad Ripple Avenue is home to many shopping destinations, restaurants, and nightlife throughout the project corridor. The prevailing uses of the project area and urban context of the built environment results in large numbers of pedestrians and multi-modal users in addition to vehicular traffic. Pedestrian access was necessary, flexible, and accommodating throughout construction using fencing and channelizers. Existing sidewalks remained open during storm sewer installation within the roadway. Pedestrian access was maintained on the roadway during sidewalk reconstruction, and business-focused signage was employed for pedestrian detours when necessary.

Due to the imperviousness of the area, the volume of stormwater to be collected required a 48" diameter storm sewer trunk line that was connected to an existing 144" diameter interceptor within Winthrop Avenue. Large water quality units were implemented to improve the outflow quality of stormwater into the White River. An in-line check valve was installed within the new connecting 48" diameter storm sewer to make sure no backflow would occur when the existing interceptor was at full flow.

To account for full flow in the interceptor, stormwater was designed to be rerouted along Westfield Boulevard in the instance of large storm events, giving Broad Ripple Avenue storm water relief even in heavy rain events.

The tight utility corridor called for cooperation between many entities. The large diameter stormwater pipe was thread between existing utilities where possible. Major relocations were required for gas and water



Two large diameter water quality structures were installed just west of Winthrop Avenue.

while existing signals were reused. Construction scheduling relied heavily on the coordination between Rieth-Riley Construction Co., Inc., and multiple utility companies.

The overhead AES electric corridor was kept in place along the south side of Broad Ripple Avenue within the widened sidewalk, saving the project years of time and millions of dollars. PaveDrain permeable pavers were installed within sidewalk areas and in line with the overhead electric poles to create a visual divide in the widened sidewalk along the corridor.

Public outreach included early design coordination, bi-weekly design meetings, public newsletters and websites, a City of Indianapolis Public Information Officer, and safety walks with the Mayor. During construction, Rieth-Riley Construction Co., Inc., and the City of Indianapolis were integral in keeping the public informed on construction activities and fielding communication regarding the day-to-day needs of businesses, such as delivery schedules, community events, and overall safety concerns.

### Plaque Recipients

Owner:

Brandon Herget  
City of Indianapolis  
Department of Public Works  
200 E. Washington Street  
Indianapolis, Indiana 46204

River Walk Engineer:

Douglas Valmore, PE  
Butler, Fairman, & Seufert, Inc.  
8450 Westfield Boulevard, Suite 300  
Indianapolis, Indiana 46240

Project Manager & Lead Engineer:

Jessica Hawley, PE  
Lochmueller Group, Inc.  
3502 Woodview Trace, Suite 150  
Indianapolis, Indiana 46268

Contractor:

Joshua Guerin  
Rieth-Riley Construction Co., Inc.  
1751 W. Minnesota Street  
Indianapolis, Indiana 46221



**Broad Ripple Avenue Post-Construction Conditions:**  
Wider, compliant sidewalks, PaveDrain stormwater collection, new ornamental lighting, trees and tree grates, some parking remaining on the north side.