

# VILLAGE OF KENILWORTH



## CHALLENGE:

Kenilworth Village, located 15 miles north of downtown Chicago in Cook County, is recognized for its opulence and distinctive village layout, which preserves its rural charm while leveraging its natural attributes. With an estimated population of 2,500, this North Shore community borders Lake Michigan, occupying about 0.8 miles of shoreline. Nevertheless, the village's idyllic location has posed an ongoing challenge: effectively managing stormwater and mitigating flooding. In 2008, record precipitation and saturated soils led to widespread flooding in the Midwest, leaving Kenilworth residents on affected streets with over 10 inches of standing water at the end of their driveways. It became evident that Kenilworth's previous 1920s-era combined storm-sanitary sewer systems were outdated, prompting the Public Works Department to initiate a two-phase revitalization project.

The goals of the project included:

- Enhance the capacity of the 1920's storm-sanitary sewer systems
- Leverage contemporary technologies and knowledge to address drainage limitations
- Create an aesthetic that harmonizes with the high-end residential style and costal backdrop
- Benefit the environment by reducing contaminant levels

## LOCATION:

Kenilworth, Illinois

## DESIGNER:

Village of Kenilworth

## INSTALLER:

LPS Pavement Co.

## PRODUCT:

Eco-Optiloc™





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Designed by The Village of Kenilworth, the revitalization unfolded in two phases. The first phase saw the installation of permeable asphalt and higher capacity storm sewers. While phase one demonstrated the expected performance by effectively managing heavy rain events, phase two warranted a more robust, long-term solution. Completion of the second phase marked the culmination of the 10-year Green Works Project, signing off on nearly 84,000 square feet of carefully selected Unilock Eco-Optiloc™ permeable pavers. The completed design employs all three solution systems to improve the management of stormwater and reduce its negative effects.



## SOLUTION:

Both beautiful and made with the same cutting-edge manufacturing standards as other Unilock products, permeable pavers are the modern solution for redirecting rainwater away from stormwater systems and back into the natural ecosystem. Unilock Eco-Optiloc pavers were selected for their proven performance and as an environmental solution for stormwater management. Manufactured with bumpers that create a 12mm joint width, they allow water to flow through the projects 24 inch deep subbase with bedding, base and subbase layers, effectively removing pollutants before reaching the soil. With the ability to infiltrate 912



inches of rain per hour, the 84,000 square feet of Eco-Optiloc can detain over 282,000 gallons during peak events. In addition to elevating the impact of severe weather events, permeable pavers also help reduce ice buildup. The water does not have the opportunity to pool on the surface and the heat from the earth below is able to radiate through the open-graded joints to help prevent freezing. This is a significant benefit for public streets where there is now less of a need for de-icing and where safety of road users is of the utmost concern.

The patented L-shape design of Eco-Optiloc also provides superior lock-up strength capable of withstanding even the heaviest loads. Ideal for Kenilworth's streetscape, it can reliably support daily vehicular traffic, emergency vehicles, buses and other heavy duty vehicles. Selected in the Series™ finish with the color Nordic Star, the exposed granite surface texture also offers an element of slip resistance, while the modern light grey hue complements the high-end residential style and costal backdrop.



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The collaborative design process and installation between the Village of Kenilworth, Unilock and LPS Pavement Co. facilitated a final product that lives up to the expectations. It maintains the neighborhood's aesthetic while offering a long lasting solution to the Village of Kenilworth's reoccurring stormwater challenges. Similar to how this project drew inspiration and support from the successful outcome of a PICP project installation in Georgia from 2014-15, there is optimism that this project will serve as a prime example for future endeavors.

