



## BLUFF STABILIZATION & CONSTRUCTION FOREST PARK BLUFF

### PROBLEM

When a bluff between a city park and Lake Forest Beach began to shift, city officials looked for a solution that would stabilize the bluff, while also adding a ramp for fully accessible, stroller-friendly access to the Lake Michigan beach. They wanted the work done without disruption to the park, the beach or the neighboring homeowners.

### SOLUTION

- » Access ramps were constructed using 2,621 tons of PGE stone material so that heavy equipment could access the work area at the top of the bluff from below to minimize disruption to residents and park visitors
- » A 1,128 linear foot retaining wall, including 6,639 square feet of precast concrete wall panels, was constructed along the top of the bluff
- » Concrete shafts were drilled for the construction of an accessible beach access ramp
- » 4,600 linear feet of wick drains were installed to redirect runoff away from the face of the bluff
- » 3,189 tons of stone backfill were placed behind the retaining wall as a buttress
- » Area was graded and landscaped
- » PGE stone material was hauled away at project's completion

### IMPACT

- » The bluff was successfully stabilized and a wooden boardwalk ramp constructed from the park to the beach below
- » The retaining wall project was completed in four months, ahead of schedule and under budget

## DETAILS

### WORK

Bluff stabilization, construction of a precast-paneled retaining wall and drainage features, and accessible wooden ramp to beach

### LOCATION

Lake Michigan bluff at Forest Park, Lake Forest, IL

### BUDGET

\$5.1 Million

### OWNER

City of Lake Forest

### GENERAL CONTRACTOR

John Keno & Co.

