CASE STUDY

RAM JACK STEEL PILES SAVE BUILDING FROM

COLLAPSE

Ram Jack Steel Piles Stabilize Building After Adjacent Retaining Wall Fails

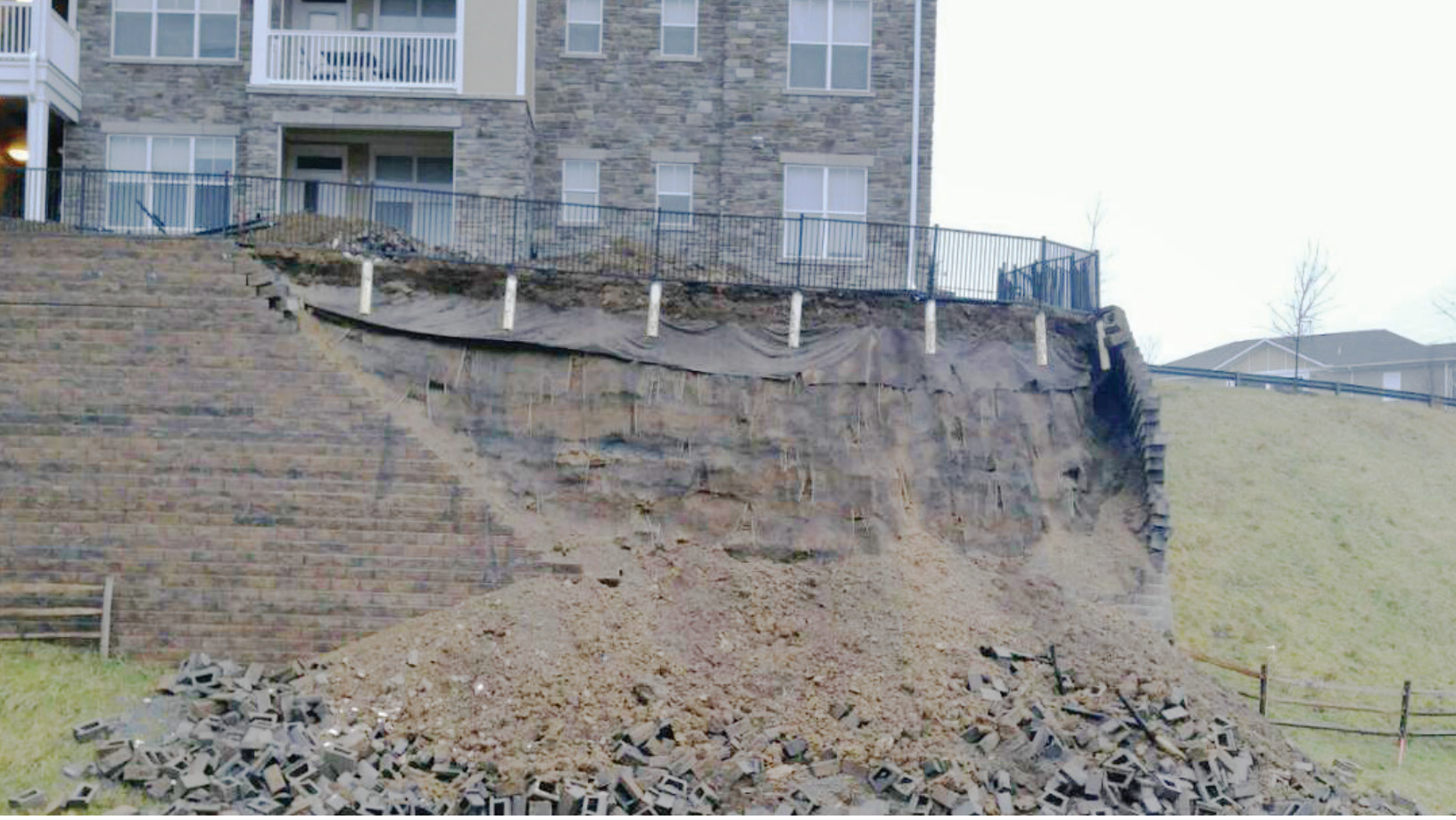
INSTALLATION OVERVIEW

Get more info on the ins-and-outs of Ram Jack products used.

ENGINEER RESOURCES

Find the back page of this case study for more information on engineer resources.

RAM JACK OHIO
www.ramjackoh.com | 440-975-3595
Eastlake, OH



Ram Jack Supports Apartment Building on the Edge

Marshall Township, Pennsylvania

Watching the signs of foundation damage grow can be nerve wracking. As the cracks in the soil and foundation of a four-story apartment building in Marshall Township, PA, grew so did the fears of tenants and property managers.

PROBLEM

A four-story multi-unit housing building within a larger apartment complex sits adjacent to a 30-ft. segmented retaining wall. This location provided nice views for the tenants, but big problems lurked beneath the structure. The building settled 8-12 in. As photos from August 2016 show, large shear cracks were observed in the soil adjacent to the building as well as in the foundation (up to 7 in. in the soil and 1 ½ in. in the foundation). The segmented retaining wall also showed large cracks.

Photos taken one month later showed the extreme growth of cracks.

PROPOSED SOLUTION

Ram Jack engineers advised the property managers and engineers of record that the retaining wall would likely fail, and action needed to be taken to secure the structure. Thankfully, Ram Jack Ohio was contracted to begin underpinning in December 2016. When work began, excessive water observed beneath the foundation tested positive for chlorine, and plumbing checks revealed a multitude of leaks beneath the building.

January 1, 2017 the retaining wall collapsed, revealing the steel piles installed by Ram Jack to be what was holding the structure secure. Excessive rain complicated repairs. The pond nearby was partially drained and a temporary road added to bring in 60,000 tons of gravel to shore the retaining wall. Underpinning would continue on the structure.

OUTCOME

During careful excavation and installation, Ram Jack discovered areas where there were no footings below the structure. Interior load-bearing walls also didn't have footings. In addition to reinforcement and concrete added to shore the exterior sections without footings, the upper three stories had to be shored and footing placed beneath the walls. Ram Jack side-load brackets were incorporated into the new footing so the structure could be lifted after the footing

was placed. The structure was lifted 12 in. Void space beneath the floor slab was filled with poly foam. The property owner and engineer of record were adamant the building would have collapsed had Ram Jack not installed piles prior to the wall failing.

INSTALLATION OVERVIEW

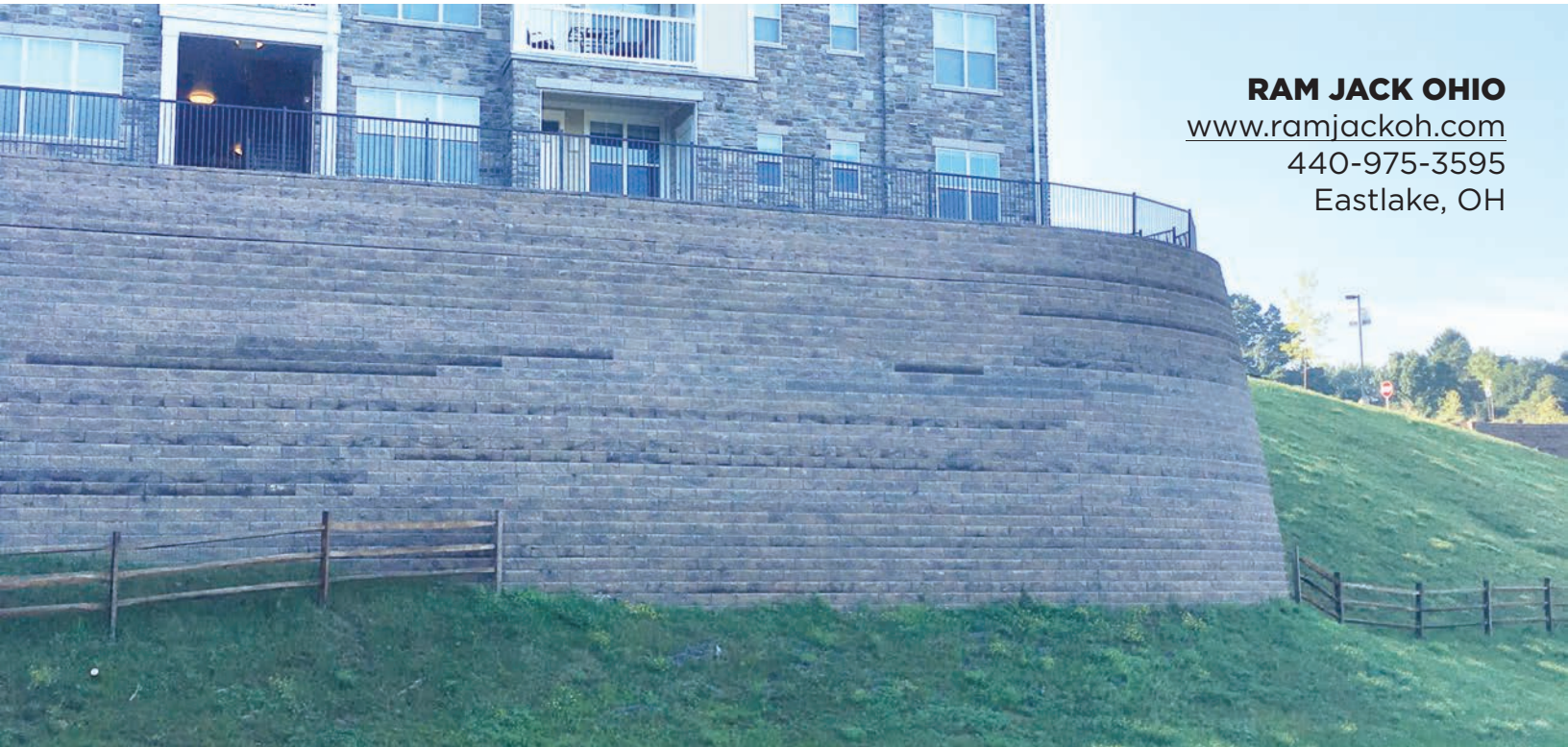
Commercial Installation
Ram Jack Ohio

Products Used
2 7/8" Driven Piles

Product Type
Remedial - Driven

Typical Applications
Ram Jack's 2 7/8" diameter driven steel pilings are slip jointed allowing for a smooth and homogeneous pile.

DON'T DO IT TWICE. DO IT RIGHT.™



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Custom Engineered Solutions Rooted in Quality.

CCMC RECOGNIZED

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ICC-ES RECOGNIZED

At Ram Jack®, we are focused on providing custom-engineered solutions that meet the unique needs of our commercial clients. You can move forward with confidence knowing we maintain code compliance, providing piles and brackets that reach the highest rating among competitors' products recognized by ESR-1854. Our company has the most products recognized by the ICC and boast an ISO 9001:2015 certified manufacturing facility.

We have the facility to design and fabricate custom products—we are the one-stop solution for engineers and even offer our own in-house engineers for assistance with your project. If you need assistance with foundation designs, we also provide engineer tools and resources and our engineers can work with the project's EOR to develop a custom-designed solution.

Everything an Engineer Needs

The Ram Jack Technical Manual provides engineers with the information that you will need to understand, design, and specify Ram Jack's helical and driven piles. It also provides information verifying compliance with current building codes and ICC-approved acceptance criteria.

Everything an engineer could ever want and need to know about Ram Jack Helicals and Driven Piles in one book. If you or your firm would be interested in a Ram Jack Technical Manual, please contact your local Ram Jack dealer by emailing info@ramjack.com.

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