



RAM JACK

2016 CASE STUDY

Type: Commercial | Issue: CA201601

3.5 in. Maximum Practical Recovery Achieved on Apartment Building



RAM JACK LOCATION:

Ram Jack Pacific

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El Cajon, CA

CASE STUDY 2016

Foundation settling can lead to door and window frames being misaligned, causing them to not work properly. Doors sticking can be a life or death situation: Property managers take tenant safety seriously.

SITUATION

The owner of an eight-unit, two-story, wood frame apartment building contacted Ram Jack Pacific when tenants made complaints of being stuck in apartments from sticking doors. Other warning signs of foundation issues were present: one corner noticeably sinking, sloping floors, out-of-square door frames, sticking windows, large cracks visible throughout the slab of a laundry room on one end of the building. While the building itself is situated on a relatively flat graded partial fill lot, the

environment surrounding the structure likely caused settlement. A vacant lot on the south side of the structure on a partial fill slope descends approximately 20 ft. to a drainage course. Rainfall and landscape irrigation around the structure contributed to infiltration of surface water.



INSTALLATION OVERVIEW

Total # of Piles • 23

Products Used • #4362 2 7/8" dia. Helical Pile

Product Type • New Construction - Helical

Typical Applications • Ram Jack's 2 7/8" helical lead sections can be used in either tension or compression due to its unique internal threaded connection.



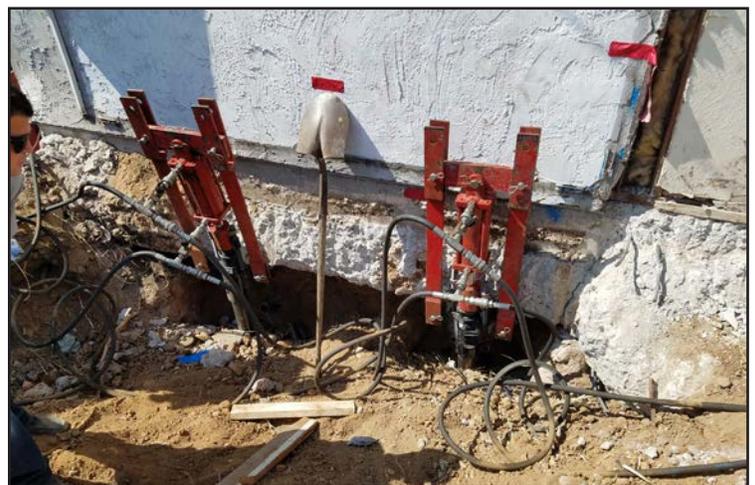
PROPOSED SOLUTION

Ram Jack and Grantham Engineering took elevations and assessed the damage, noting a 3.6 in. settlement. Ram Jack Pacific proposed using both driven and helical piles to both repair the foundation and ensure the structure would not experience further settlement. Ram Jack also proposed providing crack repair and filling void space under the slab once the foundation was lifted.



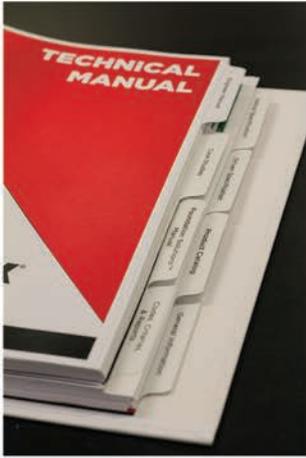
OUTCOME

Demolition of the laundry room and slab, as well as removal of plants and stumps, was necessary before excavation of holes for piles could begin. The Ram Jack crew worked tirelessly in narrow working space around the perimeter of the building. A total of 14 piles were placed on the exterior of the structure: 11 driven piles and three (3) helical tiebacks torqued at a 30-degree angle. Four (4) driven piles were installed on the interior at strategic grade beam locations. Maximum practical recovery was achieved with a 3.5 in. lift. Ram Jack Pacific dug footings and installed five (5) helical piles with new construction brackets to support a new laundry room slab. Ram Jack Pacific addressed cracks and voids once all pile work was complete. Fifty-plus (50+) linear feet of crack were repaired with carbon fiber staples and gravity-fed epoxy injection. A 2:1 ratio polyurethane foam was injected to fill any voids left after the lift.



INTRODUCING THE ALL-NEW

TECHNICAL MANUAL



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.

Franchise Highlight

RAM JACK PACIFIC

Engineers rely on Ram Jack for our proven, code compliant, engineered products and solutions. Our piles and brackets have the highest rating among competitors' products recognized by ESR-1854. Ram Jack has the most products recognized by the ICC—with products in all four applications listed in the ICC Acceptance Criteria AC358. Our ISO 9001:2015 certified manufacturing facility ensures reliable and quality products.



LOCATION

EL CAJON, CA

CONTACT US

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