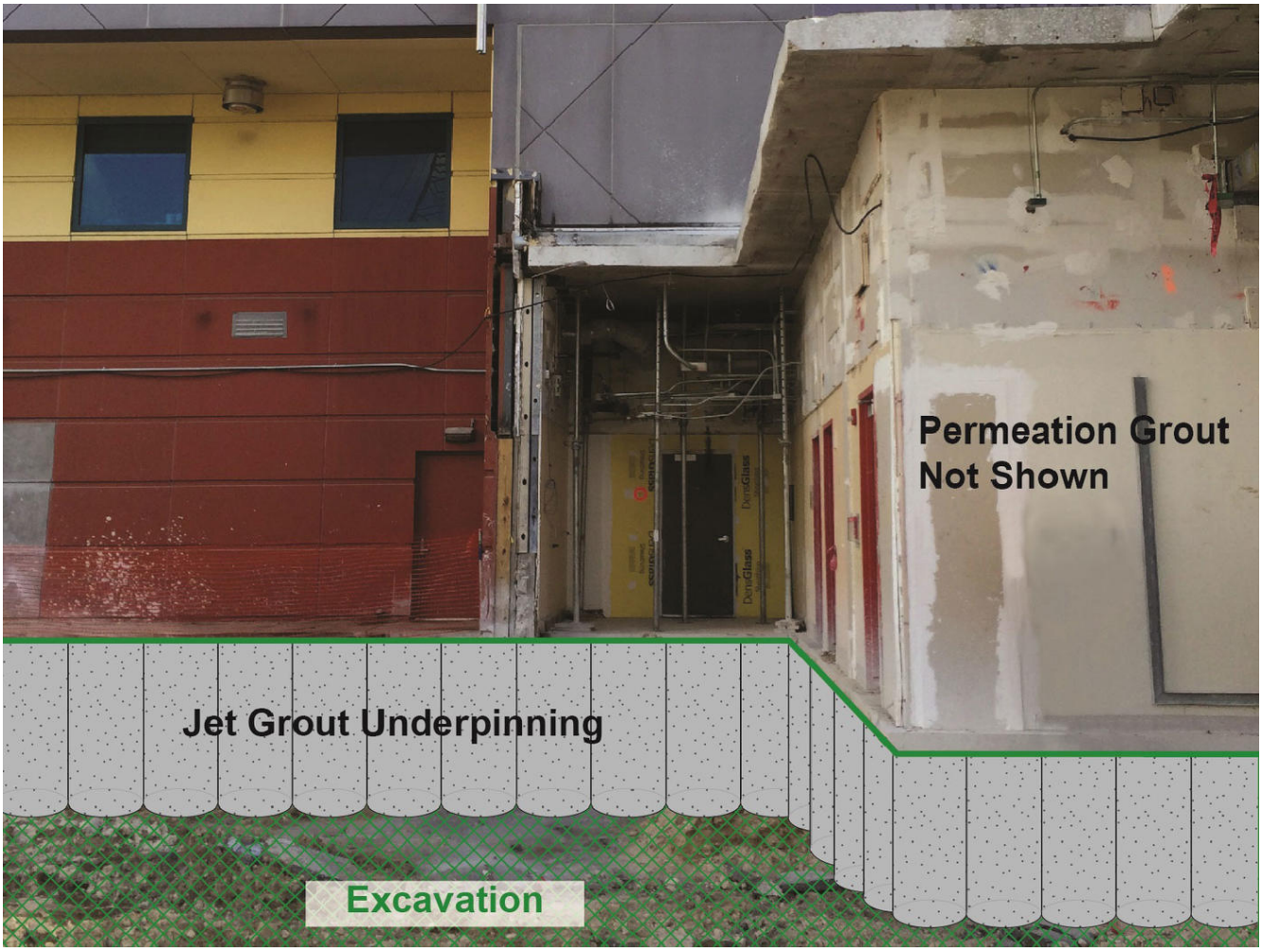
Miami Children's Hospital

Miami, Florida

During the construction of the Miami Children's Hospital, Keller used multiple techniques while controlling construction disturbance to hospital operations, staff, and patients.



The project

Construction of a six-story, 48,000 ft^2 critical-care bed tower directly adjacent to an existing, operational critical-care facility required proactive mitigation measures to avoid impacting the operating facility.

The challenge

The existing wing required underpinning in low headroom conditions prior to the construction of the new tower. Limited as-built information, overhead constraints, underground utilities, and restricted working conditions further complicated the scope of work. Faced with a fast-paced schedule and multiple contractors working in a small site, Keller designed a constructible and safe solution using jet grouting and permeation grouting.

The solution

Keller conducted permeation grouting beneath the existing slab to stabilize the soils prior to excavation. Due to the geotechnical conditions, a sodium-silicate grout was selected as the grouting material. Afterward, an excavation support wall was constructed using vertical and battered jet grouted columns. A real-time data acquisition (DAQ) system was employed to display and record jet grouting parameters during construction, allowing engineers to verify the quality of construction.

Project facts

Owner(s)
Miami Children's Hospital

Keller business unit(s)
Keller

Main contractor(s)
Robins & Morton

Engineer(s)
Martinez Engineering Group, Inc.

Solutions
Support of excavation
Underpinning

Markets
Institutional
Healthcare

Techniques
Permeation (chemical) grouting
Jet grouting

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