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foundation company

## BACKGROUND INFORMATION

In 2018, Royal Caribbean, a global cruise company, began an expansion project to construct new cruise terminals in the Port of Miami, recognized as the cruise capital of the world. This port is a major hub located in Biscayne Bay at the mouth of the Miami River in Miami, Florida, which plays a pivotal role in maritime activities. The upcoming terminals will feature docking facilities designed to accommodate large cruise ships from around the world, establishing a central hub for select cruise ships. This project aims to meet the escalating demands of the growing cruise industry, which annually serves millions of passengers.



Aerial View of Berth 7 –Cruise Terminal

## SCHNABEL'S ROLE

In November of 2017, Schnabel was contracted by Ebsary Foundation Company to install 63 permanent tiebacks to support the construction of the new North Berth 7 Cruise Terminal. Schnabel installed 4,600 linear feet of tiebacks, some reaching lengths of up to 80 feet. The tiebacks were designed with a maximum capacity of 230 KIPS, ensuring structural stability and integrity.



## CHALLENGES



Drilling tiebacks through new bulkhead

Schnabel successfully navigated through the steel and concrete obstacles found in the project by employing specialized coring tools and equipment from Schnabel's Equipment Division. Much of the drilling was conducted from a barge situated in a busy port section with heavy ship traffic. Despite the challenges posed by the wakes of passing ships and tide changes, Schnabel's crew devised creative solutions to secure the barge to the berth while maintaining flexibility in moving quickly between different work areas.

## SPECIALIZED EQUIPMENT

Schnabel implemented modifications to their equipment to reduce the frequency of drill rod changes, thus enhancing productivity. Additionally, they developed a highly effective tieback-to-pipe pile connection design that was both straightforward and efficient to install. These innovations demonstrated the expertise of Schnabel's Equipment Team, Field Team and R&D Team and their capacity to tackle challenging obstacles head-on.



Moving drilling barge through Port of Miami from dock to work

## CONCLUSION



Testing 7-strand tiebacks to over 300 kips from a barge

In conclusion, Schnabel successfully installed 63 permanent tiebacks to support the construction of a new cruise terminal in the Port of Miami. Overcoming challenges with creativity and utilizing specialized equipment from their equipment division and R&D department, Schnabel completed the project on time and to the satisfaction of the client. Special thanks to everyone involved in this challenging project.

