

# Digging Deep for Parking in Boston

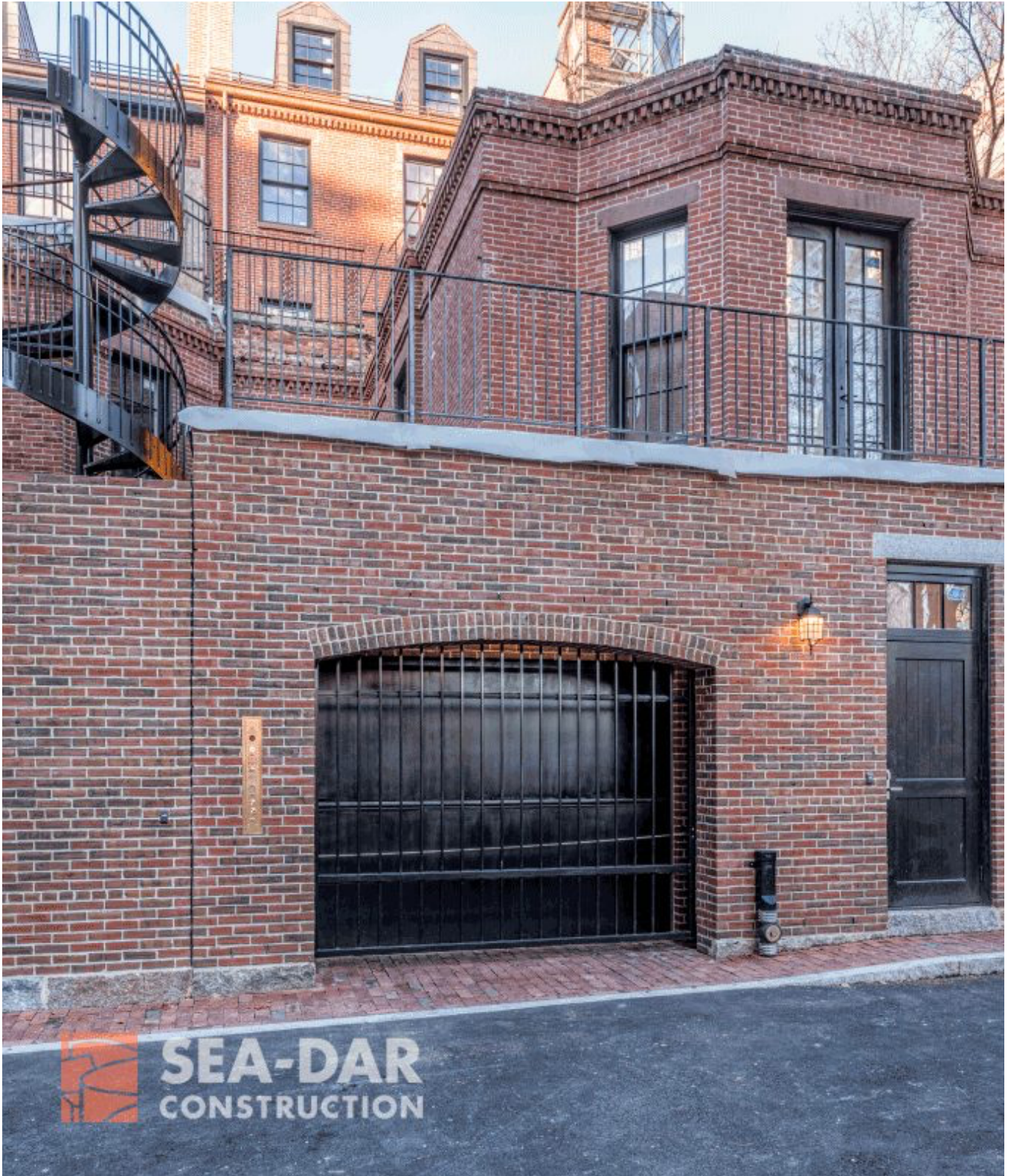
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25 Beacon Street at dusk. You would never know this historic beauty hosts an engineering marvel.





The building's gate fits in with the surrounding architecture.





Entering the building.



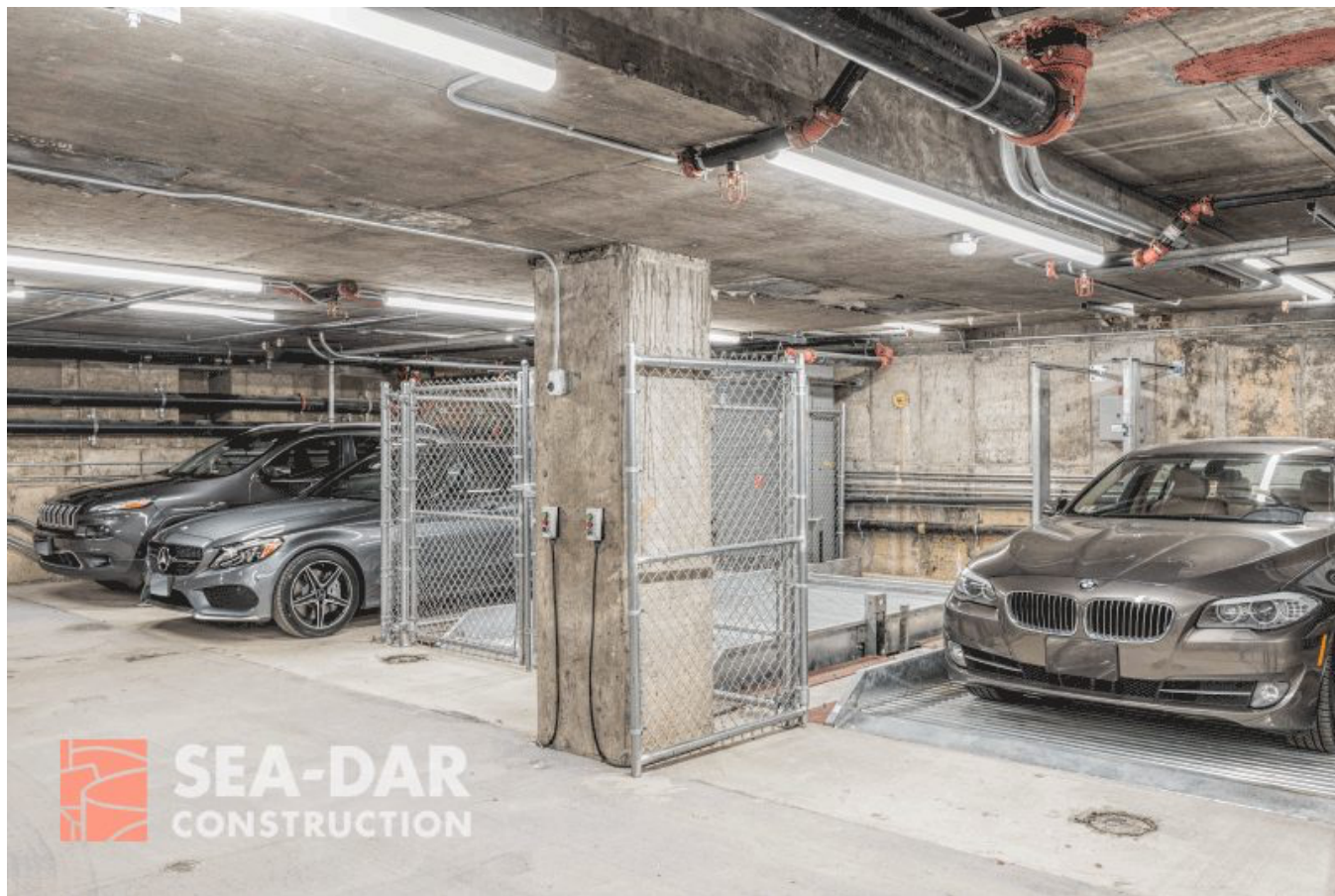


Behind the scenes cables installed beneath the concrete give this underground garage its stability.

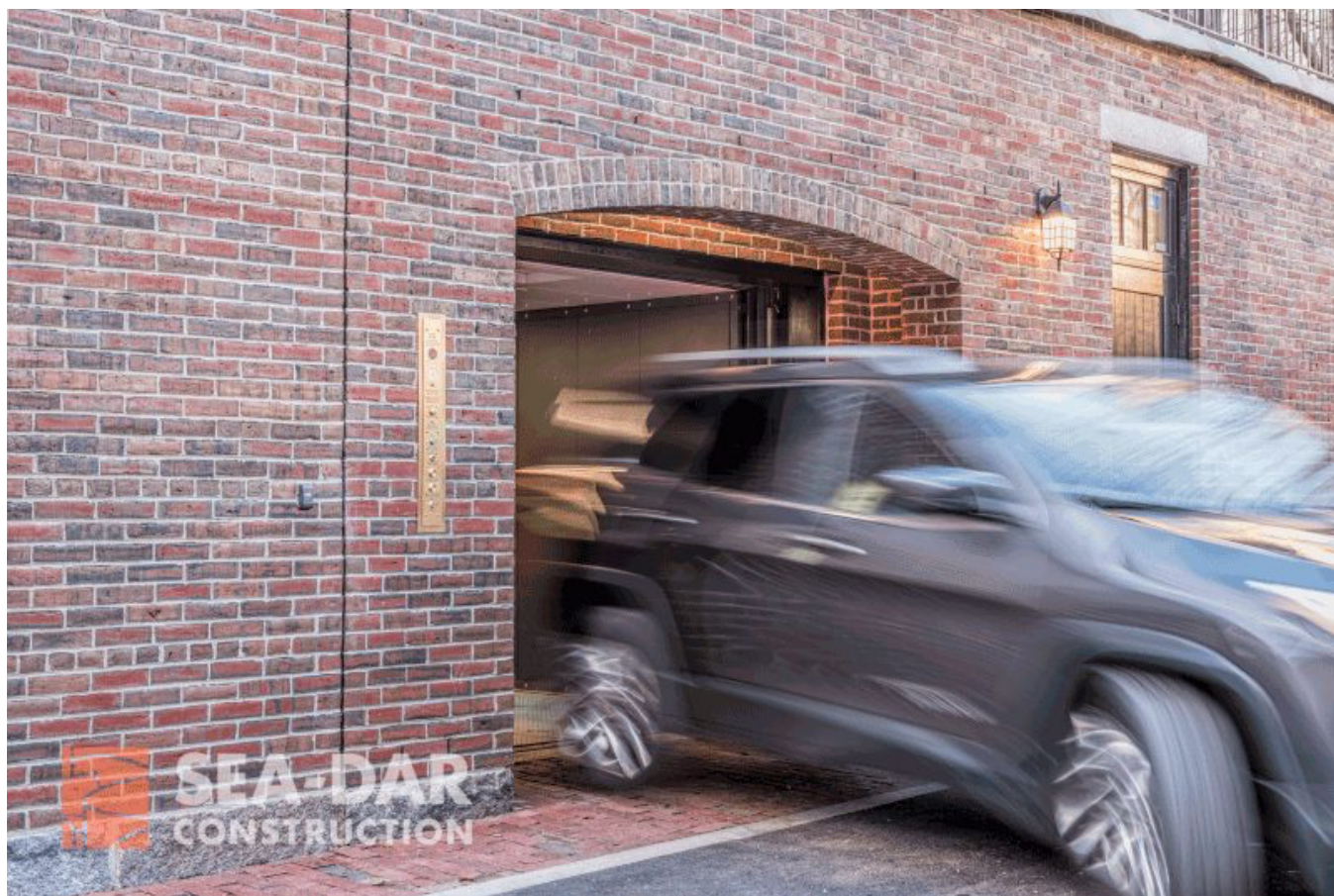


The extensive underground garage has room for fourteen vehicles.





A lift assists with moving the vehicles.



An automatic door allows homeowners to come, or go with ease.

In most areas of the U.S., there would be little question that, should you find yourself paying seven figures for a brand-new luxury condo, a place to park your car would be included.

In this regard, Boston—a city where parking spaces command price tags in the low-six figures themselves—is not like most places.

Thus, when the developers behind a trio of luxury residential buildings set on a prime corner in Beacon Hill found themselves in the project's planning stages, they decided that including garage parking—something almost unheard of in the neighborhood—would be the ultimate amenity for future residents. Not only would it provide an uncommon convenience, but it would help improve congestion in an area of the city known for narrow, traffic-clogged streets.

“The former owners of the building parked on the street,” says Charles Reed, of [CNW Capital Partners](#), a partner in the project. “There'd often be multiple rows of cars, which created a lot of congestion. When we approached the project we thought that the best decision, not just from an amenity standpoint, but from an urban planning standpoint, would be to get cars off the street and eliminate the tandem parking.”

The only problem: the site, which encompassed 25 Beacon Street and 6 & 7 Mount Vernon Place, left no room for a parking garage, and altering the footprint of the historic neighborhood was out of the question.

“Because of the location, a great deal of preservation went into this entire project, and every decision we made had to undergo a rigorous permitting process, both with local stakeholders and the Beacon Hill Architectural Commission,” says Reed.

The one solution that seemed to solve the developers' modern need for parking while upholding their promise to preserve the site: building the



parking garage underneath the existing townhomes at 6 & 7 Mount Vernon Place.

The idea was lofty, but not unprecedented. The project's contractors and co-developers, [SEA-DAR Construction](#), had installed an underground garage beneath a pair of townhomes on Commonwealth Avenue more than a decade ago. Still, this particular project presented a unique set of challenges.

“From an engineering point of view, it was technically difficult because we wanted to put a parking garage for fourteen cars under structures that were built in the 1800s while keeping the facades intact. It's not commonly done,” says Tony Salem, vice president at SEA-DAR. “Then you add to the complexity of the location. It's a very tight neighborhood in Beacon Hill, so it was tough to get cement and construction trucks in and out without affecting traffic.” The final consideration proved especially delicate. The building site was sandwiched between the Parkman House, a residence used for entertaining by the mayor of Boston, and the Massachusetts State House, a high-stakes position which mandated neither adjacent space be disturbed, structurally or otherwise.

Finding a construction solution that met the complex needs of the build took multiple teams and multiple attempts. An initial plan from an architectural firm working on the project fell flat. “From a feasibility and execution standpoint, the original design would have been mission impossible,” says Salem. “So, internally, we started conversations around what we could do to make it work. We narrowed down our approach by focusing on the priorities: we needed to be able to support the building while we were excavating in a way that prevented structural movement and brought the load of the building away from where we were doing the excavation.”

It was during one such conversation between SEA-DAR founder [Jean Abouhamad](#) and his father, both structural engineers by trade, that the

elder Abouhamad drew a plan for a post-tension design on a napkin, a sketch that would later become the framework for the garage.

“The idea was to drill mini piles into the ground, around the permitted interior face of the buildings, and put a concrete slab on top, which would give us the structural support to do the excavation,” Salem says. “Logistically, it made a lot of sense.”

Because of the space constraints, the garage had to be designed without beams, so SEA-DAR worked with specialty engineering firm CCL Systems to install cables within the concrete to support the structure of the garage. “We presented the design to the architectural firm who had come up with the original plan and got them to sign off on it, so that’s how we ended up executing it,” Salem explains.

After two years of meticulous work (“We were constantly monitoring any movement within the surrounding and abutting properties, making sure we were not creating any shifting or settlement,” says Salem) the finished garage was delivered with the properties in late 2017. It includes a car elevator and enough space for all fourteen vehicles the developers had hoped for.

As for the preservation goals? You’d never know a modern engineering marvel sat beneath the townhomes adjacent to the State House. “The garage entrance is designed to look historic,” says Reed. “It’s recessed so you can’t see it from a public way, and was made to look like a historic carriage entrance.”

A blueprint for the future of one of America’s oldest cities, perhaps?

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