



## Miller & Long & CarbonCure: A Success Story

How a portable plant producer is becoming a local leader in sustainability.



# Introduction

## Bringing sustainability and portable concrete production together

Miller & Long Co., Inc. is a full-service provider of concrete construction services in the mid-Atlantic region. Started by good friends Jack Miller and Jimmy Long in 1947 with just a new Ford truck, a \$50 investment in tools, and a three-line newspaper ad, the company has now completed more than \$5 billion in contracts.

A well-respected employer and active in the local community, Miller & Long is also committed to sustainability and has introduced several environmental initiatives in its business, including:

- **Water reuse.** Reclaiming and recycling the water used in its operations, saving thousands of gallons of water waste per week.
- **Waste diversion.** Turning end-of-life lumber into mulch for local landscaping companies.
- **Renewable energy.** Using solar panels and hybrid generators to power its plants, trucks, radio batteries and computers used on-site where possible.
- **Value engineering.** Looking at ways to reduce costs while also improving the environmental footprint of buildings.

In 2020, Miller & Long became a CarbonCure partner, further cementing the company as a leader in sustainability in its market by being the first portable fleet to be a permanent CarbonCure supplier.

*“Sustainability is not a nice-to-have thing or a nice story to present. It’s become necessary-to-do work and if you’re not part of it, you’re going to get run over by it. And so we need to either lead it or be part of that story,”*

Jim Martinoski, Vice President of Miller & Long

And crucially, with the flexibility and adaptability that a portable plant provides, Miller & Long’s supply of sustainable concrete is not limited to a single geographic area or project type.





# The Opportunity

A corporate giant with ambitious climate goals

Amazon's decision to make Arlington, Virginia, the new home for its second corporate headquarters created a massive opportunity for Miller & Long.

The headquarters, known as **HQ2**, is designed to meet LEED Platinum standards and operate on 100% renewable energy, reflecting Amazon's commitment to reaching net zero carbon by 2040.

CarbonCure was recommended by structural engineering firm Thornton Tomasetti in the specifications for Phase 1 of HQ2 as a tool to reduce embodied carbon, an essential part of Amazon's sustainability goals. "You could tell from the specifications that it was a very important topic, so we wanted to be very aggressive with everything we could possibly do from a sustainability perspective," said Jim.

With Miller & Long's ongoing commitment to sustainability, and Amazon's goal to reduce embodied carbon, partnering with CarbonCure was the logical next step for Miller & Long.





# The Solution

## CarbonCure flexibility ensures success

Although Miller & Long hadn't used CarbonCure's technology before bidding for HQ2, CarbonCure's good reputation with other producers in the local market stood out. "We were comfortable utilizing the product at HQ2 through our own plants because of that," said Jim.

As it does when adopting new technology, Miller & Long put CarbonCure through a rigorous testing process, knowing that testing different mix designs would be key to finding the best one for the project. "We ran a slew of tests across all the mix designs that we're familiar with to understand what kind of gains we could have when we utilized CarbonCure," said Jim.

Because the company uses only portable plants, Miller & Long needed flexibility to ensure installation, testing, and QC at separate locations went off without a hitch. This meant installing CarbonCure at different job sites to run these tests, uninstalling and reinstalling it when HQ2 was ready to go live.

*"CarbonCure's technology can feel intimidating, but it wasn't. Install was very simple for us. The CarbonCure team was gracious enough to allow us to move from portable plant to portable plant with the technology so we could do testing with cementitious reductions."*

Jim Martinoski, Vice President of Miller & Long

Miller & Long has spent years refining its concrete mix designs in order to get the highest strength possible as fast as possible. To meet the sustainability goals of HQ2, the same quality needed to be maintained while reducing the cement content and meeting the challenging schedule and weather conditions of the project. Thanks to the flexibility of the **CarbonCure Technical Services team**, maintaining quality and staying on schedule was easy.

"We had a baseline mix that we were very familiar with. We added CarbonCure to it, cut out 5% cement and we were still successful with it. That was really how we established the path forward with our CarbonCure mixes," said Jim.





# The Results

## The same reliable concrete with a lower carbon footprint

As the concrete contractor for a 1.2 million square foot (111,484 square meter) 22-story building at Amazon HQ2, Miller & Long delivered an estimated 106,555 cubic yards (81,467 cubic meters) of concrete made with CarbonCure. The project is expected to save over 1,000 metric tons of CO<sub>2</sub> through the use of CarbonCure, which is comparable to over 1,100 acres (445 hectares) of forest absorbing CO<sub>2</sub> for a year.

Miller & Long's CarbonCure mix designs also had a minimum 25% better impact on global warming potential than the National Ready Mixed Concrete Association (NRMCA) baseline.

Along with the embodied carbon savings, the concrete produced with CarbonCure maintained the high quality, strength and reliability that Miller & Long and its clients expect.

*"The mixes have outperformed even my own expectations and I have very high expectations, I don't believe we had one low break on that project. They performed fantastically."*

Jim Martinoski, Vice President of Miller & Long

Clark Construction, the general contractor on the project, is one of Miller & Long's largest clients and was very satisfied with the concrete made with CarbonCure, says Jim. The other concrete contractor on the project — Clark Concrete Contractors through ready mix supplier Vulcan Materials Company — also successfully used CarbonCure in its mixes for a different portion of the HQ2 build.

CarbonCure's name recognition in Miller & Long's market has been an added benefit for the company, with existing clients and potential clients intrigued by the technology and interested in learning more. "People ask me about CarbonCure and that makes it very easy to openly discuss our sustainability goals," said Jim. "It's opened more doors than I ever thought it could."





# What's Next

## A new sustainable norm

Miller & Long continues to refine its mixes to reduce its cement content further, using CarbonCure as well as other products such as Type 1L cement (also known as Portland Limestone Cement) and high-quality aggregates.

*"CarbonCure is part of the formula along with other cement substitutions. When these things work together, they make your embodied carbon reduction process that much stronger."*

Jim Martinoski, Vice President of Miller & Long

Jim says he's seeing an exponential demand for sustainable concrete, spurred in part by Amazon's entrance into the local market. "There are lots of opportunities out there, not just one-offs anymore. I would say the norm is more geared towards embodied carbon reduction than not on the work we are pursuing," he said.

Even for projects that don't explicitly ask for low carbon concrete, Miller & Long is using cement replacements to reduce the embodied carbon of each job, proving itself again to be leaders in sustainability in its market.

"We know if we don't change with the sustainability initiatives or what the market tells us we need to do, we're going to get run over by it," said Jim. "So we accept that change, we embrace it, and we move forward with it."





# Build for the Future. Build with CarbonCure.

CarbonCure has been used on thousands of projects ranging from healthcare to higher education, residential developments, and corporate campuses.

For more information about building with CarbonCure concrete, visit [carboncure.com](https://carboncure.com). To get in touch with a CarbonCure representative, send us an email at [info@carboncure.com](mailto:info@carboncure.com) or give us a call at **+1 (902) 448-4100** (Worldwide) or **+1 (844) 407-0032** (North America).