



## MILLIONS SAVED BUILDING MIXED-USE HIGH-RISE WITH COMMAND CENTER

Lincoln Property Company, HKS, and The Beck Group couldn't begin their project, 2000 McKinney—designed to be Dallas' newest premier office address—until the project budget could be reduced by at least \$3 million. To bring the project within budget, the team used COMMAND Center concrete maturity monitoring to accelerate the schedule by four months.



### The Goal: Lower Project Budget

Before construction began on 2000 McKinney, the project was on the verge of becoming postponed indefinitely. The Beck Group had already shed \$5 million from the budget with creative product selection and design modifications, but they still needed to cut an additional \$3 million before the project could go forward.

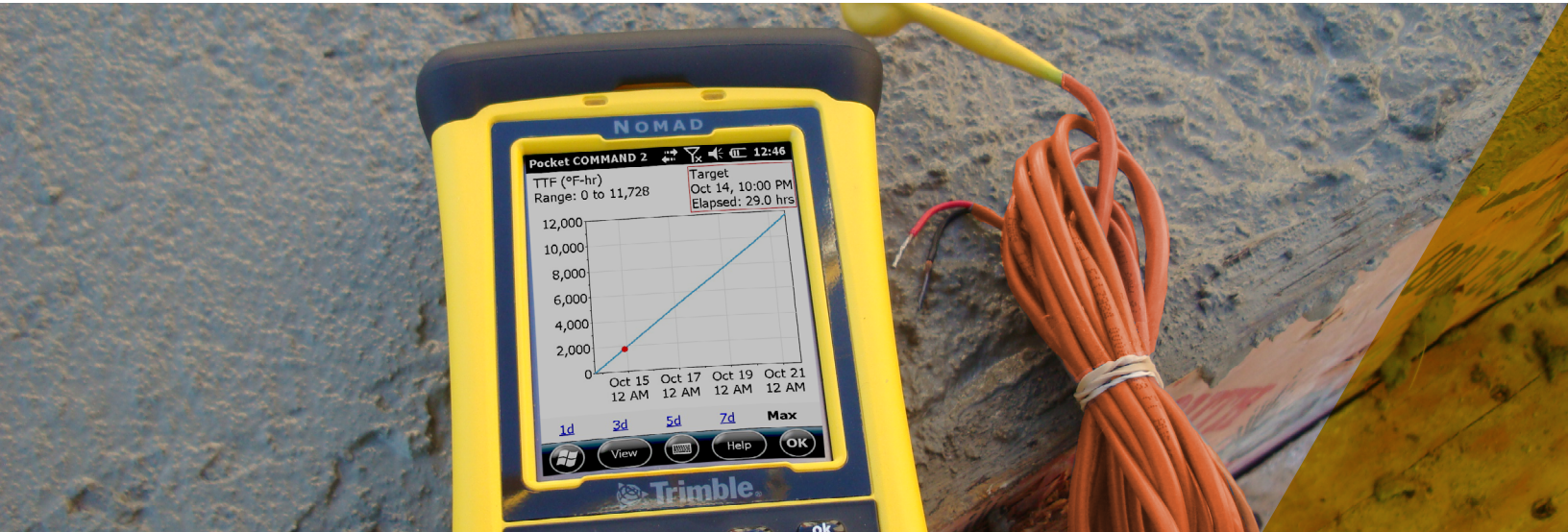
In order to bring the project into budget, Beck took advantage of concrete maturity monitoring's ability to accelerate project schedules. Typically, contractors estimate concrete strength with compressive cylinder tests performed in a laboratory. But if a project's placed concrete reaches sufficient strength before standard test intervals, valuable time is wasted. In the construction business, time is money.

Instead of relying solely on laboratory testing, Beck decided to accelerate the schedule—and save money—by using COMMAND Center maturity monitoring to quickly determine when their concrete reached its required strength. This cut four months from the project schedule and saved \$3 million in costs, bringing the project within budget.

### The COMMAND Center System

COMMAND Center helps construction firms like The Beck Group build faster. The system employs small sensors placed in poured concrete at the job site that record time and temperature data. The sensors are connected to a handheld computer running COMMAND Center software. At the job site, the handheld computer calculates and compares sensor data against strength models based on the principle of maturity—a proven scientific method that accurately determines when the concrete has achieved the desired strength.

The Beck Group implemented COMMAND Center on 2000 McKinney, a mixed-use high-rise including a 20-story office tower, 7-level parking garage, and 15-unit condominium in Dallas, TX. Beck used COMMAND Center to accurately monitor the in-place strength of their concrete pours in real time on site and reduce the waiting time between structural deck placements.



## The Result: Expedited Construction, Lower Costs, Better Quality Control

The elevated superstructure was completed with a high level of quality control in just over a 10-month time window. The entire project, which required more than 43,000 cubic yards of concrete, was completed in under 16 months—Beck placed almost 120 cubic yards every work day until completion.

The success of this project meant a great deal to Beck’s leadership, as it was their first downtown project since 1988. Additionally, the firm raced two similar projects within a three-block radius to a nearly identical finish elevation—when Beck started their foundations, the other projects were already a few decks into their elevated superstructure, but 2000 McKinney beat both projects to topping out.

Before pouring concrete at the site, the owner retained a testing lab to perform third-party concrete strength verification. Beck conducted a succession of controlled cylinder tests and consulted with The Transtec Group, developers of COMMAND Center, to set up the project’s maturity curves. Beck performed additional maturity curve validation tests for each placement, the system performed as promised, and the schedule was approved. According to John Boehm, Senior Project Engineer,

“We were proud of this schedule, and our subcontractors responded very positively to the consistency the maturity sensors helped create.”

The project required roughly 95 individual deck placements spaced with the turn time between vertically stacked pours not to exceed 14 calendar days. No lay-down area was available on site: every delivery was scheduled to be right on time, and consistency and replication were at the heart of the schedule.

The project’s first laboratory strength tests were performed 24 hours after preparation. During construction, waiting 24 hours after placement would have delayed stressing by about half a day. Instead, workers placed three to five COMMAND Center maturity sensors in each pour. The maturity data calculated by COMMAND Center indicated pours were regularly obtaining the required 3000 psi strength 18 hours after placement, which gave workers six additional normal work hours to start stressing and columns each time.

Though 2000 McKinney was on the verge of being postponed indefinitely, The Beck Group’s decision to implement the COMMAND Center maturity method allowed the project to be completed within budget, with increased confidence in the strength of concrete pours, and within less than 16 months.

### GET STARTED TODAY

To learn more about how COMMAND Center can accelerate schedules and cut costs on your next construction project, visit [www.COMMANDCenterConcrete.com](http://www.COMMANDCenterConcrete.com) or call +1 (888) 451 6233.