



CELL BLOCKS Foundation with Shelter and 150-foot Monopole

AT&T CELL BLOCKS® MONOPOLE CELL TOWER FOUNDATION

Near I-9 and Pulaski Skyway Corridor

Kearny, NJ

The precast concrete post tensioned foundation satisfied the design criteria and was installed in one day.

In 2015, AT&T required a 150-foot cell tower and a 28-foot-long shelter close to the Pulaski Skyway corridor (also known as US Rt. 1/9), near the NJ Turnpike connector. It was essential for the height of the antenna, at 150-feet, to be above the bridge. Oldcastle Infrastructure, engineering firm Maser Consulting and general contractor Multi Tech Electric Corp. partnered to complete

the AT&T Communications cell tower project.

The purpose of using a CELL BLOCKS foundation was to prevent any ground disturbance and to complete the project as quickly as possible. The monopole accommodates services for the lead carrier AT&T and for a future carriers.

DESIGN & CONSTRUCTION TEAM

Owner

AT&T Telecommunications

General Contractor

Multi Tech Electric Corp.

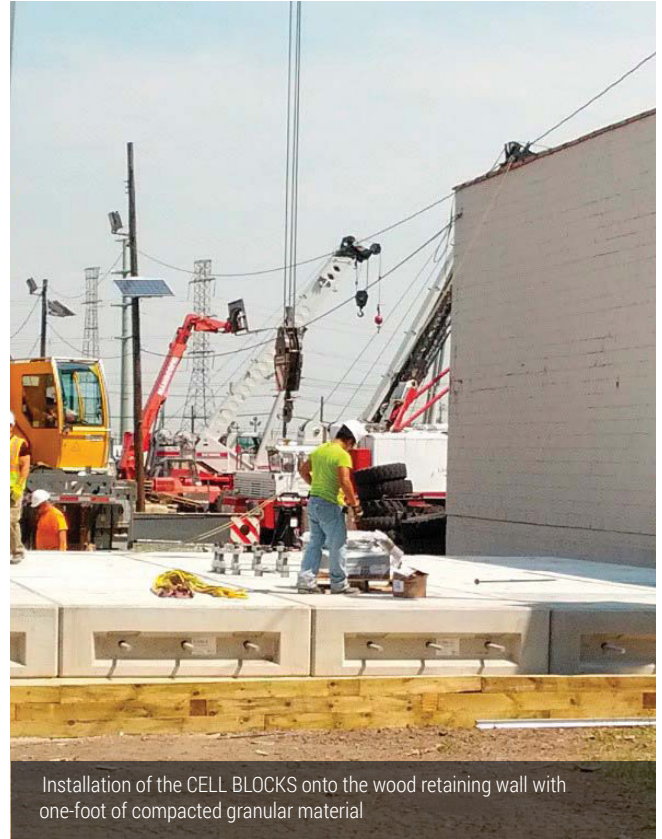
Design Engineer

Maser Consulting

Oldcastle Infrastructure Product(s)

Precast Concrete Manufacturer
Easton, Pennsylvania

Precast Concrete CELL BLOCKS®
Foundation (25 CELL BLOCKS foundation)



Installation of the CELL BLOCKS onto the wood retaining wall with one-foot of compacted granular material



CELL BLOCKS proved to be the right foundation for the project.

THE DESIGN

Designed by engineering firm Maser Consulting, using Oldcastle Infrastructure CELL BLOCKS, the foundation was designed to extend above the 100 Year FEMA flood elevation.

To achieve the necessary elevation for the top of the precast foundation, a structural wood retaining wall surrounds a compacted granular material to a depth of approximately one foot. The wall also protects the long term integrity of the compacted material supporting the CELL BLOCKS foundation.

Once the compacted material was precisely leveled and the alignment strings were set, the setting of the precast 15,000 pound precast concrete blocks proceeded. The pole block containing the anchor rods is located at the center of the 25 block layout. The anchor rods, hex nuts and templates were provided by Sabre Towers and Poles Inc. to the precast concrete manufacturing facility in Easton, Pennsylvania. Using 6000 psi concrete, the anchor rods were cast into the pole block with special steel rebar details and independently inspected. Post tension Grade 150 galvanized steel bars were inserted. Heavy steel plates and hex nuts were mounted on each end of the steel rods and hydraulic tensioning of the rods proceeded.

By 5 PM the post tensioning was complete and the foundation was structurally full strength and ready for the placement of the Sabre Pole and shelter



INNOVATION

Using post tensioned precast concrete CELL BLOCKS for this wireless facility demonstrated that the use of a precast concrete block foundation was extremely dependable, provided minimal interruption to the nearby business, provided no disturbance to existing ground and is removable in the future.

No cast in place concrete was needed for this cell tower installation. We are looking forward to a bright future with this product line and design in the United States.

About Oldcastle Infrastructure

Oldcastle Infrastructure, A CRH Company, is the leading provider of building materials, products and services for infrastructure projects to several market sectors nationwide, including: Building Structures, Communications, Energy, Transportation and Water.

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