Office Building - G | Eastern USA

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http://www.engr.psu.edu/ae/thesis/portfolios/2011/drc5066/index.html

PROJECT TEAM

General Contractor : Turner Construction
Architect: Hellmuth, Obata + Kassabaum, Inc.
Structural Engineer: SK&A Structural Engineers, PLLC
MEP Engineer: GHT Limited
Civil Engineer: Loiederman Soltesz Associates, Inc.
Landscape Architect: Parker Rodriguez, Inc.
Geotechnical Engineer: Schnabel Engineering North, LLC

PROJECT INFORMATION

Size (total square feet): 649,461 SF
Number of stories above grade/total levels: 14 stories above grade with 4 levels of underground parking
Dates of Construction: Summer 2010 - Summer 2012
Project delivery method: Design-Bid-Build

ARCHITECTURAL FEATURES

A glass curtain wall is the main attraction on the new Office Building – G. Architectural cast in place columns with a rubbed finish are used along with concrete beams behind the curtain wall. Precast and metal panels, punched and ribbon windows make up the other elevations of the building. A high end lobby includes stone flooring and wood panels along with stainless steel elevator doors and frames. Leading into the building are stone stairs with brick pavers used for the sidewalk.

CONSTRUCTION LOGISTICS

The construction logistics plan is very critical for the new Office Building-G project. Turner Construction will use a Design-Bid-Build delivery system. Three phases will be involved in the construction process: excavation, superstructure, and interior finishing. The parking garage underneath the building will be critical along with the metro station that is nearby.

STRUCTURAL SYSTEM

The structural system of the new Office Building-G contain post-tensioned girders with 7" slabs for the core floors (4-13). Lateral resistance will come from the interior shear walls. The columns will range from 24"x24" with a 10,000psi load in the garage to 30"Ø 6000psi load in the upper floors. The spread footings will support loads that range from 64k to 1025k.

MECHANICAL AND ELECTRICAL SYSTEMS

The mechanical system includes 3 variable speed drive chillers that provide chilled water to the AHUs. VAV and CAV fans provide airflow to the building. A fully integrated building automation system (DDC) will also be installed. The building also includes a variety of lighting fixtures and lamps. The main feed is a 265/460v, 3 phase, 4 wire system.