Carnegie Mellon University - Gates Center for Computer Science

Project: Carnegie Mellon University - Gates Center for Computer Science

Budget: $72 million

The Challenge: Building an innovative 209,000 SF facility within a tight urban space...and timeline.

The Result: a LEED-certified, world-class structure befitting one of the world's premier institutions for computer research and education.

The Bottom Line: Experience. Whether your project is big or small, there's just no substitute for it.

In 2006, Carnegie Mellon University (CMU) sought out PJ Dick's expertise for the construction of a 209,000 SF facility on a 5.6-acre site on CMU's West Campus. Consisting of two buildings – the Gates Center for Computer Science and the Hillman Center for Future Generation Technologies – the innovative structure would include 318 offices, state-of-the art laboratories, lecture halls, classrooms, a 250-seat auditorium and a 147-space covered garage. Upon completion, both Centers would become vital additions to the University's School of Computer Science (SCS) complex.

"CMU already had a prestigious and world-class design team in place," explained PJ Dick Project Manager Ralph Shipe. "They were looking for an iconic building on their campus…and a builder who had the experience to realize a challenging yet exciting design."

Already a satisfied repeat customer, CMU decided to partner with PJ Dick yet again to provide Construction-At-Risk services for the $72 Million construction project. Trust and confidence in PJ Dick's ability to execute was key, particularly with an ambitious design and challenging elevations. In CMU's *FOCUS* publication, Associate Vice Provost Ralph R. Horgan acknowledged one particular challenge for the team – that of "building in a hole" due to a 75-foot difference in highest to lowest points of elevation.

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"We've had a close relationship with CMU, having done a number of projects with them over the years," added PJ Dick's Shipe. "We needed to work closely (with them) to make it successful for both parties. And they were right there with us…heavily involved, knowledgeable, construction-oriented and totally into the details. We had some tough periods as we worked through those details, but our mutual respect and long-standing partnership ensured that it all came together, beautifully!"

The entire site was originally designed (and ultimately constructed) around a series of atriums defined by a generous use of glass that allowed natural light to punctuate all individual offices and collective spaces or "collaborative commons." Other novel design features included a helix or curved three-story ramp that also connected the five main entrances to the Centers, dramatic overhangs and cantilevered floors, multiple "green roofs" to abate storm water runoff, and a "Randy Pausch" pedestrian bridge between the two Centers. Both the Gates and Hillman Centers, important new additions to CMU's West Campus Quadrangle, were organized around an outdoor winter garden with pedestrian pathways, benches and natural topography featuring 300 trees in groves, more than 2000 new shrubs and a rain garden populated by wetland plants.

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Other sustainable features, which prepared the facility for Gold LEED Certification, included:

- ONe-half of site area replaced with vegetation
- Open space equal to development footprint
- Underground parking with green roof
- Optimized energy performance via energy recovery wheels, CO2 control and variable speed drives
- Use of local/regional materials, many low emitting
- Construction Waste Management Plan
- Indoor Air Quality Plan
- Indoor chemical and pollutant source control

The World-Class Result: PJ Dick's experience and close partnerships with CMU and local/national subcontractors produced an innovative structure befitting Carnegie Mellon's School of Computer Science, one of the world's premier institutions for computer research and education.

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