

STRUCTURAL ENGINEERING

Tallest Building in Vietnam to Feature Cantilevered Helipad, Lotus Design

THE 68-STORY TOWER that is expected to be the tallest building in Vietnam when it is completed, in late 2010, will have a design suggesting a lotus plant, Vietnam's national flower, and will feature a helipad at the 50th floor that will cantilever approximately 25 m from the building's facade. Under construction in Ho Chi Minh City for the Bitexco Group, which is headquartered in Thai Binh, Vietnam, the 265 m tall Bitexco Financial Tower will also include a six-story retail podium at the base of the tower and a two-level public observation deck on the floors just beneath the helipad, explains Alan Murray, a project leader with Paris-based AREP, the principal architect of the tower.

The Carlos Zapata Studio, of New York City, was the design architect on the project, and Leslie E. Robertson Associates, R.L.L.P. (LERA), also of New

York City, was the main structural engineering firm.

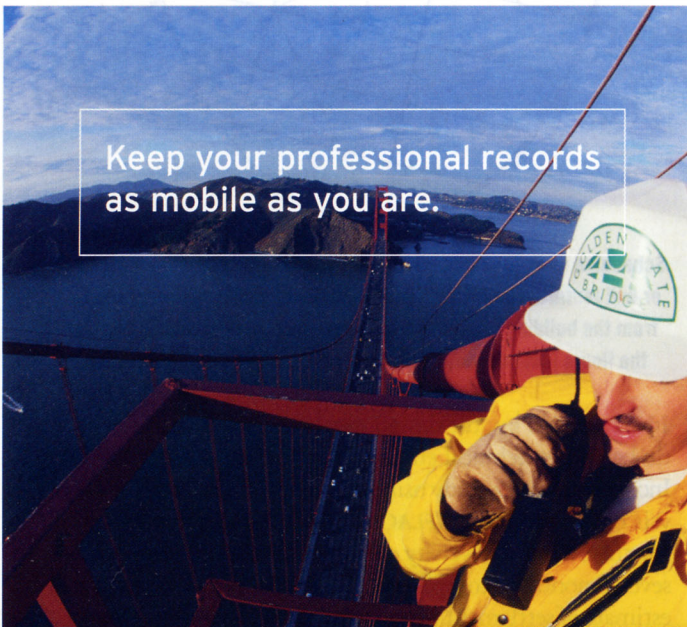
Mostly lozenge-shaped in plan, the concrete-framed tower tapers outward from its base, reaching its maximum floor area approximately a third of the way up the structure. The floor plates then taper inward again, ending with a concave portion in the final 18 levels above the helipad, explains Nayan Trivedi, P.E., an associate partner of LERA who served as the firm's project manager on the Bitexco project; Trivedi worked closely with William Faschan, P.E., M.ASCE, the LERA partner in charge of the project. At its base, the tower's footprint is approximately 30 m in the east-west direction and 52 m in the north-south direction. The cross-sectional area increases to approximately 37 by 60 m at level 23, the building's largest floor. It then diminishes to approximately 26.5 by 50 m at

level 49, just beneath the helipad, and by level 63—the topmost concave office floor—the area is just 16 by 23 m, notes Murray.

Much as a lotus plant blooms in water, the base of the tower will extend upward from a shallow reflecting pool that will continue into the building's interior as a concrete basin covered by a glass walkway, says Murray. What is more, a sheathlike portion of the tower's glazing that starts at level 7 and rises to the roof will wrap around most of the structure's northern, eastern, and western sides and will cantilever approximately 1.5 m past the rest of the facade, suggesting the edge of a lotus leaf, explains Murray.

Though it appears to emerge from water, the tower will be founded on a 4 m thick concrete mat supported on a series of 1,500 mm diameter concrete piles bored to depths of 75 to 85 m, says Trivedi. The podium foundation will consist of a series of 1,200 mm diameter concrete piles bored to depths of 58 to 63 m.

The soil conditions in Ho Chi Minh City, for the most part fill material above



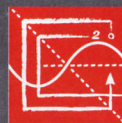
Keep your professional records as mobile as you are.

An NCEES Record is invaluable to every licensed engineer and surveyor on the go.

NCEES Records are recognized nationwide. Once yours is established, you can quickly and easily have it electronically transmitted to any state licensing board to expedite the comity licensure process.

Let an NCEES Record keep track of what you've accomplished, so you're free to work on what's ahead.

www.ncees.org/records
records@ncees.org
800.250.3196



NCEES
advancing licensure for
engineers and surveyors