

Imminent deck closure marks good progress on Belgrade's new landmark



(Photo: Louis Berger)

The new cable-stayed bridge over the Sava River in Belgrade, Serbia, is on track to open to traffic by the end of this year, with the final deck segment due to be erected as *Bd&e* went to press. The Serbian president and the mayor of Belgrade were due to attend a special ceremony on August 8 at which the final 9.5m-long steel segment would be lifted into place.

The single-tower, asymmetric cable-stayed bridge will form part of a new ring road around the city, intended to relieve congestion in the city, as well as creating a new landmark for the capital (*Bd&e* issue no 61). The needle-shaped tower rises to a height of 200m; the steel main span is 376m long and is supported by 80 stay cables connected to the tower and counter-balanced by a post-tensioned, reinforced concrete back span of 200m.

The bridge has been designed to carry a future two-track light rail metro system as well as six lanes of highway traffic, all of which are accommodated on a single deck. The final deck width of 44.5m has resulted in a deck area of more than 16,700m², believed

to be the largest in the world on the main span of a single-mast, asymmetric, cable-stayed bridge.

Construction by contracting consortium Ogranak Sava Most has been continuing apace with the final lift of the concrete section of the bridge tower cast on December 8 last year, at which point the tower reached a height of 175m. A series of further milestones this year were due to culminate with the lifting of the last segment.

Erection of the steel segments of the main span continued up to last month (*July*), synchronised with the installation and initial stressing of the stay cables and at the same time as casting and incremental launching of the concrete deck sections on the side span. The last major launch of the side span took place on July 14.

Piling work for the northern approach ramps from the New Belgrade bank began in January this year, and in April the first piers were cast. Construction of the southern approach ramps also progressed with the first deck sections cast the same month. Progress on the cantilevered main span reached the middle of the river with

the erection of segment 15 in May.

Once the main span and side span have been connected, construction will continue with the installation of the finishing works on the main span, including erection of the 32m-high finial on the tower, corrosion protection of the steel segments, deck waterproofing, traffic barriers, parapets, deck movement joints, lighting system, traffic signs, wearing courses, carriageway painting and support system for the future Belgrade Metro. Final stay tensioning will take place once the full dead loads have been applied to the structure and the bridge is expected to open to traffic at the end of this year. Full contract completion is due for May 2012.

The preliminary design was carried out in 2006 by consultants Ponting, DDC and CPV, whose team won the international competition to design the bridge. The detailed design of the superstructure of the bridge and side span is being carried out by Leonhardt, Andr & Partners. Louis Berger Group is project manager and engineer in association with Serbian consultant Eurogardi Group.

BRIEFING

Indonesia's Ministry of Public Works was due to receive new bids for construction of the 1.3km-long Sei Tayan bridge in Sanggau Regency, West Kalimantan as *Bd&e* went to press in August. If bids are lower than the established reference price, an award will be made within a week. A budget of US\$102 million is available for the project, consisting of a loan from China worth US\$92 million and the balance of US\$10 million, which will come from the state.

A bridge is planned to link the Kingdom of Saudi Arabia with the Egyptian Red Sea resort of Sharm El-Sheikh at a cost of US\$4.5 billion. It will be created by construction of a 32km-long causeway from Tabuk on the Sinai Peninsula in Egypt which will pass through Tiran Island on the Gulf of Aqaba. Work will take an estimated three years to complete and the journey time across the causeway is estimated at just 22 minutes. Annually some 1.5 million Egyptians visit Saudi Arabia and 750,000 Saudis go to Egypt.

Specialist bridge engineering consultant Buckland & Taylor has opened a new office in Alberta, its second branch office after Seattle, Washington. Newly-appointed director Dale Serink will lead the Alberta office; he has more than 30 years of experience in bridge engineering including 15 years with Alberta Transportation. In 1995, he pioneered the transportation structures group at Aecom and co-managed the group until 2010. Most recently, Serink was a senior project manager coordinating the project to twin highway 2 through the town of Peace River. He was project manager for the replacement of the Athabasca River Bridge on Highway 40 in Alberta and was also responsible for the twinning design on a section of the Trans-Canada Highway.