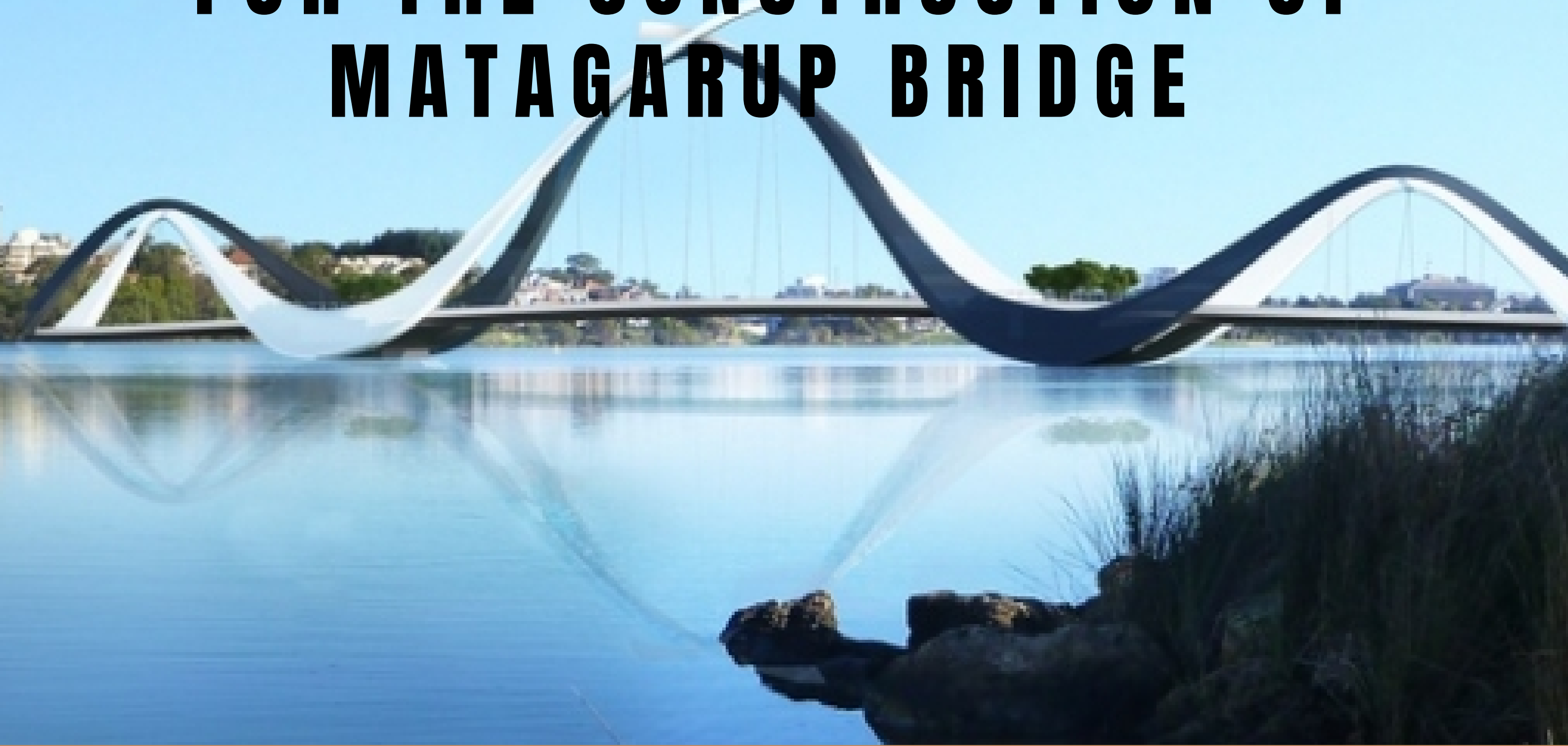


# WEBINAR - DESIGN AND CONSTRUCTION CONSIDERATIONS FOR THE CONSTRUCTION OF MATAGARUP BRIDGE



**TUESDAY, 15 DECEMBER 2020**  
**2.00 P.M. - 4.00 P.M.**



**SPEAKER:**  
**Ir. Tan Su Kwong**

CPD Hours : 2    CPD Ref No : IEM20/HQ/277/T (w)

Registration Fees (effective 1st August 2020)

IEM Members : RM 15.00    IEM Non Members : RM 70.00

Register online | [www.myiem.org.my](http://www.myiem.org.my)

# SYNOPSIS

The constructed Matagarup bridge connects East Perth (western river bank) to the Burswood Peninsula and the new Perth Stadium (eastern river bank). The bridge is approximately 65 m high, 370 m long with a 165 m long cable stayed central span. The bridge is supported on two river piers and two piers on land. A total of forty-eight 1.05 m and 1.2 m diameter close ended steel tube piles were driven to support the piers. This talk presents the geotechnical design and construction considerations of the bridge, with specific focus on the bridge foundation and the temporary causeway constructed to facilitate the successful construction works.

Foundation conditions at this site generally comprise soft Swan River Alluvium (SRA) over alluvial deposits of sand and clay (Sandy Channel Deposits) with underlying very dense sand that is part of the Kings Park Formation (KPF). Fill is present above the SRA on both the eastern and western river banks. The talk will discuss the bridge foundation options and the chosen solution, provide further details on the pile design and driveability as well as comparison with the actual pile driving results and the results obtained from dynamic pile testing at the end of drive and restrike. Subsequently, the talk will present the temporary causeway design, observations during construction and successful ongoing management of the temporary causeway to ensure embankment stability throughout the bridge construction period.

## SPEAKER'S BIODATA

Ir. Tan Su Kwong graduated with a Bachelor of Civil Engineering (Hons) from Monash University, Melbourne in 1999 and Masters of Engineering Science (Research) Geotechnical from Monash University, Melbourne in 2002. He is a Senior Geotechnical Engineer in Golder Associates with over 18 years' experience in soil and site investigation works, design of temporary earth retaining systems, design of shallow and pile foundations, ground vibration assessment, design of reinforced earth walls and the assessment of slope stability in various projects across Australia and Malaysia. Su Kwong has expertise in the interpretation of high strain dynamic pile test data and low strain test data following from his Masters of Engineering Science (Research) at Monash University. He has also been involved in the forensic investigation of pile failures, offshore pile capacity reassessment and driveability studies. He has recently been involved in various major Perth public infrastructure projects with particular emphasis on bridge and embankment foundations on soft soils.