

TALK ON “TRENDS AND DEVELOPMENT OF PRECAST CONCRETE ARCH BRIDGES IN MALAYSIA”

Organised by the Civil and Structural Engineering Technical Division (CSETD)

BEM Approved CPD/PDP: 2 Hours

Ref No: IEM17/HQ/251/T

Date : **09 AUGUST 2017 (Wednesday)**
Time : **05.30 p.m. – 7.30 p.m.**
Venue : **Auditorium Tan Sri Prof. Chin Fung Kee,
3rd Floor Wisma IEM, Petaling Jaya, Selangor**
Speaker : **Ir. TAN GEEM ENG**

SYNOPSIS

Countless arches have been built around the world to fulfill the needs of mankind since time immemorial. Their successful applications with exceptional performance have been recorded as early as 3000 B.C. by the ancient Egyptians, 800 B.C. by the Assyrians, 100 B.C. by the Romans and 610 A.D. by the Chinese. Interestingly many of the arches are still in service conditions with unbelievable durability and appealing aesthetics. The advancement of reinforced concrete and precasting techniques for the past decades has invoked greater creativity for the design and construction of arch bridges. Among them is the emergence of precast closed spandrel arch system or overfilled arch system in the 1960's. Several proprietary precast arch bridge systems have since been developed to replace conventional masonry arch construction with great success and spectacular performance in many applications. The commercially available arch systems are generally assembled from single-leaf, double-leaf or triple-leaf precast segments with their respective proprietary jointing systems. The precast arch systems were introduced into Malaysian market in the 1990's but with limited applications due to cost implications. In recent years, new forms of precast arches with more flexibility have been introduced to meet the requirements of bridge construction.

In this talk, the new trends and development of the *Precast Concrete Closed Spandrel Arch Bridge System* and *Precast Open Spandrel Arch Bridge* in Malaysia will be reviewed. The unique features of both precast arch bridge systems will be presented with comparisons. Several case studies will be discussed with recommendations for future reference.

SPEAKER BIODATA

Ir. TAN GEEM ENG is currently the Technical Director of Rivo Precast Sdn Bhd founded in 2004. He received his Bachelor's degree in Civil Engineering from University of Malaya in 1987. He started his engineering career in contracting, research and consultancy services for the first few years before venturing into precast concrete industry in 1991. For the past twenty over years, he had been actively involved in design and product development works related to precast concrete practices. He spearheaded the research efforts primarily in civil infrastructure sector with conceptualization of new product idea, feasibility study, structural design, experiment, promotion and market development of new inventions. Some notable products introduced were precast Tripod and Counterfort Wall; Sheetpile and Soldierpile Wall; Closed Spandrel and Open Spandrel Arch bridge systems. He had obtained several patents and published technical papers on precast construction. He is a registered PE with BEM, member of IEM, IABSE and IASS. His current research interests include precast arch bridge and wall systems, focusing on new precast construction technique with innovative features.

Ir. Dr. NG SOON CHING
Chairman
Civil and Structural Engineering Technical Division

ANNOUNCEMENT TO NOTE

- Non-members may also attend the talk but will need to pay a registration fee of RM50 and an administrative fee of RM15. GST is inclusive.
- Limited seats are available on a "first come first served" basis (maximum 100 participants). **To secure your seat, kindly register online at www.myiem.org.my**

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