Dear Sir/Madam,

The First International Seminar on Design & Construction of Second Penang Bridge is the forerunner among a sequel of 4 + 1 seminars which are planned to be held once a year, aimed to spread the knowledge and experience on the design, construction and operation aspects of the Project.

This seminar will expose participants on the design considerations and vital inputs involved not just in engineering field, but other aspects as well such as environmental, social and much more.

Set to be the longest bridge in South-East Asia with a total length of 16.9km, the bridge has generated large interest from your peers in the construction industry. With this in mind, the Organizer has assembled world renowned panel of speakers representing the people involved in the project to bring their expertise and experience.

Attend the First International Seminar on Design & Construction of Second Penang Bridge taking place from 15th to 16th November 2011 in Kuala Lumpur, Malaysia and benefit from the following key sessions:

- Find out about the fast-track design and construction concept adopted, alternative materials used, as well as the implementation of sustainable bridge construction for the Project,
- Gain comprehensive knowledge on the breakthrough technologies applied in the project,
- Catch a glimpse of the insights of the construction progress and what to be expected after the completion

A sneak peek of the speakers:

- Mr. Naeem Hussain, Global Leader for Bridge Design, Arup Group Ltd., Hong Kong.
- Dr. Robin Sham, Global Long Span & Specialty Bridges Director, AECOM Asia Co. Ltd., Hong Kong.
- Mr. Afshin Forouzani, Managing Director, RB International (Malaysia Division) Sdn. Bhd.
- Dr. Kamarudin Ab. Malek, CEO, Tun Abdul Razak Research Centre (TARRC), United Kingdom.
- Dr. Ir. Chiu Sing Lok, Technical Director Geotechnical, AECOM Asia Co. Ltd.

Don’t miss the opportunity to learn and network with the industry’s leading experts in the bridge construction industry to expand your knowledge for your next engineering project.

For more information, please visit our website at www.jambatankedua.com.my / www.lmnet.gov.my / www.ream.org.my or call us at +60 03 2084 5111.

I look forward to meeting you in person at the seminar.

Best regards,

Dato' Ir. Ismail bin Md. Salle
Patron,
First International Seminar on Design & Construction of Second Penang Bridge
FIRST INTERNATIONAL SEMINAR
ON THE DESIGN & CONSTRUCTION OF SECOND PENANG BRIDGE

Interesting Facts:

- Longest bridge in South East Asia - 16.9 km long
- Bored pile - One of the deepest in the world at 130m deep
- World’s largest Statnamic Load Test at 54 MN
- High Damping Rubber Bearing for full seismic protection

12 CPD HOURS APPROVED!

SUSTAINABILITY THROUGH INNOVATION IN DESIGN

15 - 16 November 2011
+ Optional Site Visit on 17 or 19 November 2011
The Legend Hotel Kuala Lumpur, Malaysia

Dear Friends,

The construction of the Second Penang Bridge will achieve 70% progress of work by the end of 2011. The bridge connecting Batu Kawan on the Mainland and Batu Maung on the island when completed will be the longest in South-East Asia with the total length of 16.9km and total estimated construction cost of RM 4.5 billion.

In supporting government efforts to promote innovation and green technology, we have considered minimal maintenance concept in its planning, design and execution.

We take great pleasure in inviting you to participate in our special prestigious event. This inaugural seminar is the forerunner among sequels of 4 + 1 seminars which are planned to be held once a year. Do not miss this opportunity to be a part of an enlightening knowledge sharing event. We look forward to seeing you there.

Best regards,

DATO’ IR. ISMAIL BIN MD. SALLEH
PATRON,
FIRST INTERNATIONAL SEMINAR ON THE DESIGN AND CONSTRUCTION OF SECOND PENANG BRIDGE

Y.B. DATO’ SHAZIMAN ABU MANSOR
MINISTER OF WORKS, MALAYSIA
GUEST OF HONOUR

Why You Should Attend:
1. Acquire information on the cutting-edge design approach and criteria which prioritises long term sustainability of the structure with minimal impact on the environment.
2. Provide further enlightenment with regard to the engineering measures applied to achieve better quality work.
3. Grant experience to the construction progress and what to be expected after completion of the project.

Academic and Industry Leaders - Professionals from Government and Private Organisations such as: The Authority, Concessionaires, Contractors, Consultants, Suppliers which are directly or indirectly involved in the construction, maintenance and operation of highway and bridge projects INCLUDING the public and academicians who are interested in having an in-depth understanding on the design, the construction method used during the construction and other unique elements in the implementations of the project.
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● Contractors ● Consultants ● Suppliers ●
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3. Provide further enlightenment with regard to the engineering measures applied to achieve better quality work.

The seminar is crucial to achieve the following main objectives:

Sharing knowledge and experience on the design, construction and operation aspects of the project.

This is the first of its kind seminar in Malaysia on a prestigious bridge project which is bound to have its own uniqueness in terms of seismic resistance, ship impact, 100% primary ground consolidation for land expressway and statnamic test on bored piles, to name a few.

This seminar will expose participants on the design considerations and vital inputs involved not just in engineering field, but other aspects as well such as environmental, social and much more.

Y.B. DATO’ SHAZIMAN ABU MANSOR
MINISTER OF WORKS, MALAYSIA
GUEST OF HONOUR
GUEST OF HONOUR
SEMINAR DAY ONE - TUESDAY, 15 NOVEMBER 2011

0800  REGISTRATION
0915  VIPs’ ARRIVAL
       OPENING CEREMONY
       Officiated by the Minister of Works
1000  COFFEE BREAK

1030  The Second Penang Bridge
       Overview – Progress of Work
       DATO’ IR. DR. ISMAIL
       BIN MOHAMED TAIB
       Managing Director,
       JAMBATAN KEDUA SDN. BHD.

- Dato’ Ir. Dr. Ismail Mohamed Taib has 30 years
  hands-on highway bridge planning, design and
  construction experiences.
- Prior to his secondment to Jambatan Kedua Sdn.
  Bhd, he was the Senior Director of Civil, Structure
  and Bridge Engineering Branch of Public Works
  Department, Malaysia (PWD).
- He holds a PhD. in Civil Engineering from
  University of Wales, Swansea and MSc in
  Structural Engineering from Heriot-Watt University,
  Edinburgh, UK.
- He has widely presented papers on planning,
  design and construction of bridges.

1100  Feasibility Study for the Second
       Penang Bridge
       DATO’ IR. DR. AZMI BIN HASSAN
       Director,
       HIGHWAY PLANNING UNIT,
       MINISTRY OF WORKS MALAYSIA

- Dato’ Ir Dr. Azmi Hassan will present on the
  technical and economic feasibility of alternative
  alignments of the proposed Second Crossing.
- The study area covers the whole State of Penang
  for socio-economic and traffic forecast.
- Apart from that, the study also highlighted on
  preliminary engineering design, detailed economic
  and financial evaluation, toll application studies
  and the summary of Preliminary Environmental
  Impact Analysis.
- Various factors will be discussed in relation to the
  necessity of the Second Crossing to support
  growing traffic demands and improve the
  transportation system

1200  LUNCH BREAK

1400  Cable Stayed Bridge Design
       MR. NAEEM HUSSAIN
       Global Leader for Bridge Design,
       ARUP GROUP LTD., HONG KONG

- Mr. Naeem Hussain is an expert in long span cable
  supported bridges and has been awarded a
  lifelong honorary title of ‘Arup Fellow’.
- He studied engineering at West Pakistan University
  in Lahore. He later on moved to the UK and studied
  architecture at the School of Architecture in London,
  then took an MSC in Concrete Structures at Imperial
  College. He has been working with Arup since 1969.
- He designed and supervised the construction of
  Stonecutters Bridge in Hong Kong which has the
  world's second longest cable-stayed span of
  1,018m and other major projects such as the
  Hulme Arch, Oresund Bridge, Forth Bridge and
  Incheon Bridge.

1500  Marine Bridge Design
       DR. ROBIN SHAM
       Global Long Span and Specialty Bridges
       Director,
       AECOM ASIA CO. LTD., HONG KONG

- Dr. Robin Sham has contributed various research,
  analysis, design and construction solutions for
  numerous signature and mega bridge projects
  including Second Severn Crossing, Tsing Lung Bridge,
  Golden Gate Bridge, Stonecutters Bridge and
  Sutong Bridge.
- He is a leading international figure and a forefront
  of innovation in long-span bridge engineering.
- He received his doctorate from Imperial College,
  London, and has pursued with passion a career in
  bridge engineering, one that spans over 30 years
  and several continents.

1600  HDRB Design for Approach Bridge
       DR. KAMARUDIN AB. MALEK
       CEO,
       TUN ABDUL RAZAK
       RESEARCH CENTRE (TARRC), UK

- Dr. Kamarudin Ab. Malek will present on the
  seismic risk to this major new structure from large
  far field events, resulting in the decision to use
  isolators to reduce the seismic loads on the
  structure due to 2500 year return period seismic
  event;
- He will present on the reason behind the choice of
  the Standards used in the design of the isolation
  system and the actions the bearings are required to
  meet, and;
- Dynamic properties of the bearings under different
  conditions and also show the performance of the
  innovative mechanism for dealing with the shrink
  age of the deck.

1700  COFFEE BREAK - END OF DAY 1
**SEMINAR DAY TWO - WEDNESDAY, 16 NOVEMBER 2011**

### 0900 Substructure Design of Approach Bridge (Ship Impact)

**DR. RICHARD D. COLWILL**

**BMT ASIA PACIFIC LTD**

- Dr Richard D. Colwill is a specialist marine engineer/scientist with particular expertise in the management and conduct of marine risk and planning studies associated with port, reclamation and infrastructure development.
- Richard was initially trained as a maritime civil engineer and later gained offshore Oil & Gas and research experience.
- Since relocating to SE Asia in the mid 90’s and joining BMT in Hong Kong, he has conducted a wide variety of marine risk and planning assessments for Asia’s busiest ports in Korea, Singapore, Hong Kong and China.
- These studies have encompassed design support to the construction and operation of long-span bridges.

### 1000 Superstructure Design of Approach Bridge

**MR. AFSHIN FOROUZANI**

**Managing Director, RB INTERNATIONAL (M’SIA DIVISION) SDN. BHD.**

- Mr. Afshin Forouzani will present the structural design of the 55m span box girder decks as well as the use of high damping rubber bearings to help reduce the seismic forces on the substructure.
- He will also explain on the “no collapse” requirements for a 1,2500 years return period for a severe seismic event.
- He has been involved with many civil engineering structures, but has particular skills in precast segmental bridge technology.
- He attained his engineering education at Imperial College, University of London with a first class Honours degree. He became a Fellow of the Institution in 2006, and is a Member of the Institution of Civil Engineers, a Euro Engineer and a Professional Engineer in Singapore.

### 1100 COFFEE BREAK

### 1130 Formulation of Effective Environment Management Plan

**Y. M. RAJA ROKIAH BT. RAJA SAIGON**

**Project Manager, YES ENVIRO SERVICES SDN. BHD.**

- YM Raja Rokiah Raja Saigon will present the Environmental management plan (EMP) adopted in implementing the Second Penang Bridge and;
- EMP Effectiveness is to ensure adverse impacts on the environment are minimised to an acceptable level.

### 1230 Bored Pile Design and Instrumentation

**DR. IR. CHIU SING LOK**

**Technical Director Geotechnical, AECOM ASIA CO. LTD.**

- Dr. Ir. Chiu Sing Lok, a geotechnical expert and Registered Geotechnical Engineer (RGE), HK, has been in the field of geotechnical engineering and academic research for more than 26 years.
- He graduated in civil engineering at National Taiwan University in 1978, MSc in soil mechanics at Imperial College in 1981 and PhD at Sydney in 1997.
- In recent years he has been actively involved in various sizable foundation and basement construction works, reclamation and ground improvement (vertical drains) works.
- More recently, taking up a role as a specialist advisor for foundation works to CHEC, he was deeply involved in design and construction of the Second Penang Bridge foundation.

### 1330 LUNCH BREAK

### 1430 Soil Investigation at Land Expressway in Accordance with MS2038

**IR. SHAIK ABDUL WAHED**

**DATO’ HJ. RAHIM**

**Director, JURUTERA PERUNDING GEA (M) SDN. BHD.**

- Ir. Shaik Abdul Wahed will provide explanation on the importance of soil investigation (SI) and the process of obtaining SI information for this project.
- He shall present the problems faced during the process of getting the required parameters.
- Author of Slopes Made Simple book which deals with issues like construction of slopes and retaining walls, various components of slopes and how they work, maintenance of slopes, drainage systems.

### 1530 Ground Treatment at Land Expressway

**DR. NAGENDRA MYSORE VENKOBARAO**

**Manager of Geotechnical Division, MINCONSULT SDN. BHD.**

- Dr. Nagendra has over 30 years experience in the field of geotechnical engineering covering wide range of areas such as foundations, stability analysis and ground improvement.
- He will provide enlightenment on the details of the various methods of ground improvement adopted for the construction of the land expressway and;
- The necessity of ground improvement decided based on the performance requirement of 100 % primary consolidation for the expressway prior to hand over.

### 1630 CLOSING
SECOND PENANG BRIDGE GENERAL INFORMATION

| Year Built | 2008 |
| Overall Length | 24 km |
| Length Over Water | 16.9 km |
| Type of Bridge : Main Bridge | Cable stayed bridge with beam & slab deck |
| Type of Bridge : Approach Bridge | Box girder bridge |
| Main Navigation Span | 117.5m + 240m + 117.5m |
| Main Navigation Span Ship Protection | Steel box buffer system |
| Other Span | 55m |
| Speed Limit | 80 km/h |

SECOND PENANG BRIDGE TECHNICAL INFORMATION

Traffic Loading to BD 37/2001, HA + 45 units HB unguided

Seismic design:
- 475 year event
  - Ground peak acceleration: 0.1773 g
- 2500 year event - no collapse
  - Ground peak acceleration: 0.3261 g

Structural concrete design to BS 5400: 2006

Durability requirements to latest Eurocodes

High performance concrete: RCPT less than 800 Coulombs for 56 days

Estimated Concrete Strength:
- Spun pile : 80 N/mm²
- Pile cap : 40 N/mm²
- Pylon : 50 N/mm²
- Box girder : 55 N/mm²

Expansion joint at every 5 or 6 spans (275m or 330m)

Degree of compaction for earth embankment: 100 %

Settlement criteria for earth embankment: 50 mm in 20 years

Pavement IRR Index: 2m/km

ENQUIRIES
The Seminar Committee,
Jambatan Kedua Sdn. Bhd.,
Level 10, Bangunan Setia 1,
15 Lorong Dungan,
Bukit Damansara, 50490
Kuala Lumpur, Malaysia.
Tel : (603) 2084 5111
Fax : (603) 2084 5103
Email : seminar@jambatankedua.com.my

REGISTRATION
The Seminar Committee,
No.46A, Jalan Bola Tampar 13/14,
Section 13,
40100 Shah Alam,
Selangor Darul Ehsan, Malaysia.
Tel : (603) 5513 6521/22
Fax : (603) 5513 6523
Email : azah@ream.org.my / ream@po.jaring.my

ALTERNATIVE HOTELS & ACCOMMODATION:
For the convenience of seminar participants, we also recommend several quality alternative hotels within the vicinity of the seminar venue as follows:

- SERI PACIFIC HOTEL
- THE LEGEND HOTEL
- GRAND SEASONS HOTEL
- CITITEL EXPRESS
- SHERATON IMPERIAL

VENUE AND ACCOMMODATION

TRIVIA

View of Completed Piers
Launching of Segmental Box Girders (SBG) in progress
High Damping Rubber Bearing

Artist Impression of the Second Penang Bridge
**PAYMENT AND REGISTRATION**

**REGISTER AND PAY IN FULL NOT LATER THAN 10 NOVEMBER 2011**

**SEMINAR FEE:**
- RM 500.00 (for REAM Members / Public Sector)
- RM 600.00 (for non-REAM Members / Corporate Sector)

Students / Groups (More than 3 pax) are entitled for special discount. Please enquire.

**DATE:**
- 15 - 16 November 2011
- (Followed by optional Site Visit on 17 or 19 November 2011)

Please complete Part 1 (in BLOCK LETTERS) and Part 2 of the Registration Form and tick (/) wherever appropriate if you wish to attend the seminar.

**PART 1 : DELEGATE DETAILS**

<table>
<thead>
<tr>
<th>Full Name :</th>
<th>Dato' / Datin / Prof. / Ir. / Dr. / Mr. / Mrs. / Ms.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nationality :</td>
<td>Tel (Mobile) ; Tel (Office) :</td>
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<tr>
<td>REAM Membership No. :</td>
<td>Fax No :</td>
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<td>Job Title / Designation :</td>
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<td>Company / Institution / Organisation Name &amp; Address :</td>
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<td>Contact Person Name &amp; Phone + Fax Number :</td>
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</tbody>
</table>

**PART 2 : PAYMENT**

Payment can be made either by Cheque/ Bank Draft/ Direct Bank-in to
Bank : MAYBANK CAWANGAN BUKIT DAMANSARA
Account Name : SEMINAR ISDC SPB
Account No : 5643 2441 8044

Please make a copy of your complete submission for your record.

- Enclosed herewith is the Cheque / Bank Draft No / Local Order No for the sum of RM ____________ being payment for registration fee.

  **Cheques should be crossed ‘A/C Payee Only’ and post together with this form**

- Direct bank-in for the sum of RM ____________ being payment for registration fee.

  **Please fax the transaction receipt together with this form**

**VENUE AND ACCOMMODATION**

**THE LEGEND HOTEL KUALA LUMPUR**
Putra Place, 100 Jalan Putra, 50350, Kuala Lumpur, Malaysia

**HOTEL CONTACT DETAILS:**
- Tel: (603) 4042 9888
- Fax: (603) 4043 0700
- Website: www.legendhotelkl.com

Hotel accommodation and travel costs are not included in the registration fee.

A reduced corporate room rate has been arranged at **THE LEGEND HOTEL KUALA LUMPUR** for participants.

To take advantage of this special rate, please process the hotel room reservation form provided upon confirmation of your attendance and submit directly to Legend Hotel, Kuala Lumpur before 5 November 2011.

**PAYMENT TERMS**

The registration is considered valid upon our confirmation via email or fax after receiving the complete registration form with full payment before 10 November 2011.

Refund upon request is available in case of the event is cancelled due to unforeseen circumstances. In case the event is rescheduled, we will inform you with the new date and time. If you cannot make it to the new schedule, your payment will be considered refundable.

Upon receiving the completed form, we acknowledge that you have agreed on this Payment Terms.

**I hereby certify that I have provided the correct details in this Seminar Registration Form and understand the Payment Terms set out in this document.**

| Signature : | ___________________________ |
| Name : |
| Date : |
HOTEL RESERVATION FORM

FIRST INTERNATIONAL SEMINAR
ON THE DESIGN & CONSTRUCTION OF SECOND PENANG BRIDGE”
THE LEGEND HOTEL, KUALA LUMPUR
15th – 16th November 2011

The Legend Hotel is a 5 star hotel with 620 rooms strategically located in the heart of Kuala Lumpur and the city’s major commercial district. The Hotel is located above The Mall, which offers the best in Shopping and Entertainment and is within walking distance to Putra World Trade Centre. The Light Rail Transit and the KTM Commuter is located adjacent to the hotel.

I would like to make the following reservation/s: (Please tick)

Superior  □ (Single) RM220.40 nett  □ (Double) RM255.20 nett
Deluxe    □ (Single) RM261.00 nett  □ (Double) RM284.20 nett
Executive Room /Legend Crest □ (Single) RM469.80 nett  □ (Double) RM527.80 nett

- Room rates quoted above are inclusive of 10% service charge & 6% government tax and complimentary buffet breakfast.
- Separate bill will be issued upon request during check in.

Guest’s Name ____________________________________________________________
Company ________________________________________________________________
Address  ________________________________________________________________
Telephone __________________________   Fax _____________________________
Arrival Date __________________________   Departure Date __________________

Terms and Conditions:
1. The above room rates are applicable for this event only and effective within the stipulated event dates.
2. Notification on cancellation must be given to the hotel not later than seven (7) days before check in date, otherwise a one (1) night’s room charge will be levied.
3. Please guarantee your booking by 5th November 2011, with credit card details. Failing which reservation will be accepted based on room availability.

Method of Payment: (Please Tick)
Credit Card Type  □ AMEX  □ VISA  □ MASTERCARD  □ DINERS OR  Local Order □
Credit Card No. ___________________________ Expiry Date __________________

Specimen Signature __________________________________________________________
* for AMEX cardholder please advise your non-embossed C.I.D number ________________

Note: The hotel’s official check-in time is 1400 hrs on day of arrival and check-out is 1200 hrs on day of departure. The hotel will make every effort to accommodate arrival before 1400 hrs. A half day charge is applicable for late check-out until 1800 hrs. Rooms occupied beyond 1800 hrs will be charged a full day’s room rate.

Please send this reservation request to Mrs. Azura Abd Rauf at fax number 03 - 4042 9069 and Contact Number; 603 4042 9888 ext. 8032.