### Malaysian Construction Research Journal (MCRJ) Special Issue Requirements

\*\*\* MCRJ Special Issue is published in maximum 3 separate volumes every year.

\*\*\* MCRJ Special Issue publication is a **first come first serve basis**.

\*\*\* To **book a slot**, an organisation/ university/ institutional must send an **official intention letter** to MCRJ secretariat. Kindly send your enquiry/intention to <u>huda@cream.my</u> (Nurulhuda Mat Kilau).

\*\*\* Maximum **20 selected paper** only. The length of articles should be between 3,500 and 8,000 words or approximately 8 – 15 printed pages (final version).

\*\*\* Fee **RM 20,000.00** per issue.

# All papers (**ARTICLE STANDARD**) must be RELATED TO THE **CONSTRUCTION INDUSTRY.**

#### \*\*\* The similarity index must be lower than 20%.

\*\*\* **Papers** in each issue must be **mixed** from different organisation/ university/ institutional.

\*\*\* Each paper must be reviewed by **at least two different reviewers**. Reviewer **MUST NOT** be from the **same organization as the author**.

\*\*\* **Reviewers** must be **MIXED** and **BALANCED** between **local and international** from different organisation/ university/ institutional.

\*\*\* **Organisers/ Reviewers** must make sure all submitted papers are in article standard. If the paper **published in SCOPUS** is **not entitled as an article**, MCRJ will not take responsibility.

# MALAYSIAN CONSTRUCTION RESEARCH JOURNAL (MCRJ)

### SPECIAL ISSUE Vol. X | No. Y | 20ZZ

## 9<sup>TH</sup> INTERNATIONAL CONSTRUCTION CONFERENCE (XYZ) 20XX

The Malaysian Construction Research Journal is indexed in **Scopus Elsevier** 

eISSN No.: 2590 – 4140

Construction Research Institute of Malaysia (CREAM) Level 29, Sunway Putra Tower, No. 100, Jalan Putra, 50350 Kuala Lumpur MALAYSIA

### Contents

Introduction	iv
Editorial Advisory Board	v
Editorial	vii
CODIFICATION AND APPLICATION OF SEMI-LOOF ELEMENTS Intan Maria Farhan,	1

### Introduction

Welcome to this special issue in Malaysian Construction Research Journal (MCRJ) for the 9<sup>th</sup> International Conference (XYZ2020). This conference has been an "avant garde" conference successfully hosted by the Faculty of Engineering, Universiti ..... (UXYZ) over....

#### Note:

The introduction should not focus more on the conference but **should emphasise more about the general theme or concept of the special issue**.

### **Editorial Advisory Board**

**Zuhairi Abd. Hamid, Prof., Ir., Dr.,** *Editor* Construction Research Institute of Malaysia (CREAM)

**Prof. .....** *Editor* Faculty of Engineering, UXX Malaysia

•	•	•

**Dr ....** *Co-Editor* Faculty of Engineering, UXX Malaysia

**Dr** ... **Co-Editor** Faculty of Engineering, UXX Malaysia

.....

- .....
- •
- •

•

**Dr** ... Faculty of Engineering, UXX Malaysia

**Dr** ... Faculty of Engineering, UXX Malaysia

Prof. ..... Faculty of Engineering, UXX Malaysia

· · · · ·

Maria Zura Mohd. Zain Construction Research Institute of Malaysia (CREAM)

..... . ..

. . . . . . . . . . . . . . . .

#### **Secretariat Special Issue**

**Dr** .... Faculty of Engineering, UXX Malaysia

····

Nurulhuda Mat Kilau Construction Research Institute of Malaysia (CREAM)

**Tengku Mohd Hafizi Raja Ahmad** Construction Research Institute of Malaysia (CREAM)

Intan Diyana Musa Construction Research Institute of Malaysia (CREAM)

Dr Natasha Dzulkalnine Construction Research Institute of Malaysia

All the reviewer must be included

Note:

Name with **red font colour must be** included in the list of Editorial Advisory board

.....

### Editorial

#### Welcome from the Editors

Welcome to this special issue in Malaysian Construction Research Journal (MCRJ) for the 9<sup>th</sup> International Conference (XYZ2020). We would like to express our sincere gratitude to our contributing authors, reviewers, organizers and readers.

This special issue in MCRJ for XYZ2020 contains twenty (20) interesting papers covering the theme of "Sustainable Construction...". It is hoped that the readers would greatly benefit from the scientific content and quality of papers published in this issue:

Brief introduction of each article is given as hereunder:

Intan Maria Farhan et al., have analysed the design change dynamics in building construction. Systemic effects of design changes .....

Language: Follow the spelling of the Oxford English Dictionary.

Size/Page Setup: Executive (18.42 cm x 26.67 cm)

Margin: Top - 3cm, Bottom, Left and Right - 2.01cm

Paper title: Arial, 16.

### CODIFICATION AND APPLICATION OF SEMI-LOOF ELEMENTS FOR COMPLEX STRUCTURES

#### (FULL NAME) Ahmad Abd Rahman<sup>1,2</sup>, Maria Diyana Musa<sup>2</sup> and Sumiana Yusoff<sup>2</sup>

<sup>1</sup>Department of Quantity Surveying, Faculty of Architecture, Planning and Surveying, Universiti Teknologi MARA, Sarawak, Malaysia <sup>2</sup> Institute of Ocean and Earth Sciences (IOES), University of Malaya, Malaysia

Abstract (Arial Bold, 9pt) Damage assessment ...... (Arial, 9pt. Left and right indent 0.64 cm, it should be single paragraph of about 100 – 250 words.)

**Keywords:**(Arial Bold, 9pt) *Finite Element Analysis; Modal Analysis; Mode Shape; Natural Frequency; Plate Structure (Time New Roman, 9pt)* 

#### HEADING 1 (Arial Bold + Upper Case, 11pt)

#### Heading 2 (Arial Bold + Lower Case, 11pt)

Heading 3 (Arial Italic + Lower Case, 11pt)

Body Text: Times New Roman, 11 pt. All paragraph must be differentiated by 0.64 cm tab.

**Figures:** Figures should be in box with line width 0.5pt. All illustrations and photographs must be numbered consecutively as it appears in the text and accompanied with appropriate captions below them.

Figures caption: Arial Bold + Arial, 9pt. should be written below the figures.



Figure 8. Computed attic temperature with sealed and ventilated attic

Tables: Arial, 8pt. Table should be incorporated in the text.

Table caption: Arial Bold + Arial, 9pt. Caption should be written above the table.

#### Table Line: 0.5pt.

Table 1. Recommended/Acceptable Physical water quality criteria			
Parameter	Raw Water Quality	Drinking Water Quality	
Total coliform (MPN/100ml)	500	0	
Turbidity (NTU)	1000	5	
Color (Hazen)	300	15	
рН	5.5-9.0	6.5-9.0	

(Source: Twort et al., 1985; MWA,1994)

Units: All units and abbreviations of dimensions should conform to SI standards.

#### Citation:

Passage Type	First reference in text	Next reference in text	Bracket format, first reference in text	Bracket format, next reference marker in text
One author	Walker (2007)	(Walker, 2007)	(Walker, 2007)	(Walker, 2007)
Two authors	Walker and Allen (2004)	Walker and Allen (2004)	(Walker & Allen, 2004)	(Walker & Allen, 2004)
Three authors	Bradley, Ramirez, and Soo (1999)	Bradley et al. (1999)	(Bradley, Ramirez, & Soo, 1999)	(Bradley et al., 1999)
Four authors	Bradley, Ramirez, Soo, and Walsh (2006)	Bradley et al. (2006)	(Bradley, Ramirez, Soo, & Walsh, 2006)	(Bradley et al., 2006)
Five authors	Walker, Allen, Bradley, Ramirez, and Soo (2008)	Walker et al. (2008)	(Walker, Allen, Bradley, Ramirez, & Soo, 2008)	(Walker et al., 2008)
Six or more authors	Wasserstein et al (2005)	Wasserstein et al. (2005)	(Wasserstein et al., 2005)	(Wasserstein et al., 2005)
Organisation (easily identified by the initials) as the author	Sultan Idris Education University (UPSI, 2013)	UPSI (2013)	(Sultan Idris Education University [UPSI], 2013)	(UPSI, 2013)
Organisation (No abbreviation) as the author	Pittsburgh University (2005)	Pittsburgh University (2005)	(Pittsburgh University, 2005)	(Pittsburgh University, 2005)

(Source: UPSI, 2019)

**Reference:** Times New Roman, 11pt. Left indent 0.64 cm, first line left indent – 0.64 cm.

References should be listed in **alphabetical order**, on separate sheets from the text. In the list of references, the titles of periodicals should be given in full, while for books should state the title, place of publication, name of publisher, and indication of edition.

- Johan, R. (1999) Fire Management Plan for The Peat Swamp Forest Reserve of North Selangor and Pahang. In Chin T.Y. and Havmoller, P. (eds) Sustainable Management of Peat Swamp Forests in Peninsular Malaysia Vol II: Impacts. Kuala Lumpur: Forestry Department Malaysia, 81-147.
- Siti Hawa, H., Yong, C. B. and Wan Hamidon W. B. (2004) Butt Joint in Dry Board as Crack Arrester. Proceeding of 22nd Conference of ASEAN Federation of Engineering Organisation (CAFEO 22). Myanmar, 55-64.
- Skumatz, L. A. (1993) Variable Rate for Municipal Solid Waste: Implementation, Experience, Economics and Legislation. Los Angeles: Reason Foundation, 157 pp.
- Sze, K. Y. (1994) Simple Semi-Loof Element for Analysing Folded-Plate Structures. Journal of Engineering Mechanics, 120(1):120-134.
- Wong, A. H. H. (1993) Susceptibility to Soft Rot Decay in Copper-Chrome-Arsenic Treated and Untreated Malaysian Hardwoods. Ph.D. Thesis, University of Oxford. 341 pp.

Publication	References formatting
Journal	Sze, K. Y. (1994) Simple Semi-Loof Element for Analysing Folded-Plate Structures. Journal of Engineering Mechanics, 120(1):120-134.
Books	Skumatz, L. A. (1993) Variable Rate for Municipal Solid Waste: Implementation, Experience, Economics and Legislation. Los Angeles: Reason Foundation, 157 pp.
Thesis	Wong, A. H. H. (1993) Susceptibility to Soft Rot Decay in Copper-Chrome-Arsenic Treated and Untreated Malaysian Hardwoods. Ph.D. Thesis, University of Oxford. 341 pp.
Chapter in bookJohan, R. (1999) Fire Management Plan for The Peat Swamp Forest Reserve of and Pahang. In Chin T.Y. and Havmoller, P. (eds) Sustainable Management of F Forests in Peninsular Malaysia Vol II: Impacts. Kuala Lumpur: Forestry Departm 81-147.	
Proceedings	Siti Hawa, H., Yong, C. B. and Wan Hamidon W. B. (2004) Butt Joint in Dry Board as Crack Arrester. Proceeding of 22nd Conference of ASEAN Federation of Engineering Organisation (CAFEO 22). Myanmar, 55-64.

MCRJ Special Issue Vol. 8 | No. 3 | 2019

### Editorial

Welcome from the Editors

Welcome to this special issue in Malaysian Construction Research Journal (MCRJ) for the International Conference on Built Environment and Engineering 2018 (IConBEE 2018). We would like to express our sincere gratitude to our contributing authors, reviewers, organizers and readers.

This special issue in MCRJ for IConBEE 2018 contains eighteen (18) interesting papers covering the theme of "Enhancing Construction Industry Through IR 4.0". It is hoped that the readers would greatly benefit from the scientific content and quality of papers published in this issue. Brief introduction of each article is given as hereunder:

Azlan Ariff Ali Ariff et al., have presented on how green envelope options affect the Energy Usage Index (EUI) of a two-level library. This study employs a quantitative approach using Revit Building Information Modelling (BIM) simulation software. Variations in the building parameters simulated are building orientation, envelope material, thermal insulation, and envelope treatment. The study reveals that double-glazed windows and green roof contributed a substantial improvement on the as compared to the building control system. The credible results also support the application of building simulation to improve envelope design and to predict the possible outcomes of design alternatives before the building is constructed.

**Nur Khaliesah Abdul Malik et al.,** have explained on the cumulative floatable litter load captured at the log boom during the extreme events by using the Gumbel distribution method for frequency analysis in river discharge of Sungai Batu. The annual maximum river discharge for a period of 35 years (1982 to 2016) was used in Gumbel distribution method to obtain the discharge for different return period (2, 5, 10, 25, 50, 100, and 200). The result shows that the estimated discharge (103.17 m<sup>3</sup>/s) can estimate the cumulative floatable litter load (53267.27 kg/day) at 50 years return period. The R2 value obtained from non – linear regression analysis is 0.9986 indicate that Gumbel distribution is suitable to predict the expected discharge of the river.

**Ismail Abdul Rahman et al.,** have explored on major reasons affecting productivity of the labour in construction works for the nation of Pakistan which is experiencing low productivity problem. This was achieved by survey using a questionnaire form developed based on 33 common reasons of labour productivity identified from review of published articles in journals and conference proceeding. Fifty-four completed forms received were analysed with weighted average formula. Analysis revealed that all the factors frequent occurrence significantly effect productivity. three most significant reasons include misuse of time schedule, increase of labourer age and weather changes.

**Rumaizah Mohd Nordin et al.**, have studied on the participation of local labour in the Malaysian construction industry as the long-term solution on the over-reliance of foreign labour in Malaysian construction industry. This paper presents a document analysis through two documents which has been chosen for the study. These findings will recapitulate the current situation of the local labour participation in the Malaysian construction industry.

**K.L.A.K.T. Liyanage et al.**, have demonstrated on identifying enablers and barriers to adopt Zero Waste (ZW) concept in the construction industry. This paper critically reviews the secondary data on waste management studies conducted in the construction industry and findings from eight case studies. Along with the qualitative approach, under case studies, semi-structured interviews. The findings revealed that conducting meetings to laborers, assigning supervisors and managers to monitor laborers and procurement coordination were identified as the key enablers to adopt zero waste while poor supervision, lack of skilled laborers, lack of awareness, lack of attitude and lack of housekeeping were identified as the barriers to adopt zero waste concept in the construction industry.

**Nur Aqlima Ramli et al.,** have discussed on identifying the benefits for the implementation of green cleaning practice during maintenance in Malaysian schools. Twelve benefits were identified from the literatures, and a questionnaire survey that involved green cleaning experts was carried out. Frequency analysis and Importance Index calculation were performed to rank the benefits. The result indicates that "improve indoor air quality (IAQ)" and "provide safe and healthy environment to occupants and janitors" are the most important benefits of green cleaning practice during operation and maintenance stages in Malaysian school.

**Mohd Hisham Ariffin et al.,** have identified the influence of the superior's Bourdieu capital upon their creativity. The study adopted interview method among selected subordinates in Malaysian architecture, civil engineering and landscape architecture consulting firms Qualitative thematic coding analysis of the interview transcripts generated the relevant Bourdieu capital categories and theme. The leader's human, emotional, political, cultural and social capitals were found to influence the subordinate's creativity motivation. The data indicate a common theme of followers' creativity motivation through learning from leader's superior human capital. The learning is aided by the leader's emotional capitals (social and cultural) and that the generated political capital is conceptually aligned with symbolic violence.

**Misriyanti Saikah et al.,** have explained on factors which will influence housing developers to accept Industrialised Building system (IBS) as the preferred methods to meet the supply and demand of affordable housing. This research conducted using interview methods with eight project managers who have more than three years working experience in developer's firm. The finding reveals, majority of developers are already familiar with various types of IBS system and factor of acceptance are the lower construction price, short construction time and workmanship quality with minimal defects.

**Norliana Sarpin et al.**, have showed on the key challenges for Malaysian contractors to undertake international construction projects thus identify strategies for Malaysian contractors to undertake international construction projects using quantitative questionnaires method distribute to experienced construction managers of G6 & G7 companies. The revealed that skilled worker shortage, high cost of financing and limited experience of similar projects are the top three challenges. Risk management and joint venture with experienced local contractors are key strategies for Malaysian contractor to undertake international projects.

**Abdulazeez Umar Raji**, have discussed on the significance of leveraging on Building Energy Efficiency (BEE) project team-competency and commitment organized within a strategic Benefits Realization Management framework to optimize clients' benefits in terms of minimizing Transaction Costs (TC). The focus is on the aspect of developer's competencies and their project team commitment with respect to minimizing TCs that is structured within a Benefits Realization Management (BRM) practice. This model is proposed as a pro-active enabler tool for the purpose of achieving Value for Money in BEE affordable housing projects.

**Rostam Yaman et al.,** have explained on the psychobehavioural intervention framework effectiveness on the occurring of positive behaviour towards sustainable awareness in students at tertiary education level using sampling of 220 interior architecture students after undergone training. The main outcome signified that students of interior architecture who attained psycho-behavioural intervention framework obtained better sustainable awareness and psychological traits, and also indicated better positive performance comparatively to the control group when completed the training. Hence, the conclusion is that psycho-behavioural intervention framework able to stimulate positive behaviour and sustainable awareness.

**Ruzaini Zahari et al.,** have presented on the influence of Bourdieu capitals possessed by leaders in Malaysian landscape architecture firms towards the creativity of their subordinates. Three design subordinates from each of the 73 landscape architecture firms in the database of Institute of Landscape Architects Malaysia were surveyed by mail. Factor Analysis on the data generated five leaders' Bourdieu capitals. The capitals are Social, Human, Emotional, Cultural and Political. Stepwise Multiple Regression Analysis ascertained the relationship of the leaders' Bourdieu capitals and their subordinates' creativity. The regression equation showed that Leader's Social and Emotional capitals are directly related to the subordinate's creativity.

**Wong Ching Ching et al.,** have identified on the extent of risk implementation based on Risk Management Framework and the effect of risk management on construction Public Listed Companies performance. The sample of this study consists of 227 construction Public Listed Companies in Malaysia Bourse from 2011, 2014, 2015, 2016 and 2017. Content analysis is conducted on the companies' annual reports for the five years focuses on Risk Management Framework components and financial information. The study revealed the presence of both guidelines had increased risk disclosure among construction Public Listed Companies but there is no significant improvement in their financial performance.

**Roshartini Omar et al.,** have studied on the technology transfer in the MRT project in the country by identifying all the technologies involves and barriers in the process of technology transfer within the MRT project in Malaysia. The study adopted interview methods with respondents that involved in technology transfer MRT project namely MRT Corporation Sdn. Bhd. and MMC-Gamuda KVMRT (PDP) Sdn. Bhd. The result showed that advance technologies transferred mainly for tunnelling work, signalling, train assembly, train control, track work, underground work, rail work and stair tower project. Meanwhile, barriers for technology transfer are language barriers, work environment and culture between transferor and transferee at the workplace. **Abdul Rauf Abdul Rasam et al.**, have presented on the adoption a sociospatial method to assess potential risk factors of TB in the rural-urban areas of Shah Alam and then used for targeting missing cases of the disease which involved 3 steps approaches namely; Framework development, data sets acquisition, risk investigation and modelling. 65% of possible high-risk TB areas identified for this research and the results revealed vast majority of TB areas are urban high-rise housing accumulated around industrial area with high mobility of human flow of low financial income group. The result also supports the pointers by the ministry of Health (MOH) to manage TB as tabled in the national TB technical report in 2015 that emphasised that existing detection strategies of TB at locations need to be integrated with all relevant methods.

**Izatul Farrita Mohd Kamar et al.**, have demonstrated on the safety and health cost dimensions effects to the contractors based on multiple regressions methods for the 62 accident cases reported for the MRT 1 SBK (Sungai Buloh-Kajang) lines project as part of the Klang Valley Mass Rapid Transit (KVMRT) system. The finding managed to identify factors affecting the total cost incurred by the contractors based on classification of accidents, type of body injuries, the number of working days lost due to stop work order and remobilisation.

#### INTRODUCTION

Welcome to the Special Issue of the Malaysian Construction Research Journal (MCRJ) in conjunction with the International Conference on Applied Science and Technology (ICAST) 2017. This conference was organised by Universiti Utara Malaysia (UUM) and was held on 2-5th April 2017 in Langkawi Island, Kedah. This annual event aims to create synergies among the researchers, academicians and industrialists worldwide to share, exhange and discuss their ideas and technologies in their fields.

This Special Issue of Malaysian Construction Research Journal (MCRJ) for International Conference on Applied Science and Technology consists of 20 selected papers by the conference committees and expert reviewers submitted in the ICAST 2017.

The global construction industry is a significant indicator of the economic growth of a nation, simply due to the fact that the government is the biggest client of the construction industry. With the turn of the century, and the move towards the digital era enabling the key players of the construction industry to work together in spite of distance and geographical borders, new trends has emerged and novel methods of addressing the issues have been formulated. Apart from coping with emergent technologies in the construction industry, various aspects of the soft technologies must not be ignored as the human capital relies greatly in their ability and knowledge in manning the hard technology to develop cutting edge projects within the construction industry.

This special issue volume also includes the many soft sciences aspect of the construction industry, which cross-linked the construction technology with many areas in business and management particularly in Supply Chain Management, Occupational Safety and Health, Quality Management, Building Information Management, Public Private Partnership, Knowledge Management, Decision Support Systems, Construction Material, Industrialised Building System (IBS), Project Scope Management and Sustainable Housing. These papers discuss the various issues and challenges in the construction industry, and provide suggestions for alleviating these issues. All the papers had undergone a rigorious review process by independent expert reviewers who are knowledgeable in the pertinent subject area.

The volume offers a fresh perspective from the business and management viewpoints towards the construction industry and highlights the potential multidisciplinary areas of research within the built environment, as well as adding value to the practitioners in identifying future issues and ways to resolve them. It shows the importance of the human capital as the implementors of policies, practices and technologies in which will drive the success of the global construction industry. SAMPLE - Editorial Advisory Board

MCRJ Special Issue Vol. 3 | No. 1 | 2018

# Editorial Advisory Board (review paper)

Zuhairi Abd. Hamid, Ir., Dr., Chief Editor Construction Research Institute of Malaysia (CREAM)

Faizatul Akmar Abdul Nifa, Dr., Co-chief Editor Universiti Utara Malaysia.

Adi Irfan Che Ani, Assoc. Prof., Dr., Universiti Kebangsaan Malaysia.

Azham Hussain, Assoc. Prof., Dr., Universiti Utara Malaysia.

Mohamed Nor Azhari Azman, Assoc. Prof. Dr., Universiti Pendidikan Sultan Idris.

Alia Abdullah Saleh, Sr, Dr., Universiti Teknologi MARA.

Kho Mei Ye, Sr., Dr., University of Malaya.

**Fadhilah Mohd Nor, Dr.,** Politeknik Sultan Salahuddin Abdul Aziz Shah.

Lilawati Ab Wahab, Dr., Universiti Teknologi MARA.

Mahanim Binti Hanid, Dr., University of Malaya.

Maznah Othman University of Malaya.

Mohd Azian Zaidi, Dr., Universiti Teknologi MARA.

Mohd Faizal Omar, Dr., Universiti Utara Malaysia.

Nurul Azita Salleh, Dr., Universiti Utara Malaysia.

**Othman Mohamed, Dr.,** University of Malaya.

Rohaslinda Ramele Ramli, Dr., Universiti Teknologi MARA.

Salman Riazi Mehdi Riazi, Dr., Universiti Sains Malaysia. Wan Nadzri Osman, Dr., Universiti Utara Malaysia.

Mohd Nasrun Mohd Nawi, Dr., Universiti Utara Malaysia.

Mohd Affendi Ahmad Pozin, Mr. Universiti Utara Malaysia.

Maria Zura Mohd. Zain, Mrs. Construction Research Institute of Malaysia (CEAM)

Secretariat:

Nurulhuda Mat Kilau, Ms. Construction Research Institute of Malaysia (CEAM)

Tengku Mohd Hafizi Raja Ahmad, Mr. Construction Research Institute of Malaysia (CEAM)

(Intan Diyana Musa, Ms.) Construction Research Institute of Malaysia (CEAM)

### EXAMPLE - paper, author and reviewer list

CONSTRUCTION RESEARCH INSTITUTE OF MALAYSIA (CREAM)	MALAYSIAN CONSTRUCTION RESEARCH JOURNAL (MCRJ)
EDITORIAL ADVISORY BOARD DATABASE	Tarikh keluaran : Dikeluarkan oleh : Disemak oleh :

Authors information			Reviewers information			
No	Paper Title	Author(s)	Address	Tel/Fax/e-mail	Reviewers Name	Address,tel. no. and email address for Reviewers
1						
2						
3						

### MALAYSIAN CONSTRUCTION RESEARCH JOURNAL (MCRJ) DECLARATION FORM

All authors are requested to complete and sign this form and send it together with their papers (if there are any changes).

#### TITLE OF PAPER

#### **DECLARATION STATEMENT**

The undersigned hereby represents and warrants that the paper is original and that he/she is the author of the work, except possibly for the material such as text passage, figure and data that are clearly identified as to the original source, with permission notices from the copyright owner where required. The undersigned also represents that he/she has the power and authority to make this statements. The main author after contacting other co-authors may sign and submit this form on their behalf. In this case, only the main author signature is required. All material submitted for publication is assumed to be exclusively for Malaysian Construction Research Journal, and not to have being submitted for publication elsewhere.

Author(s) Name(s)	Signature	Date

#### PLEASE SEND THIS DECLARATION TO:

Secretariat MALAYSIAN CONSTRUCTION RESEARCH JOURNAL (MCRJ), Construction Research Institute of Malaysia (CREAM), Level 29, Sunway Putra Tower, No 100, Jalan Putra, 50350 Kuala Lumpur MALAYSIA

Tel: 603 4040 0040 Fax: 603-9282 4800 e-mail: maria@cidb.gov.my / <u>intan.diyana@cream.my</u>