

**LEMBAR REKAP**  
**HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW**  
**KARYA ILMIAH : PROSIDING**

Judul Jurnal Ilmiah (Artikel) : Development of Design Acceleration Response Spectrum for Building Based on New Indonesian Seismic Hazard Maps 2017

Jumlah Penulis : 6 Orang (Windu Partono, Masyhur Irsyam, I. Wayan Sengara, Asrurifak, Frida Kistiani, dan Undayani Cita Sari)

Status Pengusul : penulis pertama/ penulis ke / penulis korespondensi\*\*

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Kategori Publikasi Jurnal Ilmiah :  Prosiding forum ilmiah Internasional  
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a. Kelengkapan unsur isi prosiding (10%)	2,25	2,5	2,375
b. Ruang lingkup dan kedalaman pembahasan (30%)	6,75	6	6,375
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	6,75	6	6,375
d. Kelengkapan unsur dan kualitas penerbit (30%)	7	7	7
<b>Total = (100%)</b>	<b>22,75</b>	<b>21,5</b>	<b>22,125</b>
<b>Nilai Pengusul = 22,125 x 60% = 13,27</b>			

Reviewer I

Prof. Dr. Ir. Han Ay Lie, M.Eng  
 NIP. 195611091985032002

Unit kerja : Departemen Teknik Sipil FT UNDIP

Reviewer II

Ilham Nurhuda, ST., MT., Ph.D  
 NIP. 197602252000121001

Unit kerja : Departemen Teknik Sipil FT UNDIP

**LEMBAR  
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c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	7,5		6,75
d. Kelengkapan unsur dan kualitas penerbit (30%)	7,5		7
<b>Total = (100%)</b>	<b>25</b>		<b>22,75</b>

Catatan Penilaian artikel oleh Reviewer:

1. Tulisan ini menyajikan hasil analisis perhitungan spektra percepatan (MCER) dan Periode Transisi Spektra (TL) untuk perhitungan spektra percepatan desain bangunan tahan gempa. Analisis dilakukan pada 35 kota di Propinsi Jawa Tengah (setiap kota diwakili oleh koordinat pusat kota). Perhitungan spektra pada satu koordinat dilakukan dengan menggunakan tiga metode interpolasi yaitu metode rata-rata, metode titik terdekat dan metode bobot terhadap 4 titik data yang terletak dekat dengan koordinat kota.
2. Pendahuluan, metodologi, pembahasan dan kesimpulan pada tulisan juga telah disampaikan dengan cukup jelas dan cukup dalam. Pada bagian pembahasan juga disampaikan hasil perbandingan ketiga metode dan menghasilkan metode terbaik yang dapat digunakan pada interpolasi satu titik koordinat terhadap empat titik terdekat. Tulisan ini juga memberikan gambaran bahwa metode rata-rata kurang tepat pada perhitungan nilai percepatan pada satu titik koordinat
3. Referensi yang digunakan pada tulisan pada umumnya diambil dari hasil penelitian tahun 2012 sampai tahun 2017 dan relevan dengan topik tulisan.
4. Kualitas penerbit sangat baik. Jumlah author lebih dari empat negara.

Semarang,  
Reviewer

Prof. Dr. Ir. Han Ay Lie, M.Eng.  
 NIP.195611091985032002  
 Unit kerja: Departemen Teknik Sipil FT UNDIP

**LEMBAR**  
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d. Kelengkapan unsur dan kualitas penerbit (30%)	7,5		7
<b>Total = (100%)</b>			<b>21,5</b>

Catatan Penilaian artikel oleh Reviewer:

- unsur isi prosiding lengkap, terdiri dari judul, abstrak, introduction, methodology, results & discussion, conclusion, references, sesuai dgn lingkungannya.
- paper membahas tentang pengembangan peta gempa Indonesia 2017 dengan fokus pada daerah Jawa Tengah dan DIY.
- pembahasan dilakukan dgn membandingkan respon spektra 2012 dgn hasil penelitian ini stabil namun perlu bahwa pada sebagian besar kota di Jateng-DIY hanya mengalami perubahan kurva dari 0,1g kecurva yg lebih dgn sesar opak.
- Metodologi yg digunakan menggunakan metode ASCE. Nilai MCR & TI ditinjau dgn 3 metode (anal, terdetekt, pembobotan).
- Diterbitkan di prosiding terindeks, unsur lengkap, ISSN, ada editor

Semarang,  
 Reviewer



Ilham Nurhuda, ST., MT., Ph.D  
 NIP.197602252000121001  
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Lecture Notes in Civil Engineering

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# Proceedings of AICCE'19

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# Finite Element Analysis on Torsion Behaviour for Tapered Steel Section with Perforation

AWAM International Conference on Civil Engineering

AICCE 2019: Proceedings of AICCE'19 pp 1-14 | Cite as

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Conference paper

First Online: 29 November 2019

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## Abstract

A study of finite element analysis (FEA) on torsion behaviour for tapered steel section with perforation is presented in this paper. The attention was paid mainly to firstly determine the effect of the perforation on the torsion behaviour of tapered steel section and to know an optimal section of tapered steel section with perforation under torsion loading based on the results obtained from FEA of LUSAS software. Five (5) variables such as opening shape, web thickness and flange thickness were identified and analysed to know the effect on torsional rotation of tapered steel section. A total of one hundred and twenty (120) of finite element (FE) models were than employed in this analysis including tapered steel section without perforation. The results were expressed in terms of displacement and torsional resistance (TR). Based on the analysis result, it was clearly showed that there was no improvement on the engineering properties and performance of tapered steel section with perforation in term of TR. The presence of web opening will result in reduction of TR. It is concluded that all of the variables will affect the TR. In addition, weight was reduced as the material volume was reduce with the present of perforation.

## Keywords

Tapered steel section Perforated steel beams Torsion Volume reduction  
Finite element analysis LUSAS 14.0

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# Theoretical, CFD Simulation and Experimental Study to Predict the Flowrate Across a Square Edge Broad Crested Weir Depending on the End Depth as a Control Section

AWAM International Conference on Civil Engineering

AICCE 2019: Proceedings of AICCE'19 pp 15-34 | Cite as

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Conference paper

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## Abstract

A rectangular broad crested weir is the one mostly used in hydraulic structures for measuring flow rates in open channels and rivers. This study is focused on finding the suitable position of the depth above the weir as control section for estimating the flow rate while avoiding the troubles of approach velocity. It was predicted that the end edge of the weir, as a control section, relates to the critical depth ( $Y_c$ ) as a function of the end depth ( $Y_e$ ). To determine the relationship between these, experimental tests were achieved with ten different values of the longitudinal slope. Statistical regression analysis indicated the relationship between  $Y_c$  and  $Y_e$  as about 1.522. Consequently, a new flow rate formula was derived to estimate the flow over the weir and provided a good agreement with the experimental tests. A 3D ANSYS FLUENT Ver. V.16.1 CFD model was also applied to simulate the problem and verify the equation. The water volume fraction and the stream flow pattern were taken into the consideration. The model was able to simulate the problem with a good accuracy



# Sustainability Assessment of the School Building Site (Case Study: Schools Built After 2003 in Karbala)

AWAM International Conference on Civil Engineering

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Conference paper

First Online: 29 November 2019

Part of the Lecture Notes in Civil Engineering book series (LNCE, volume 53)

## Abstract

Sustainable schools are schools that aim to raise environmental awareness among students and teachers through positive environmental practices. The aim of these school is to reduce the negative environmental impacts, especially in the areas of buildings, water, energy, air and waste. The problem of the research lies in absence of application of sustainability concepts in the Karbala city school buildings, which negatively affects the performance of schools environmentally, economically and socially as well as on the grade of scientific students and their awareness of the sustainability dimensions and its role in the establishment of environmentally friendly communities. The research focuses on schools in Karbala where the education in Karbala schools has been determined. The researcher then studies the concept of the sustainable school, its principles and applications on the school site to be used in line with the reality of Karbala city. An analysis of building sites for multiple schools in the city was conducted and an assessment of their sustainability using the SBAM method was undertaken to identify elements that represent weaknesses in order to describe and provide solutions to sustainability problems. At the end of the study, the researcher found that Karbala school sites are at a level of non-sustainability but not far from achieving them.

## Keywords

Sustainability School building Karbala Urban designs Construction designs  
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# Methods of Estimating Time of Concentration: A Case Study of Urban Catchment of Sungai Kerayong, Kuala Lumpur

AWAM International Conference on Civil Engineering

AICCE 2019: Proceedings of AICCE'19 pp 119-161 | Cite as

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Conference paper

First Online: 29 November 2019

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## Abstract

Characterization of hydrologic processes of a catchment in relation to water resources structures design requires estimation of time-response characteristics which is used in hydrologic models. The time of concentration ( $T_c$ ) is an essential component in hydrological modelling which is used in predicting the response time of a catchment to a storm event. There are many approaches in the estimation of time of concentration from literature. At gauged watersheds,  $T_c$  can be estimated using rainfall and a runoff hydrograph, while for ungauged catchments, empirical equations are used. In this study, variability of empirical methodologies and hydrograph separation method for evaluating  $T_c$  using data from past study on Sungai Kerayong, Kuala Lumpur is presented. Results of the study showed Gundlach, Carter and NAASRA methods are suitable for estimating  $T_c$  in the study area while Bransby-Williams and Ventura methods were the poorest in estimation of  $T_c$  in the study.

## Keywords

Hydrological modelling Empirical method Hydrograph Time of concentration

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### Introduction

This book gathers the latest research, innovations, and applications in the field of civil engineering, as presented by leading national and international academics, researchers, engineers, and postgraduate students at the AWAM International Conference on Civil

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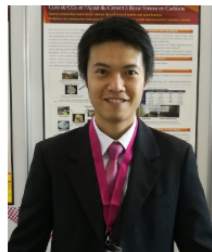


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