

A SCIENTIFIC JOURNAL OF Civil Engineering

Vol. 28, No. 1, March 2024

ISSN No. 1411 – 1292
E-ISSN No. 2541 – 5484

Manufacturing Foamed Concrete as an Alternative Material to Replace EMAS (Engineered Materials Arresting System)

Made Sukrawa, I Nyoman Sucika, and Ida Bagus Rai Widiarsa

Contractor's Perspective on Execution Method Impact to Cost Overrun in Bali's Building Construction

Ni Made Rika Diandra Saraswati and I Putu Artama Wiguna

Analysis of Drinking Water Needs and Planning of Main Pipe Network Size in Pecatu Village, South Kuta District, Badung Regency

Kristina Marta Nainggolan and Ida Bagus Made Baskara Andika

Identification of Thermal Comfort Conditions in a Residential: A Case Study of a 2-Story Balinese Contemporary House in Batuan, Gianyar, Bali

I Putu Weka Wendyputra, Kadek Wisnawa, Alvin Yesaya

Analysis of Soil Bearing Capacity and Foundation Settlement in the Construction of Gupusmu Puspaland III Jakarta

Arya Maulana Kampai, Harjasa Jonathan, Anasya Arsita Laksmi, Nina Purwanti, Deakonius Silalahi, Dewa Ramadhan Astama Putra, Dewi Fauzah, Abdul Hadi Adriansyah, Abigail Christy, Andreas Robert Panugu Sitorus, Sigit Adi Soebakti

Design Method for Strong Columns-Weak Beams for Risk Category IV Buildings with Time History Performance Analysis

P. Adi Yasa, Made Hendra Prayoga, Ida Bagus Prastha Bhisama

The Impact of Rahayu Market Activity on the Performance of Imam Bonjol Street in Denpasar

I Made Agus Ariawan, I Gusti Raka Purbanto, Putu Kwintaryana W Ni Putu Delima Yogeswari Saraswati, Syifa Uttakarina Rifa'i

Seismic Design for Infrastructures

I Wayan Redana, I Made Aryatirta Predana, I Kadek Edy Suhendrawan, I Ketut Sudarsana

Controlling Construction's Time and Cost of Puskesmas with Earned Value Method

M. Fanshurullah Asa, Anjelita Carmelitas Borges

Comparative Analysis of Column and Beams Volumes of Conventional Structures with Output from Autodesk Revit and Plan Time With Work Realization Using Naviswork (Case Study: Construction of the Prof. Dr. I.G.N.G Ngoerah Denpasar Mother and Child Hospital Building)

Ariany Frederika, A.A Gde Agung Yana, I G.A. Adnyana Putera, Muhammad Risqi



Jurnal Ilmiah Teknik Sipil	Volume 28	Number 1	Page. 1 – 107	Denpasar Mar 2024	ISSN : 1411 – 1292 E-ISSN : 2541 – 5484
-------------------------------	-----------	----------	------------------	----------------------	--

A SCIENTIFIC JOURNAL OF CIVIL ENGINEERING	
JURNAL ILMIAH TEKNIK SIPIL	
Vol. 28, No. 1, March 2024	
Editor in Chief	
Alvin Yesaya, S.T., M.Eng	Udayana University, Indonesia
Editor Board	
Ali Awaludin	Gadjah Mada University, Indonesia
Debby Willar	Manado State Polytechnic, Indonesia
Wulfram I. Ervianto	Atma Jaya University, Indonesia
Eko Andi Suryo	Brawijaya University, Indonesia
I Made Agus Ariawan	Udayana University, Indonesia
Ir. Ida Ayu Made Budiwati	Udayana University, Indonesia
A. A. Gde Agung Yana	Udayana University, Indonesia
Dewa Made Priyantha Wedagama	Udayana University, Indonesia
Dewa Ketut Sudarsana	Udayana University, Indonesia
I Made Alit Karyawan Salain	Udayana University, Indonesia
I Nyoman Arya Thanaya	Udayana University, Indonesia
Administration	
A. Sagung Mas Diandra Jashinta Putri	Udayana University, Indonesia
Tiza Dharma Sandya	Udayana University, Indonesia
Office Program Studi Teknik Sipil Fakultas Teknik - Universitas Udayana Kampus Bukit Jimbaran, Badung – Bali 80362 Phone : +62 (361) 703385 E-mail:jurnaltekniksipil@unud.ac.id	
A SCIENTIFIC JOURNAL OF CIVIL ENGINEERING (JITS) is published by the Civil Engineering Study Program of Udayana University twice a year in March and September.	
First Publication : 1997 ISSN : 1411 – 1292 E-ISSN : 2541 – 5484	
The editor accepts scientific articles from various groups such as lecturers, researchers and Civil Engineering practitioners from within and outside the Faculty of Engineering, Udayana University in accordance with the writing guidelines.	

A Scientific Journal of Civil Engineering

FOREWORD

We express our gratitude to God Almighty for the publication of the Civil Engineering Scientific Journal Vol. 28, No. 1, March 2024. This edition features ten articles: one in the field of transportation engineering, one in water resource engineering, four in infrastructure & construction management, two in the field of structural engineering, and two in geotechnical engineering. The topics covered in this edition come from four areas of civil engineering expertise, and we hope to see contributions with a wider range of topics from other areas of expertise in future editions

This is a brief introduction, and we hope this journal continues to be published with ever-improving quality and serves as a benefit to institutions, the nation, and the country. We continue to welcome contributions from various circles, including academics, research institutions, and practitioners, so that this journal can truly be utilized as a medium for exchanging technical information. Finally, we look forward to receiving valuable suggestions and constructive criticism for the publication of the next edition of the journal.

Thank you

Editorial Board

TABLE OF CONTENT

	Page
EDITORIAL MEMBER	ii
FOREWORD	iii
1. Manufacturing Foamed Concrete as an Alternative Material to Replace Emas (Engineered Materials Arresting System) <i>Made Sukrawa, I Nyoman Sucika, and Ida Bagus Rai Widiarsa</i>	1 – 9
2. Contractor's Perspective on Execution Method Impact to Cost Overrun in Bali's Building Construction <i>Ni Made Rika Diandra Saraswati and I Putu Artama Wiguna</i>	10 – 17
3. Analysis of Drinking Water Needs and Planning of Main Pipe Network Size in Pecatu Village, South Kuta District, Badung Regency <i>Kristina Marta Nainggolan and Ida Bagus Made Baskara Andika</i>	18 – 32
4. Identification of Thermal Comfort Conditions in a Residential: A Case Study of a 2-Story Balinese Contemporary House in Batuan, Gianyar, Bali <i>I Putu Weka Wendyputra, Kadek Wisnawa, Alvin Yesaya</i>	33 – 41
5. Analysis of Soil Bearing Capacity and Foundation Settlement in the Construction of Gupusmu Puspallad III Jakarta <i>Arya Maulana Kampai, Harjasa Jonathan, Anasya Arsita Laksmi, Nina Purwanti, Deakoniuss Silalahi, Dewa Ramadhan Astama Putra, Dewi Fauzah, Abdul Hadi Adriansyah, Abigail Christy, Andreas Robert Panugu Sitorus, Sigit Adi Soebakti</i>	42 – 50
6. Design Method for Strong Columns-Weak Beams for Risk Category IV Buildings with Time History Performance Analysis <i>P. Adi Yasa, Made Hendra Prayoga, Ida Bagus Prastha Bhisama</i>	51 – 62
7. The Impact of Rahayu Market Activity on the Performance of Imam Bonjol Street in Denpasar <i>I Made Agus Ariawan, I Gusti Raka Purbanto, Putu Kwintaryana W Ni Putu Delima Yogeswari Saraswati, Syifa'uttakarina Rifa'i</i>	63 – 73
8. Seismic Design for Infrastructures <i>I Wayan Redana, I Made Aryatirta Predana, I Kadek Edy Suhendrawan, I Ketut Sudarsana</i>	74 – 87
9. Controlling Construction's Time and Cost of Puskesmas with Earned Value Method <i>M. Fanshurullah Asa, Anjelita Carmelitas Borges</i>	88 – 96
10. Comparative Analysis of Column and Beams Volumes of Conventional Structures with Output From Autodesk Revit And Plan Time With Work Realization Using Naviswork (Case Study: Construction of the Prof. Dr. I.G.N.G Ngoerah Denpasar Mother and Child Hospital Building) <i>Ariany Frederika, A.A Gde Agung Yana, I G.A. Adnyana Putera, Muhammad Risqi</i>	97 – 105