#### FINAL ASSIGNMENT

# A COMPARISON STUDY OF DESIGN OF FLEXIBLE AND RIGID PAVEMENT

Proposed to Fulfill Academic Requirement of Civil Engineering Degree in Faculty of Engineering of UNISSULA



By:

**DESY NURULLIANA** 

NIM:30201403728

**MARETA SAFIRANI H** 

NIM: 30201403837

CIVIL ENGINEERING DEPARTEMENT
FACULTY OF ENGINEERING
UNIVERSITAS ISLAM SULTAN AGUNG SEMARANG
2018

### SURAT PERNYATAAN KEASLIAN

Yang bertanda tangan di bawah ini:

Nama : Mareta Safirani Haryanto

NIM : 30201403837

Dengan ini saya nyatkan bahwa Karya Tulis Ilmiah yang berjudul:

A Comparison Study of Design of Flexible and Rigid Pavement

Adalah benar hasil karya saya dan penuh kesadaran bahwa saya tidak melakukan tindakan plagiasi atau mengambil alih seluruh atau sebagian besar karya tulis orang lain tanpa menyebutkan sumbernya. Jika saya terbukti melakukan tindakan plagiasi, saya bersedia menerima sanksi sesuai dengan aturan yang berlaku.





### YAYASAN BADAN BAKAF SULTAN AGUNG UNIVERSITAS ISLAM SULTAN AGUNG (UNISSULA) FAKULTAS TEKNIK

Jalan Raya Kaligawe KM. 4 Po. BOX 1054 Telp.(024)6583584 Ext.507 Semarang 50112

#### APPROVAL PAGE

#### FINAL ASSIGNMENT

## A COMPARISON STUDY OF DESIGN OF FLEXIBLE AND RIGID PAVEMENT

By:



Desy Nurulliana 30201403728



Mareta Safirani H 30201403837

Have been approved at, Agustus, 16, 2018

Lecture I

Ir. Gatot Rusbintardjo, M.R.Eng, M.Sc, Ph.D

Lecture II

Dr. Ir. Rinda Karlinasari, MT

Approved by,

Head of Civil Department, Engineering Faculty, UNISSULA

Ari Sentani, ST., M.Sc

#### **MOTTO**

"Because in fact after the difficulty there is convenience (5) in fact after the difficulty there is convenience (6) then when you have finished something of an affair, work hard on other matters (7) and only to your god should you hope (8)".

"On this day every soul be rewarded with what it earned, no one harmed today

Allah is swift at reckoning".

"Kegagalan hari ini adalah yang menghantarkan kesuksesan di hari mendatang".

(Desy Nurulliana)

"I dedicated this final assignment to the knowledge of civil engineering in general and highway engineering in particular as my worship to Allah Subhana Wa Ta'ala"

#### **ACKNOWLEDGEMENTS**

Alhamdulillahirabbil'alamiin, Innalhamdalillah nahmaduhu wa nasta'iynuhu. Upon Ridho and Rahmat Allah Subhanawa Ta'ala this final assignment report can be completed.

In preparing this report, I was in contact with many people, researchers, academicians, and practitioners. They have contributed towards my understanding and thoughts. In particular, I wish to express my sincere appreciation to my main research and thesis supervisor, Ir. Gatot Rusbintardjo, M.R.Eng.Sc., Ph.D., for his encourages, guidance, criticism, and friendship. I am also very thankful to my cosupervisor Dr. Ir. Rinda Karlinasari, M.T., for his guidance, advice and motivation. Without their continued support and interest, this final assignment report would not have been the same as presented here.

My special thanks are addressed to Dean of the Engineering Faculty of UNISSULA Bapak Ir. H. Rachmat Mudiyono, M.T., Ph.D. and Head of Department of Civil Engineering, Faculty of Engineering UNISSULA Bapak Ari Sentani, S.T., M.Sc., for permission, to take final assignment as the requirement for reaching Bechelor Degree in Civil Engineering in Faculty of Engineering UNISSULA.

I would also like to thank to all technicians in Road Research Laboratory of Faculty of Engineering of UNISSULA for their help and cooperation.

Very special thanks are given to my beloved parents H. Noor Rifa'i, S.Pd., and Hj. Sri Hastutik, my brothers Arief Febriansyah, S.E., and Ardhian Arief Wibowo, and my sister in law Bripda Maulida Dwi Arnasari. Their patience, prayers and understanding during this study were always a blessing. Thank you

for Alan Budikurniawan who have been supporting me physically and mentally, also accompany and help me through anything while I fought for finishing this final assignment. I also would like to thank to Mareta Safirani Haryanto as my partner, for all that we have been through together. Thank you to my college friends for their good cooperation during four years studying in Engineering Faculty of UNISSULA 2014 which could not mention who have helped the completion of this final assignment. Last but not least, thank to my best friends Eka Koestiana, Umi Rahayu, Irawati Intan, Andiyani Putri, Dewi Bussaina, Reva Rista, Yuli Risqi, Intan Pamudar, Rifki Iman, Hafid Maulana, Hedy Pratama, Taufiq Indrawa, Dhimas Setyoadhi, Putra Alza, Ahmad Arifin, for their patience, prayers and understanding during this study were always a blessing.

Semarang, August 2018

Desy Nurulliana

#### **ACKNOWLEDGEMENTS**

Alhamdulillahirabbil'alamiin, Innalhamdalillah nahmaduhu wa nasta'iynuhu. Upon Ridho and Rahmat Allah Subhanawa Ta'ala this final assignment report can be completed.

In preparing this report, I was in contact with many people, researchers, academicians, and practitioners. They have contributed towards my understanding and thoughts. In particular, I wish to express my sincere appreciation to my main research and thesis supervisor, Ir. Gatot Rusbintardjo, M.R.Eng.Sc., Ph.D., for his encourages, guidance, criticism, and friendship. I am also very thankful to my cosupervisor Dr. Ir. Rinda Karlinasari, M.T., for his guidance, advice and motivation. Without their continued support and interest, this final assignment report would not have been the same as presented here.

My special thanks are addressed to Dean of the Engineering Faculty of UNISSULA Bapak Ir. H. Rachmat Mudiyono, M.T., Ph.D. and Head of Department of Civil Engineering, Faculty of Engineering UNISSULA Bapak Ari Sentani, S.T., M.Sc., for permission, to take final assignment as the requirement for reaching Bechelor Degree in Civil Engineering in Faculty of Engineering UNISSULA.

I would also like to thank to all technicians in Road Research Laboratory of Faculty of Engineering of UNISSULA for their help and cooperation.

Very special thanks are given to my beloved parents Agung Haryanto and Poniah, my sister Nova Rinie Alvionita H. Their patience, prayers and understanding during this study were always a blessing. Thank you for Areza Faishal Naufaldi who have been supporting me physically and mentally, also accompany and help me through anything while I fought for finishing this final

assignment. I also would like to thank to Desy Nurulliana as my partner, for all that we have been through together. Thank you to my college friends for their good cooperation during four years studying in Engineering Faculty of UNISSULA 2014 which could not mention who have helped the completion of this final assignment. Last but not least, thank to my best friends Eka Koestiana, Umi Rahayu, Andiyani Putri, Dewi Bussaina, Reva Rista, Yuli Risqi, Irawati Intan, Intan Pamudar, Rifki Iman, Hafid Maulana, Hedy Pratama, Taufiq Indrawa, Dhimas Setyoadhi, Putra Alza, Ahmad Arifin, for their patience, prayers and understanding during this study were always a blessing.

Semarang, August 2018

Mareta Safirani H