

## **FINAL ASSIGNMENT**

### **WARM MIX ASPHALT MIXTURES WITH ZEOLITE AS ADDITIVE**

**Submitted to fulfill the requirements in completing undergraduate education  
in Civil Engineering, Faculty of Engineering Sultan Agung Islamic University  
Semarang**



**Prabu Bagus Sukmo Kuncoro**

**30.2015.04.214**

**Radifan Amali Fahruzzaman**

**30.2015.04.225**

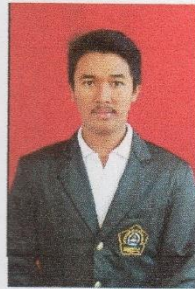
**DEPARTEMENT OF CIVIL ENGINEERING  
FACULTY OF ENGINEERING  
UNIVERSITAS ISLAM SULTAN AGUNG SEMARANG**

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**APPROVAL PAGE OF FINAL ASSIGNMENT**

**WARM MIX ASPHALT MIXTURES WITH ZEOLITE AS ADDITIVE**

**By :**



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Have been approved at Semarang **July 31<sup>st</sup> 2019**

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**Head of The Departement of Civil Engineering, Faculty of Engineering**

**UNISSULA**



**Ari Sentani, S.T., MSc.**



## BERITA ACARA BIMBINGAN TUGAS AKHIR

No . / A.2 / SA-T / VII / 2019

Pada Rabu, 31 Juli 2019 berdasarkan Surat Keputusan Ketua Program Studi Universitas Islam Sultan Agung (UNISSULA) Semarang perihal penunjukkan Dosen Pembimbing I dan Dosen Pembimbing II:

- |         |   |
|---------|---|
| 1. Nama | : Ir. Gatot Rusbintardjo, M.R.Eng, M.Sc., Ph.D. |
| Jabatan | : Pembimbing I                                  |
| 2. Nama | : Ir. H. Rachmat Mudiyo, M.T., Ph.D.            |
| Jabatan | : Pembimbing II                                 |

Dengan ini menyatakan bahwa Mahasiswa tersebut dibawah ini,


- |         |                             |
|---------|-----------------------------|
| 1. Nama | : Prabu Bagus Sukmo Kuncoro |
| NIM     | : 30201504214               |
| Jurusan | : Teknik Sipil              |
| 2. Nama | : Radifan Amali Faruzzaman  |
| NIM     | : 30201504225               |
| Jurusan | : Teknik Sipil              |
| Judul   | : WARM MIX ASPHALT MIXTURES |

Dengan tahapan adalah sebagai berikut:

- |                                       |                 |
|---------------------------------------|-----------------|
| 1. Penunjukan Dosen Pembimbing        | : 10 April 2019 |
| 2. Konsultasi Pengambilan Tugas Akhir | : 12 April 2019 |
| 3. Penyusunan Laporan Tugas Akhir     | : 15 April 2019 |
| 4. Laporan Tugas Akhir Selesai        | : 31 Juli 2019  |

Demikian, Berita Acara bimbingan Tugas Akhir/Skripsi ini dibuat untuk diketahui dan digunakan seperlu-perlunya oleh pihak-pihak yang berkepentingan.

Dosen Pembimbing I



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

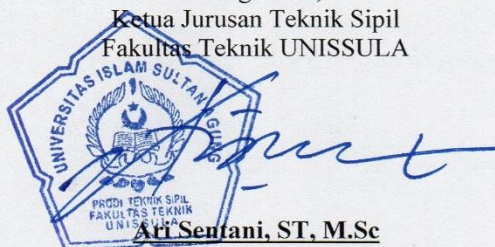
Dosen Pembimbing II



**Ir. H. Rachmat Mudiyo, M.T., Ph.D.**

Mengetahui,

Ketua Jurusan Teknik Sipil  
Fakultas Teknik UNISSULA



**Ari Sentani, ST, M.Sc**



## PERNYATAAN

Saya yang bertanda tangan di bawah ini :

Name : 1. Prabu Bagus Sukmo Kuncoro (30201504214)  
2. Radifan Amali Fahrurzzaman (30201504225)

Jurusan : Teknik Sipil

Menyatakan dengan sesungguhnya Tugas Akhir ini yang berjudul **WARM MIX ASPHALT MIXTURES** merupakan hasil penelitian, pemikiran dan pemaparan asli saya sendiri. Saya tidak mencantumkan tanpa pengakuan bahan – bahan yang telah dipublikasikan sebelumnya atau ditulis oleh orang lain, atau sebagai bahan yang pernah diajukan untuk gelar atau ijasah pada Universitas Islam Sultan Agung Semarang atau perguruan tinggi lainnya.

Apabila dikemudian hari terdapat penyimpangan dan ketidakbenaran dalam pernyataan ini, maka saya bersedia menerima sanksi akademik sesuai dengan peraturan yang berlaku di Universitas Islam Sultan Agung Semarang.

Demikian pernyataan ini saya buat.

Semarang, 31 Juli 2019

Oleh :

Mahasiswa I



Prabu Bagus Sukmo Kuncoro

Mahasiswa II



Radifan Amali Fahrurzzaman

## **MOTTO**

“But perhaps you hate a thing and it is good for you, and perhaps you love a thing and it is bad for you. And ALLAH SWT knows, while you know not.”

(QS. Al-Baqarah: 216)

“So verily, with every difficulty, there is relief.”

(QS. Al-Insyirah: 5)

## **DEDICATION**

*“I dedicated this final assignment to the knowledge of Civil Engineering in general and Highway Engineering as in particular my workshop to Allah SWT.”*

## ACKNOWLEDGEMENT

Bismillahirrahmanirrahim. Thanks the author to Allah SWT, Thanks to the grace and guidance the author can complete this final assignment with the title “WARM MIX ASPHALT MIXTURES WITH ZEOLITE AS ADDITIVE.” to fulfill requirements in completing undergraduate education in the Department of Civil Engineering Faculty of Engineering Sultan Agung Islamic University.

Furthermore, the author would like to convey infinite gratitude to all parties who helped smooth the writing this final assignment, both in the form of moral and material encouragement. Because the author believes without help and support, it was difficult for the writer to finish writing this description. In addition, allow the author to express his gratitude and appreciation to:

1. Dean of the Engineering Faculty of UNISSULA Bapak Ir. H. Rachmat Mudiyo, MT., Ph.D.,
2. Head of Civil Engineering Department, Engineering Faculty of UNISSULA Mr. Ari Sentani, ST, MSc., for permission, to take final assignment as the requirement for reaching Bachelor Degree in Civil Engineering in Engineering Faculty of UNISSULA.
3. My supervisor Mr. Ir. Gatot Rusbintardjo, M.R.Eng.Sc., Ph.D., thank you for his encouragement, guidance, criticism, friendship, advice, and motivation. Without their continued support and interest, this final assignment report would not have been the same as presented here.
4. My co-supervisor Bapak Ir. H. Rachmat Mudiyo, MT., Ph.D., thank you for his encouragement, guidance, criticism, friendship, advice, and motivation. Without their continued support and interest, this final assignment report would not have been the same as presented here.
5. My beloved parents Bapak Drs. Fatkhur Rohman and Ibu Evi Rokhiyati. I can't complete this final assignment without their prayer, advice, and support.
6. My two little sister Reyfina Aulia Azzahra and Reyfani Amalia Azzahra for their love and prayer.

7. Thanks to Shindy Raviola Rizka, S.T.P for her love, support, prayer and attention.
8. Thanks to Prabu Bagus Sukmo Kuncoro as my partner on this final assignment till we can complete this final assignment together.
9. I would like to say big thanks for my team Mahabattul Mar'ah (Panji,Ulum,Toni,Naufal,Oktavia) for their support and motivation.
10. Thanks to all of my classmate in Department of Civil Engineering 2015 for their support and friendship as along as I am in 4 year here.

Finally, the author hopes that the good deeds of all parties that have helped the writer in completing this final assignment get reward form the mercy of Allah SWT. Hopefully what has been written in this final assignment can be beneficial for all parties. Aamiin ya Rabbal'amin

Semarang, July 31<sup>st</sup> 2019

Radifan Amali Fahruzzaman



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5. My beloved parents Bapak Eko Suwasono Tunggal Prasetyo and Ibu Hesti Prihatingsih. I can't complete this final assignment without their prayer, advice, and support.

6. My old sister Dyah Ayu Prasetyaningtyas and her husband Mulia Arif Aprianda, so my young brother Satriyo Wibowo Suryo Prakoso for their love and prayer.
7. Thanks to Radifan Amali Fahruzzaman as my partner on this final assignment till we can complete this final assignment together.
8. Thanks to Nurul Aini Dwi Hapsari, S.T. for her love, support, prayer and attention.
9. Thanks to all of my classmate in Department of Civil Engineering 2015 especially Civil C Class for their support and friendship as along as I'm in 4 year here.

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Semarang, July 31<sup>st</sup> 2019

Prabu Bagus Sukmo Kuncoro