



INFLUENCE OF WATER CONTENT AND DRY DENSITY ON THE SHEAR STRENGTH
CHARACTERISTICS OF REMOLDED EXPANSIVE SOILS IN ADDIS ABABA, THE
CASE STUDY OF KOYE AREA

MSc. THESIS

TEMESGEN ASFAW ANTE

HAWASSA UNIVERSITY, HAWASSA, ETHIOPIA

JUNE, 2020

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A THESIS SUBMITTED TO THE FACULTY OF CIVIL ENGINEERING AND BUILT
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IN PARTIAL FULFILMENT OF THE REQUIRMENTS FOR THE DEGREE OF
MASTERS OF SCIENCE IN CIVIL ENGINEERING

(SPECIALIZATION: GEOTECHNICAL ENGINEERING)

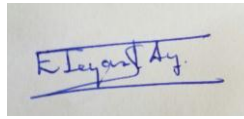
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ADVISORS' APPROVAL SHEET

This is to certify that the thesis entitled “Influence of Water Content and Dry Density on the Shear Strength Characteristics of Remolded Expansive Soils with in Addis Ababa, the Case Study of Koye Area” submitted in partial fulfillment of the requirements for the degree of Master's with specialization in Geotechnical Engineering, the Graduate Program of the School of Civil Engineering, and has been carried out by Temesgen Asfaw Id. No: PGGeo/020/10, under my/our supervision. Therefore I/we recommend that the student has fulfilled the requirements and hence hereby can submit the thesis to the department.

Dr.Eleyas Assefa (PhD)

Name of major advisor



Signature

01/06/2020

Date

Mr. Desta Aman (MSc)

Name of co-advisor



Signature

01/06/2020

Date

HAWASSA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
EXAMINERS' APPROVAL SHEET

We, the undersigned, members of the Board of Examiners of the final open defense by Temesgen Asfaw Ante have read and evaluated his thesis entitled “Influence of Water Content and Dry Density on the Shear Strength Characteristics of Remolded Expansive Soils in Addis Ababa, the Case Study of Koye Area”, and examined the candidate. This is, to certify that the thesis has been accepted in partial fulfillment of the requirement for the degree.

Dr. Eleyas Assefa (PhD)

Name of Major Advisor

Signature

Date

Name of Internal Examiner

Signature

Date

Kifle Woldearegay (PhD)



June 16, 2020

Name of External examiner

Signature

Date

Name of the Chairperson

Signature

Date

SGS Approval

Signature

Date

Final approval and acceptance of the thesis is contingent upon the submission of the final copy of the thesis to the School of Graduate Studies (SGS) through the Department/School Graduate Committee (DGC/SGC) of the candidate's department.

DECLARATION

I, the undersigned, declare that this thesis is my original work performed under the supervision on my thesis advisors Dr. Eleyas Assefa and Mr. Desta Aman (MSc) has not been presented as a thesis for a degree in any other university. All resources of materials used for this thesis have been duly acknowledged.

Name Temesgen Asfaw Ante

Signature _____

Place Hawassa University,

 Institute of Technology,

 Hawassa.

Date June, 2020