

CONTENTS

REPORT HEADER PAGE	i
ENDORSEMENT PAGE	ii
DEDICATION WORDS.....	iii
ACKNOWLEDGEMENT	iv
CONTENTS	vi
LIST OF TABLES.....	viii
LIST OF FIGURES	x
LIST OF EQUATIONS	xiii
LIST OF SYMBOLS	xiv
LIST OF APPENDICES	xv
<i>INTISARI</i>	xvi
ABSTRACT	xvii
CHAPTER I INTRODUCTION 1	1
A. Background	1
B. Research Objective	4
C. Advantage of Research	4
D. Limitations of Research	4
CHAPTER II LITERATURE REVIEW AND THEORY BACKGROUND 6	
A. Introduction	6
B. Literature Review	7
1. Truss Structure	7
2. Bridge	11
3. Bamboo as Building Material	12
4. Petung Bamboo (<i>Dendrocalamus asper</i>)	15
5. Mortar	18
6. Bamboo Connections	19
C. Theory	23
1. Loading Analysis of Pedestrian Bridge	23

2. Combination of Axial Force and Bending Moment	26
3. Bamboo Connection with Bolt and Mortar Filler	28
CHAPTER III RESEARCH METHODS	35
A. Flow Chart	36
B. Design Criteria	37
C. Bridge Design	39
CHAPTER IV ANALYSIS AND DISCUSSION	43
A. Loading Analysis	43
1. Dead load	43
2. Live load	48
3. Vehicle load	48
4. Wind load	52
B. Axial Forces	60
C. Deflection	66
D. Bridge Element Cross-section	67
E. Connection Design	70
1. Connection Strength	70
2. Bolt and Steel plate	74
F. Material needs	76
G. Discussion	82
CHAPTER V CONCLUSION AND RECOMMENDATIONS	88
A. Conclusion	88
B. Recommendations	90
BIBLIOGRAPHY	91
APPENDICES	