

TABLE OF CONTENTS

TABLE OF CONTENTS	x
TABLE OF FIGURES	xii
LIST OF TABLES.....	xv
LIST OF ANNEX LINKS.....	xvi
ABSTRACT	xvii
INTISARI.....	xviii
CHAPTER I INTRODUCTION	1
I.1 Background.....	1
I.2 Problem Statement.....	4
I.3 Research Objectives	4
I.4 Research Questions	5
I.5 Scope	5
I.6 Research Benefits	6
I.7 Literature Review	6
I.8 Hypothesis	7
CHAPTER II THEORETICAL FOUNDATION	8
II.1 Urban Land Administration System and Apartment Complexities	8
II.2 3D Cadastre	9
II.2.1 IFC Data Format.....	10
II.2.2 CityGML Data Format	12
II.2.3 CityJSON Data Format.....	14
II.2.4 Validation of 3D Models	16
CHAPTER III RESEARCH METHODS	20
III.1 Research Location.....	20
III.2 Research Equipment	21
III.3 Research Materials.....	22

III.4 Research Stages	24
III.4.1 Literature Study.....	26
III.4.2 Conversion of IFC to CityGML	26
III.4.3 Conversion of CityGML to CityJSON.....	29
III.4.4 Validation of CityGML and CityJSON Model	29
CHAPTER IV RESULTS AND DISCUSSION.....	30
IV.1 Results	30
IV.1.1 Conversion of IFC to CityGML using eveBIM.....	31
IV.1.2 Conversion of IFC to CityGML using FME Workbench	36
IV.1.3 Conversion of IFC to CityGML using FZK Viewer.....	38
IV.1.4 Conversion of eveBIM's CityGML Input to CityJSON	40
IV.1.5 Conversion of FME Workbench's CityGML Input CityGML to CityJSON ...	42
IV.1.6 Conversion of FZK Viewer's CityGML Input to CityJSON.....	43
IV.1.7 Application of CityGML and CityJSON towards 3D Cadastre.....	44
IV.1.8 Validation of the CityGML and CityJSON Model	48
IV.1.9 Coordinate System Checking for CityGML and CityJSON	50
IV.1.10 Volume Checking for CityGML.....	54
CHAPTER V SUMMARY	58
V.1 Summary	58
V.2 Suggestions	59
BIBLIOGRAPHY.....	60
LIST OF ANNEX LINKS.....	65