

# DEPARTMENT OF BUILDING SURVEYING FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING UNIVERSITI TEKNOLOGI MARA

## METHOD OF CONSTRUCTION AND MAINTENANCE OF DOME ROOF MOSQUE

This academic project is submitted in partial fulfillment of the requirement for the Bachelor Of Building Surveying (Hons.)

MOHD BAZLY BIN MOHAMAD NAJIB (2006699486)

**APRIL 2008** 

### TABLE OF CONTENT

NO.	CONTENTS	PAGES
1	Acknowledgement	6
2	CHAPTER 1	
	1.0 Abstract	8
	2.0 Issue of the topic/problem statement	10
	3.0 Objective of study.	11
	4.0 Scope of study	11
	5.0 Methodology of study	12
3	CHAPTER 2: LITERATURE REVIEW	
	2.0 Introduction to roof.	16
	2.1 The definition of roof.	16
	2.2 Construction of roof in tropical climate	20
	2.3 The maintenance of roof	24
4	CHAPTER 3: CONSTRUCTION METHOD OF	
	DOME ROOF AT PUCHONG PERDANA	
	MOSQUE.	
	3.0 Introduction	28
	3.1 Introductions to dome roof structures.	28
	3.2 method construction of a dome roof.	30
	3.2.1 Aluminum cladding dome.	30
	3.2.2 Storage, handling, transportation of the	33
	dome.	
	3.2.3 Work instruction for construction of the	33
	dome.	
	3.3.0 Comparison method construction dome	43
	between Masjid Puchong Perdana and	
	Precint 3 New Putrajaya Mosque.	
	3.3.1 Explanation between the comparison of the method construction.	48

NO.		CONTENTS	PAGES
5	CHAF		
	4.0	Case study	51
	4.0.1	Case study location.	51
	4.0.2	Construction concept	53
	4.0.3	Scope of works.	55
	4.0.4	List of consultant that involve	57
	4.0.5	List of contractor that involve	59
6			
	CHA	PTER 5:FINDINGS	
	5.0	Recent condition of Puchong Perdana	52
		mosque.	
	5.1	Method of maintenance of the dome roof	89
		at the Puchong Perdana Mosque.	
	5.1.0	Introduction to the maintenance	89
		dimension.	
		Maintenance defined.	89
		The nature of maintenance work.	90
	6.0	Method of maintenance of dome roof at	96
		Masjid Puchong Perdana.	
	6.1.	Introduction.	96
	6.2	Proposal of method maintenance of dome roof at Masjid Puchong Perdana.	97
7	CHAI		
	6.0	CLUSION  Conclusion and recommendation.	107
	6.1	Research limitation	107
	0.1	Vezeuch immanon	100
8.	Bibliography		110

#### ACKNOWLEDGMENT

This dissertation has only been made possible with the help of many parties. Above all, I would like to express my appreciation to my supervisor, En. Mahayudin Mahmood from the Faculty of Architecture, Planning and Surveying, Universiti Teknologi Mara, for his guidance and patience in supervising this study and research.

Besides, this study could not be made possible without the help from the person in every site that allowed me to conduct the case study at his construction site. Especially, En Nizam Engineer from Saba consultant Shah Alam that helped me a lot on my dissertation topic. Thanks to all of them.

Special thanks to my beloved family which helps me in terms of financial and moral support to complete this dissertation.

Finally, to those who had contributed assistances and advices in this study, either directly or indirectly, yet their names are not cited here, they deserve my greatest gratitude. Millions thanks to all.

#### **CHAPTER 1**

#### 1.0 Abstract

A modern building is expected to be a life support machine. It is required to provide the facilities necessary for human metabolism such as clean air and water, the removal of waste produce, optimum, thermal and humidity control, privacy, security and visual or acoustic comfort. It is generally required to be source of energy appliances, and provide means for communication with television, telephones and etc. In addition; a building must be a safe from collapse, fire, storm, and vermin, resistant to the physical forces of rain, wind, earthquakes, be capable of adaptation to various functions, external landscaping or internal furniture arrangements. It must also be easily, economically, quickly and well constructed and allow easy maintenance, alterations and extension. All this must be accomplished in the context of providing a building which has a character and aesthetic appeal.

A mosque is one type of sacred building which is essential to the Muslim to perform the religious practice in those sacred building. Therefore, most mosques are built with dome at the top of the building to show and the recognition of those building as a sacred place for the Muslim to the public. Dome is one type of a roof that will provide a shelter to the occupant, in it also usually been used in mosque's design as a symbol of Islamic architecture. It is important for the mosque to