DEPARTMENT OF BUILDING

UNIVERSITI TEKNOLOGI MARA

(PERAK)

MENAIK TARAF PASAR TAIPING, PERAK

Prepared by:

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AUGUST 2021

By

Syahfi Irfan Bin Syahrill Nizam

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entitled

Projek Menaik Taraf Pasar Taiping, Perak

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STUDENT'S DECLARATION

I hereby declare that this report is my own work, except for extract and summaries for which the original references stated herein, prepared during a practical training session that I underwent at SK Juara ENT SDN BHD for duration of 20 weeks starting from 26 August 2021 and ended on February 2022. It is submitted as one of the prerequisite requirements of BGN310 and accepted as a partial fulfillment of the requirements for obtaining the Diploma in Building.

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Name : Syahfi Irfan Bin Syahril Nizam

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Date : 10. 1. 2022

ACKNOWLEDGEMENT

Thanks to Allah for giving me the opportunity to express my gratitude towards these people who willing to help and teach me.

I would like to thanks everyone from the company SK Juara ENT SDN BHD for all the guidance, helps, knowledge, and advice that has been bestow upon me. I feel so grateful towards them for all the things that they have done to me. All of them especially the team under Pn. Salina which consists of wonderful and friendly people comprising of Suhadah bt Elias, Suhadah bt Abu, Aini Farhani bt Zainadi, and Mohamad Asyraf bin Hamid. They all have been taking good care of me throughout the times I have been having internship with them. With their guides, I learned a lot about construction and civil works. With this, I learn the professional work ethics in the office and on site. It was an honour for me to works with them even though I keep on doing many mistakes due to my lacks of knowledge. I am very grateful to be involve with the projects that they are working on and I am proud to say that I have learned a lot. Everyone under Pn Salina teams is very generous as they did not feel tired to teach me new things whenever I asked them something. They all inspire me to be a better person and motivate me to be a great contractor and workers such as themselves. Once again, thank you for always taking a good care of me. Thank you for teaching me and thank you for always threat me well.

Next, I also would love to take this opportunity to thanks my practical coordinator __ and practical supervisor Dr Siti Akhtar Mahayuddin for always answering all my question regarding practical training. Thanks a lot, to all of my friends as well for willing to help me throughout the practical training session even though they are busy with their practical's as well. Also, many thanks to my parents and family who always support me and give me words of motivation to keep on studying and to pursue this field. Everyone always been kind to me and I am very grateful to be surrounded by many awesome people.

ABSTRACT

Conservation is a process involving of maintaining a place for the purpose of maintaining cultural importance with treatment actions and with circumstances including retention, rehabilitation, redevelopment, and adaptation. Conservation plays an important role in cultural restructuring includes preservation in terms of tangible heritage such as buildings and monuments. In this report, it will be explained about methods used in the conservation project and to investigate times for the project to finish.

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CHAPTER 1.0

INTRODUCTION

1.1 Background of Study

Conservation and preservation of buildings and heritage sites in Malaysia are under the responsibility of Jabatan Warisan Negara (JWN). Development of conservation heritage buildings are in the interest of state when Akta Warisan Kebangssaan 2005 (Akta 645) after it has been approved in the parliament. This Akta has been gazetted on 31 December 2005 and has been effective in 1 March 2006. With the AKta 645, Akta Bendapurba 1976 (Akta 168) and Akta Harta Karun (Akta 542) has already been repealed. Akta Warisan Kebangsaan 2005 provide for the conservation and preservation of the National Heritage, natural heritage, tangible and intangible cultural heritage, underwater heritage, and others related matters. On 1 March 2006, the National Heritage Department has established. The establishment and structuring of functions and tasks under JWN have improved further development of the field of heritage conservation in Malaysia. JWN headed by Pesuruhanjaya Warisan which responsible for the registration of National Heritage and project implementation conservation and heritage buildings throughout Malaysia.

Warisan can be define as something treasurable that has been inherited from old generation to new generation. It includes traditions, culture, place, buildings, archival material, print including book writing and magazine. Cultural warisan is an asset that has no prices because of its aesthetic, archaeology, architecture, culture, history, scientific, social, spiritual, linguistic, or technology. In particular to the United Nations Education, Scientific and Cultural Organization (UNESCO) define national heritage as covering the following aspects such as monument, buildings and site.

1.2 Objectives

The main objectives for this report are as follows:

I. To explain the process/procedure involving conservation project at Arked Siang Malam
II. To investigate the cost/time for the project

1.3 Scope of Study

This report is focused on Projek Menaik Taraf Pasar Taiping, Perak. These report objectives help to explain the process and procedure involving conservation project. Furthermore, the time and costs needed for the project to complete also need to be discussed. In this project, there a lot of labours, machineries and materials involved. Therefore, three methods of study were taken such as observation, interview and document review.

1.4 Methods of Study

These are the methods used to gain information about Projek Menaik Taraf Pasar Taiping, Perak:

i. Observation

Observation was made every time site were visited. The observations were focused on the process and methods used in the project. The observation method takes about an hour or two depends on how long the site was visited. To record the observation methods, pictures and videos were taken.

ii. Interview

Interview were conducted at the site every time there is a site visit. The questions were asked based on the process at the site and short notes were taken in a notebook

iii. Document Review

Document review method provide more precise information as it is based on the drawings, files and reports regarding the project. This way, it can help to assist more information accurately as the drawing shows all the detail information about the project.

CHAPTER 2.0

COMPANY BACKGROUND

2.1 Company Introduction

SK Juara ENT SDN BHD was established on 7 March 2008 in the field of construction business. SK Juara has been registered as a G6 grade contractor under the Construction Industry Development Board (CIDB). The company carries out contract work such as roads, building maintenance, drains, bridges, mosques, and various contract works from government departments.

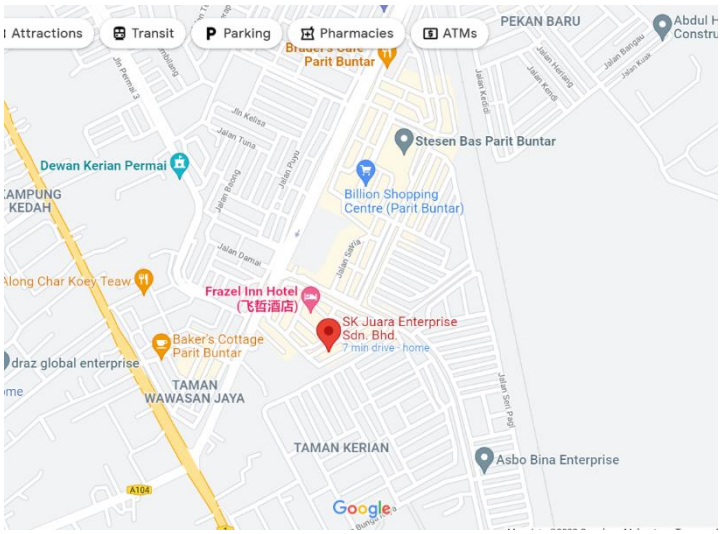

Figure 2.1 (Location of SK Juara ENT SDN. BHD)

Figure 2.1 (SK Juara ENT SDN.BHD logo

2.2 Company Profile

Company Name	SK Juara ENT SDN BHD
Company Address	NO. 32, JALAN BISTARI, PUSAT BANDAR FASA 2, 34200 PARIT BUNTAR, PERAK
Chairman	Mustafa bin Harun
Registered Grade	G6
Date of registration	7 March 2008
Nature of Business	Construction
Company Vision	Delivering the service within time, cost and quality desired by our client
Company Mission	Ensuring our integrated approach in advising our clients goes beyond the client's objective and benefits the society in general

Table 2.1 (Company profile)

2.3 Company Organisation Chart

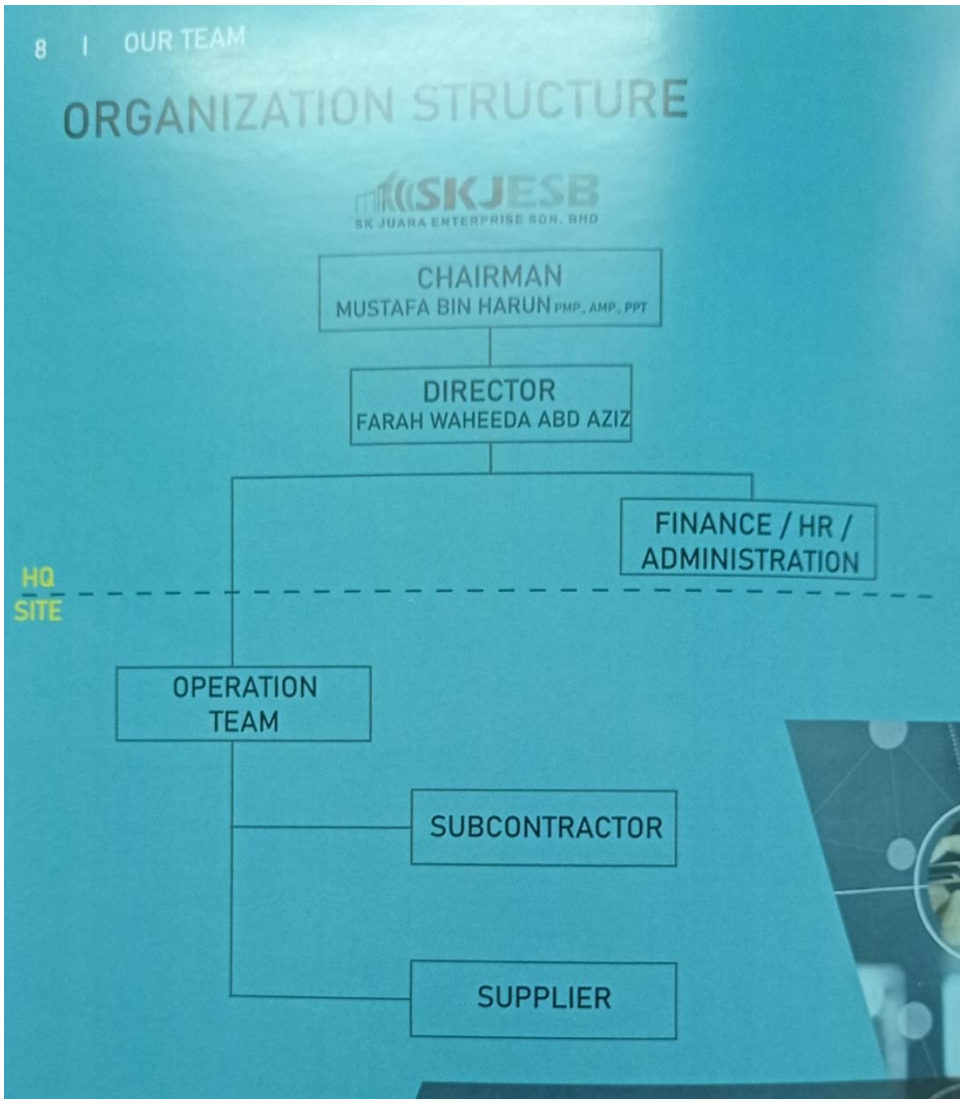

Figure 2.3 (Company Organisation Chart)

2.4 List of Completed and Ongoing Projects

No.	Project Title	Project Value	Start Date	Completion Date	Project Duration	Client
1.	Menaik Taraf Pasar Taiping, Perak (Ongoing)	RM8700000	21 January 2021	22 March 2023	2 years	KPKT
2.	Kerja - kerja menaiktaraf tali air di T.A Banjar 1 – L1 dan T.A Banjar 2 – 1 (Completed)	RM290000				
3.	Cadangan pembinaan bangunan baru mengandungi 6 bilik darjah dan lain – lain kemudahan di SKJ(T) Taman Kaya, Taiping, Perak (Completed)	RM6819245				
4.	Cadangan menurap semula jalan	RM348379.60				

	di Taman Desa Jana (Fasa 2), Kamunting, Perak (Completed)					
5.	Civil and structural works for proposed 30/60TPH palm oil mill on lot 10706, Mukim, Beruas, Daerah Manjung, Perak	RM2877363.33				

Table 2.4 (List of completed and ongoing projects)

CHAPTER 3.0

CASE STUDY OF PROJEK MENAIK TARAF PASAR TAIPING, PERAK

3.1 Introduction

Conservation is a process that includes any maintenance of a tradition, culture, place, buildings, archival material, print including book writing and magazine with the purpose of preserving cultural importance with treatment actions and under certain circumstances including retention, rehabilitation, redevelopment, and adaptation. The project is located near 134, Jalan Pasar, 3400 Taiping, Perak. Before the conservation at Pasar Taiping start, the seller must move to another place for them to sell their items. Therefore, Pasar Sementara was built at Tupai, Taiping. Pasar Sementara is a temporary place for the sellers to be moved while Pasar Taiping is undergoing conservation process. Currently Arked Siang Malam is undergoing conservation process. Arked Siang Malam is a food place. This project is estimated to finish in 2023.

3.2 Process and procedure use to conserve Arked Siang Malam

3.2.1 Demolished and disassembled

Figure 3.2.1 (arked siang malam being disassembled)

Arked siang malam was first disassembled and the woods are taken to a workshop to be investigated. Some of the woods structure have critical structure issue, have decay, termite infection, cracks, split and some are dislocated

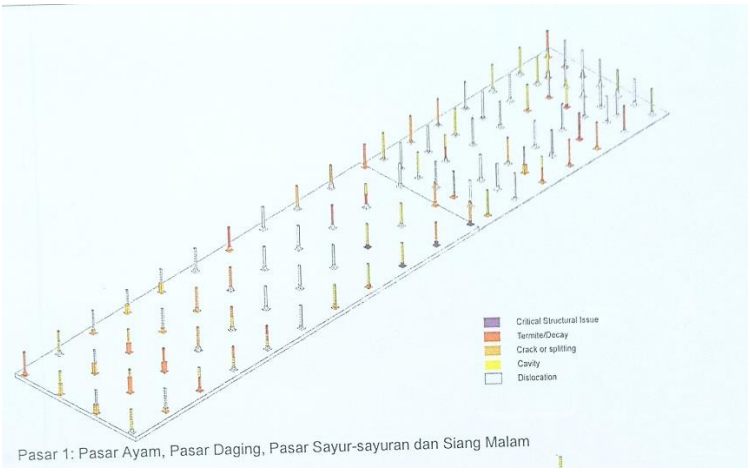

Figure 3.2.1 (damaged wood structure)

Figure 3.2.1 (example of wood damaged and concrete pole damaged)

3.2.2 Excavate tiles

Figure 3.2.2 (Backhoe is used to excavate tiles)

The tiles of the arked siang malam were excavated to the ballast. Backhoe breaker is use for breaking tiles and backhoe is use to dig up rubbles into truck. Tiles that were previously used are sized 300mm x 300mm and the tiles area needed to be excavated are 30000mm x 18000mm.

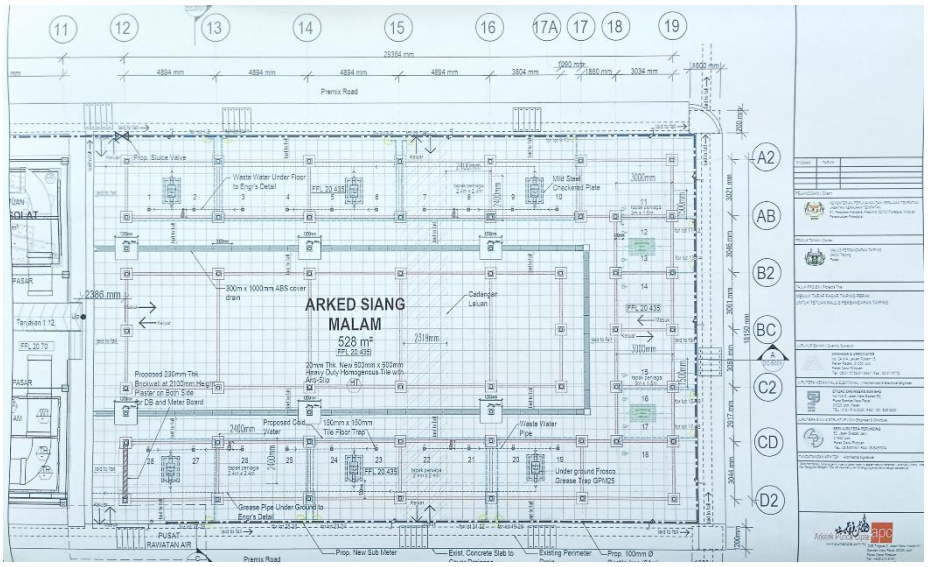

Figure 3.2.2 (Drawing of arked siang malam)

3.2.3 Pegging work

Figure 3.2.3 (Pegging work in progress)

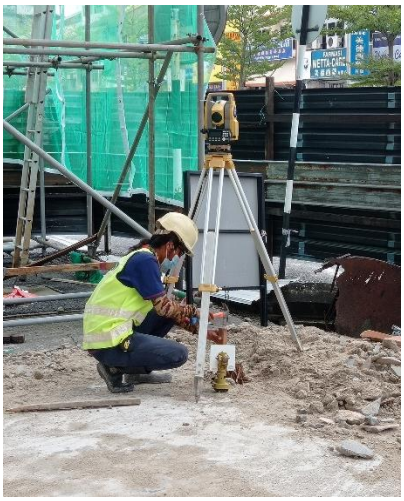

Figure 3.2.3 (Column pegging)

After all the tiles have been removed, surveyor from Geomark Enterprise come to tag columns location and the grid line for the building before any work can be done. The purpose for the pegging work is to mark and making sure the accurate position for the columns to be in straight alignment. Pegging work is also conducted to move tbm into the building site.

3.2.4 Excavate ballast according to the gridline

Figure 3.2.4 (Backhoe breaker is used to break the ballast)

Figure 3.2.4 (Digging up debris using back hoe

Figure 3.2.4 (Ballast completely excavated according to the building grid line)

The ballast is break according to the gridline for raft footing to be constructed. Raft footing provide better weight spreads of the building to the ground. Raft footing are large concrete slab that spread out under entire building or large part of it.

3.2.5 Works to make raft footing

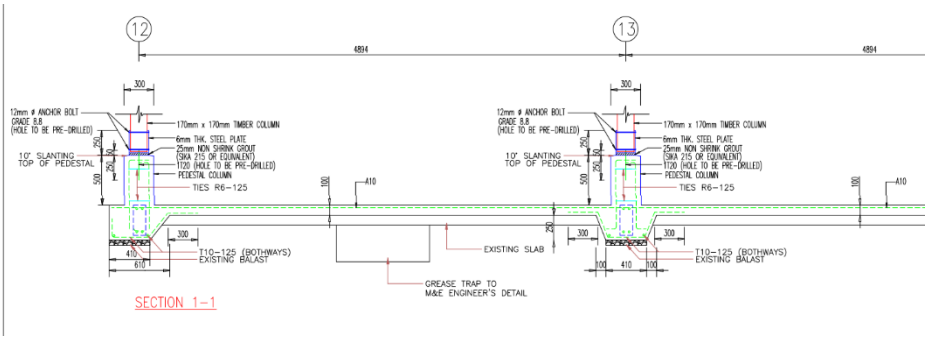

Figure 3.2.5 (Drawing of raft foundation used at the site)

Figure 3.2.5 (Applying dpm in the excavated area)

Dam proof membrane (dpm) is a material used to prevent moisture from getting into the ground and make the ground wet. Dpm is applied before the floor is concreted.

Figure 3.2.5 (Installing steel bar for beam slab in the raft footing

Concrete alone is only strong for compression strength and low tensile strength and ductility. Therefore, steel bar or reinforcement bar is used as a reinforcement material that can withstand compression and tensile strength. Steel bar also bend well with concrete and expands when temperature is at similar rate. Steel bar type t12 are bind together with link bar type R6.

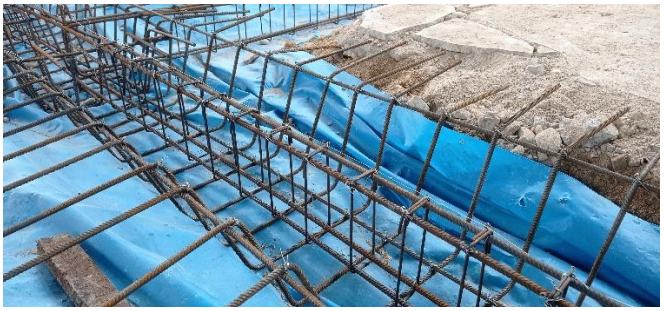

Figure 3.2.5 (Trapezoid bar is added)

Trapezoid bar is made by using steel bar type t12. Trapezoid bar is added for the concrete to better spread and to increase the load bearing strength of the building structure.

Figure 3.2.5 (Spraying anti-termite)

Anti-termite is a chemical that act as a pest repellent that repel pests such as termite from getting into the building. The anti-termite has 3 stages, first it is spray at footing, next at beam and lastly sprayed at slab. Termite likes cold place and come 2 feet from underground and therefore the anti-termite is sprayed at the footing first and later on the woods as well.

Figure 3.2.5 (Laying brc mesh)

Figure 3.2.5 (Taking lapping measurement of brc mesh)

Brc mesh is use as reinforcement material in concrete. The brc mesh is laid down on all area that will be concreted. After all the brc mesh is laid down, the lapping between the brc meshes will be calculated to ensure safe transfer of reinforcement stresses between mesh modules adjacent.

Figure 3.2.5 (Pump truck used to pour concrete into the construction site)

The construction area is too small for concrete truck to enter and pump truck is used. Pump truck extend its arm which is controlled remotely by the driver. The arm of the pump truck can be extended to 15m in length.

Figure 3.2.5 (Pouring concrete)

Concrete truck arrived and poured the concrete into the pump truck. A total of 5 concrete trucks are used to concrete all the area.

Figure 3.2.5 (Hardened concrete slab)

3.2.6 Making grease trap and internal cold-water plumbing

Before the floor can be concreted, plumber comes to make grease trap hole and internal cold water plumbing for arked siang malam.

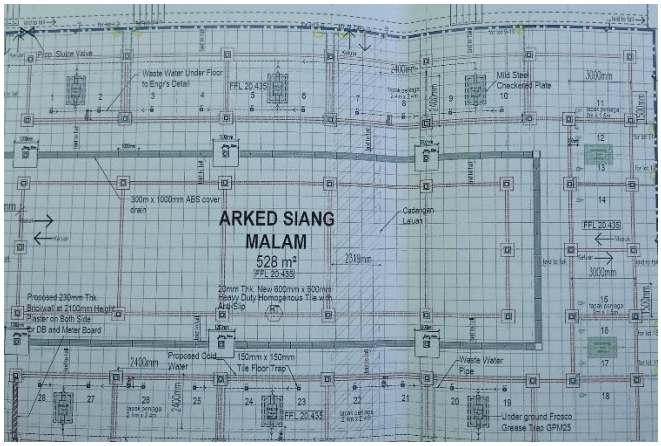

Figure 3.2.6 (Drawing shown the 8 area needed for grease trap)

Figure 3.2.6 (Hacking and digging the ground for grease trap hole)

After the hole is dug out, bricks are tied and plastered. A hole is drilled to the perimeter drain for outlet pipe

Figure 3.2.6 (Pipe UPVC were used for water outlet to the perimeter drain)

Figure 3.2.6 (HDPE pipe were used for the internal cold water plumbing system)

Figure 3.2.6 (Steel pipe and PVC pipe are used for the internal cold water plumbing)

3.2.7 Making concrete stump and preparation to install wood column

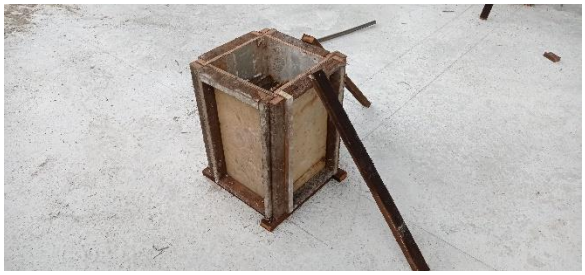

Figure 3.2.7 (Making formwork)

Making formwork for concrete stump with the height of 500mm and width of 300mm.

Figure 3.2.7 (Pouring concrete)

Figure 3.2.7 (Using vibrator to shake the concrete)

Vibrator is use to shake the concrete to get rid of air bubbles. Air bubbles are bad for the concrete as it will create honeycomb and therefore weaken the concrete strength.

Figure 3.2.7 (Hardened concrete stump)

After the concrete stump has hardened, the stump is drilled in the centre to put a starter bar. Steel t20 is putted using sika grout. The purpose of the starter bar is to hold the wood column.

Figure 3.2.7 (Putting corner bead)

Figure 3.2.7 (Plastering concrete stump)

Corner bead is used on the corners of the concrete stump in order to have smoother edge.

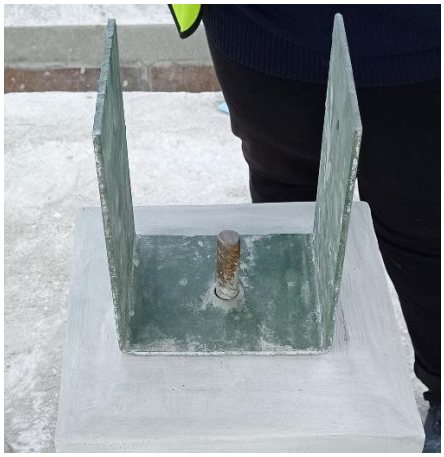

Figure 3.2.7 (Steel plate dimension is 175mm width and 250mm height)

Steel plate is used to hold the wood column uphold. The wood is drilled to apply bolts and nuts. The bolt size is 12mm.

Figure 3.2.7 (Patching wood)

The old wood is full of hole and is patched using leftovers wood. The leftover wood is cut to smaller pieces before being patched. Larger pieces of leftover wood is used as a lining to make sure the wood column is not damaged.

Figure 3.2.7 (Installing wood column)

The wood used for the arked siang malam is from Balau wood. The wood column is 3000mm height and 170mm width.

Figure 3.2.7 (Checking the wood column uphold)

Figure 3.2.7 (Using a plummet to check the wood straightness)

A line was draw in the centre of the wood and after the wood is installed a plummet was use to make sure if the wood is straight or not by hanging it from a thread.

3.3 Investigation of time and cost needed to conserve Arked Siang Malam

Different construction project has different times for it to be finished, this all depends on the structure, design, landscape, labour, machineries and more. These factors play an important role in one project to determine the time for the construction. Most of the contracts are usually comes with the amount of time for the contract to finished.

Despite that, delays are to be expected for each project because something unpredictable may occur during the construction period that can extend times needed for a project to be finished constructed. As for conservation project at Arked Siang Malam, some problems also occurred and delay the construction project. The major reason for the delay was due to covid virus. The conservation project at Arked Siang Malam is estimated to takes 7 months for it to finish. But before any construction works at Arked Siang Malam can be conducted, pasar sementara was build first in order for the seller to move in while the conservation project takes place. Pasar sementara also one of the factors that delay the construction works at Arked Siang Malam. A lot of money and time were use to focused on finishing pasar sementara first. Some material uses to construct pasar sementara was expensive as the price keeps on rising. Material such as cement, steel, machineries and crusher run went up in prices because of covid. Thankfully, pasar sementara has been constructed and seller can already move in.

CHAPTER 4.0

CONCLUSION

The role of the conversation division is to ensure that conservative principles that includes conservation, restoration, construction, adaption and other conservation approaches are practiced based on internationally recognized methods such as UNESCO (United Nations Education, Scientific and Cultural Organization). Conservation role also responsible for regulating the implementation of conservation projects carried out by the National Heritages Department and providing advisory services for conservation work carried out by other agencies. This division also acts as the secretariat in the preparation of Conservation Management Plan document for buildings that have been gazetted under national heritage Act 2005.

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