



PROGRAMME IN BUILDING SURVEYING  
DEPARTMENT OF BUILT ENVIRONMENT STUDIES AND TECNOLOGY  
FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING  
UNIVERSITI TEKNOLOGI MARA  
PERAK BRANCH  
SERI ISKANDAR CAMPUS

**ROAD DAMAGES AND MAINTENANCE PROCEDURES  
AS PER GOVERNMENT GUIDELINES IN  
MAJLIS DAERAH LENGGONG, PERAK**

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BACHELOR OF BUILDING SURVEYING (HONS)

PRACTICAL TRAINING REPORT

FEBRUARY 2022

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FEBRUARY 2022

This practical training reports is fulfillment of the practical training courses

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## ACKNOWLEDGEMENT



First and foremost, all praises to Allah for the strength and His blessing to giving me an opportunity to complete my internship journey until I can make it till the end of the semester for my bachelor degree. Despite the challenges are quite though, I was very thankful that I can learn something new from different person with different background during this internship programme.

Special credit goes to Majlis Daerah Lenggong, Perak due to their willingness to accept me as an intern in their company. I was located in Engineering department and Encik Meor Syaharizan Bin Meor Hariri is a person that had supervise me throughout 16 weeks of my internship. I want to acknowledge my gratitude to him due to his determination to teach me based on real on going projects and share his knowledge and experience and gives invaluable advice, continuous support, and courage to me to complete this internship. Not to mention, I want to thank all staff of Majlis Daerah Lenggong due to their kindness and cooperation either direct or indirectly during my internship days.

Finally, I would like to express my gratitude to my parents and my siblings. Without their tremendous understanding and encouragement during my studies, it would be impossible for me to complete this project. In a nutshell, I wanna thank me because keep believing that I am strong enough to finished this project and have the high spirit in completing the task.

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# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 INTRODUCTION**

Practical training, often known as industrial training, is a required course for all Bachelor of Building Surveying (Hons) degree students before students can graduate. It is a criterion that all degree students must accomplish in order to obtain a bachelor's degree from Universiti Teknologi Mara (UITM). Prior to graduation, the training refers to work experience that is relevant to professional development. A total of 16 weeks are allotted for training at locations selected by the students themselves. There are no restrictions or limitations for students to choose between government and private institutions.

From 11 October 2021 until 30 January 2022, the trainee, Nur Ain Nabilah Binti Mohd Dahalan (2018260852), began working at the Engineering Department of Majlis Daerah Lenggong.

### **1.2 OBJECTIVES OF PRACTICAL TRAINING**

The objectives of industrial training are as follow:

- i. To expose the real work situations to student despite implies the theory that had been learn in the previous semester.
- ii. Improve students' confidence after graduate.
- iii. Improve both soft and hard skills.
- iv. Learn communication and management skills
- v. To fulfill the award of the degree of Universiti Teknologi Mara (UITM).

### 1.3 COMPANY BACKGROUND

Majlis Daerah Lenggong is a Local Authority authorized by the Local Government Act 1976 (Act 171) to provide municipal services to Lenggong residents.

Majlis Daerah Lenggong was established on December 1, 1979. The administrative area has been approved at 9773,162 hectares, with an approximate population of 19,343 people. Pekan Lenggong is an administrative centre in the heart of the area, 62 kilometres south of the Royal City of Kuala Kangsar and 57 kilometres north of Gerik, the administrative centre for the Hulu Perak District.

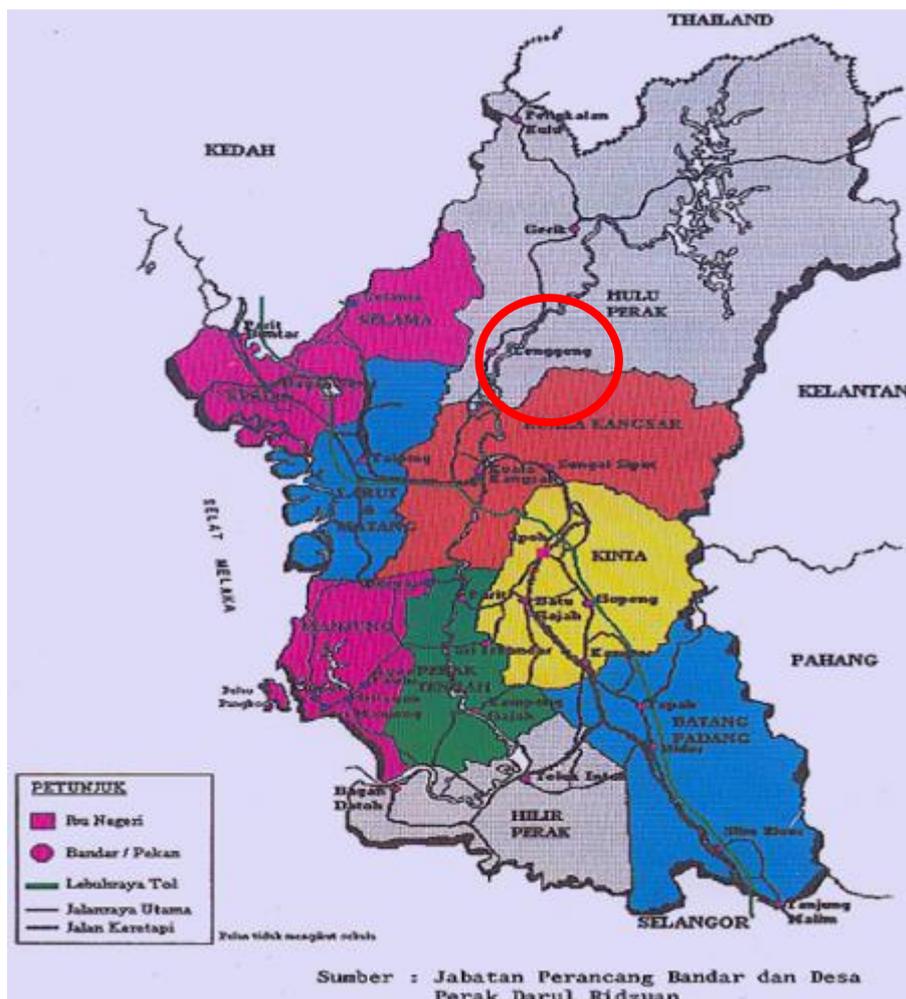


Figure 1 : The location of Lenggong in the map of Perak state

There are 28 area in Lenggong, which are as follows:

Zone	Area
Zone 1	Kampung Baru Ayer Kala
Zone 2	Kampung Baru Selat Pagar
Zone 3	Kampung Baru Padang Grus
Zone 4	Desa Air Ibol, Sumpitan
Zone 5	Rumah Perancangan Awam Gua Badak
Zone 6	Rumah Perancangan Awam Gelok
Zone 7	Taman Kota Lenggong
Zone 8	Dataran Lenggong
Zone 9	Pekan Lenggong
Zone 10	Rancangan Perumahan Tempatan Bukit Raja
Zone 11	Taman Seri Adika Raja Meor Yahaya,
Zone 12	Kampung Sira
Zone 13	Kampung Sekolah Perempuan
Zone 14	Jalan Bukit Balai, Lenggong
Zone 15	Jalan Pegawai, Lenggong
Zone 16	Taman Bandar Baru Lenggong
Zone 17	Taman Kota Lenggong
Zone 18	Taman Lenggong
Zone 19	Taman Bukit Senyum
Zone 20	Taman Cempaka
Zone 21	Kampung Baru Kota Tampan
Zone 22	Rumah Perancangan Awam Kota Tampan
Zone 23	Taman Sri Raban
Zone 24	Dataran Tasik Raban
Zone 25	Taman Kota Tampan
Zone 26	Dataran Kota Tampan
Zone 27	Pekan Raban
Zone 28	Pekan Kuak

Table 1 : A list of the zones under the jurisdiction of Majlis Daerah Lenggong.

The land area is 60.8 kilometres square with an operating area of 3 square kilometres and a control area of 57.8 square kilometres.

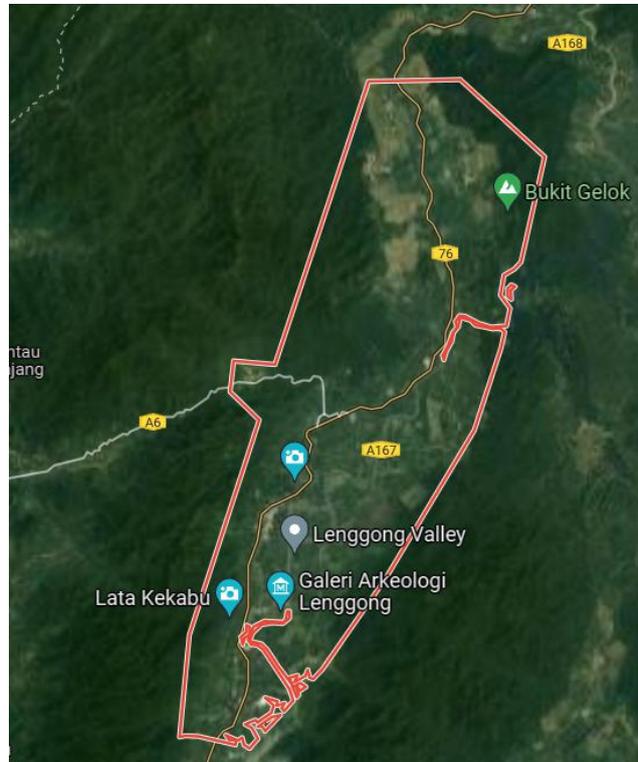


Figure 2 The area of jurisdiction of Majlis Daerah Lenggong



Figure 3 The view of Lenggong Town

### 1.3.1 ROLES AND RESPONSIBILITY OF MAJLIS DAERAH LENGGONG



Figure 4 : Majlis Daerah Lenggong office

The main roles and responsibility of Majlis Daerah Lenggong are as follows:

- a. Adopted Act 171, other Local Government Acts relating to the management of Local Authorities.
- b. Local Authorities as Town Planning Authorities in gazetted areas.
- c. Power to amend By-Laws and to enforce such Laws.
- d. Power to appoint staff according to the list of posts approved by the State Authority under section 16 (1) & (14) and also has the power to provide discipline for officers or staff of the Council under section 17, Local Government Act 1976.
- e. Power to provide loans (section 41), loans for Special purposes (section 47) and advances by way of overdraft under section 49, Local Government Act 1976.
- f. Power to set and impose rates (section 127), fix rates for General Assessment (section 130). Exemption or reduction from rates for certain properties (section 134) and provide a list of values under section 137 of the Local Government Act 1976.

- g. Approve building plans and plan processing fees in accordance with the Roads, Drains and Buildings Act 1974 and the Uniform Building By-Laws 1988.
  
- h. As a Licensing Authority.



## **1.5 DEPARTMENT SERVE**

During practical, the trainee is assigned to the engineering department, which is responsible for the following tasks:

- i. Plan and control the implementation of projects and be responsible for the payment process for development and infrastructure projects that have been completed.
- ii. Process dredging applications, conduct inspections and charge deposits to the Technical Department or Private Agency involved.
- iii. Maintain council property so that it is always in good condition such as buildings, roads, drains, signboards, bus stops and others.
- iv. Provide plan reviews on Building Plans and Road and Drainage Plans to the OSC Department.
- v. Receive and process applications to construct buildings within the Municipal Council area in accordance with the Act, By-Laws and existing Policies.
- vi. Responsible for the issuance of permits and the issuance of Certificate of Eligibility to Occupy the building in the council.
- vii. Development Control (Processing building plans and issuing Certificates of Occupancy).
- viii. Enforcement (taking action against a building without permission such as issuing notices, compounds and legal action against building owners)

## **1.6 TRAINING DURATION**

An overall period of 16 weeks is allocated for training, which takes place at locations chosen by the students themselves. There are no restrictions or limitations on students' ability to choose between public and private institutions of higher learning.

Trainee, Nur Ain Nabilah Binti Mohd Dahalan (2018260852) began working at Majlis Daerah Lenggong's Engineering Department on October 11, 2021, and remained there until January 30, 2022.

## **1.7 SCOPE OF WORK GIVEN**

The scope of work given by my supervisor, Encik Meor Syaharizan Bin Meor Hariri in the Engineering Department are not only stick to the technical practices. Even though I was placed in Engineering Department, this department perform many tasks that related to my studies such as performing inspection before the tenant entering the building and checking the defect in the property. During my internship in this four months I was generally involve in the tasks as mention below:

- a) Implement building control functions that include aspects of approval, construction monitoring and enforcement before, during and after the building is completed.
- b) Control process involves issuance of building plan approval, building erection permission, renovation work permit, temporary building permit, TELCO transmitter structure permit, building demolition work permit, overtime work permit, construction site monitoring from construction work stage until Certificate of Completion and Compliance (CCC).

The exact works that I had done was recorded in my internship logbook and can be referred in Appendix 1.

## **CHAPTER TWO**

### **CONTENT OF REPORT**

#### **2.1 INTRODUCTION OF THE CHAPTER**

This chapter are different from previous chapter where in this chapter, details literature review will be revised and review from past study referring to the existing journal or articles that related to this study. The implementation of Facility Management in road maintenance are great import to put into deliberation in this study. Besides, the road defects and maintenance as per government guidelines will be discusses together with the maintenance costing and budgeting.

#### **2.2 THE IMPORTANCE OF PROPER ROAD MAINTENANCE**

Maintenance is defined as 'all technical and administrative duties aimed at preserving or restoring an item or system to a state in which it can fulfil its needed function' (Dekker 1996 as mention in Harvey 2012). It does not considered an upgrading of the asset. In reality, simple road modifications such as widening or shoulder sealing are frequently combined with rehabilitation.

Without maintenance, roads soon deteriorate, increasing road users' expenditures associated with vehicle operation, time, reliability, and safety. The defect on roads that not maintain soon will getting worse and may result a high cost to be maintain in future. If deterioration progresses too far, users will become hesitant to utilize the road, resulting in a loss of economic and social benefits.

According to The Institution of Engineers, Malaysia (2018), proper road maintenance results in the following benefits:

- i. Reliable transportation at a lower cost, as there is a clear correlation between road condition and vehicle operating cost (VOC).
- ii. Avoiding quick degradation and eventual failure of the road as a result of climate and vehicular use impacts.
- iii. An inadequately maintained road can also provide a greater risk to the user's safety, resulting in a rise in accidents and their accompanying human and property losses.

Road maintenance is also essential in order to;

- 1) Preserve the road in its originally constructed condition
- 2) Protect adjacent resources and user safety
- 3) Provide efficient, convenient travel along the route

### **2.3 THE IMPLEMENTATION OF ROAD MAINTENANCE WORKS**

Maintenance's objective is to conserve the asset, not to upgrade it. In comparison to major road projects, maintenance must be performed on a regular basis. Road maintenance is defined as "actions that keep the pavement, shoulders, slopes, drainage facilities, and all other structures and property inside the road boundaries as close to their original or renewed state as possible" (PIARC 1994 as mention in Burningham,S.,& Stankevich, N.2005). It encompasses small fixes and enhancements eliminate the sources of issues and avoiding excessive maintenance efforts. Road maintenance is classified as routine, periodic, and emergency for management and operational convenience.

### **2.3.1 ROUTINE MAINTENANCE**

Routine maintenance, which entails small-scale work performed on a regular basis, aims "to maintain the everyday passability and safety of existing roads in the short term and to prevent premature deterioration". The frequency of activities varies, but is often once a week or month. Typical tasks include clearing and mowing grass on roadside verges, cleaning silted ditches and culverts, patching, and pothole repair. It may include regrading gravel roads every six months.

According to Harvey (2012), he highlight that routine maintenance consists of tasks that must be completed in order for a road to remain open to traffic and do not often vary according on traffic volume or composition. Routine maintenance activities that are not optimised are typically assumed to cost a constant amount per kilometre of road or square metre of pavement for costing purposes.

### **2.3.2 PERIODIC MAINTENANCE**

Other than routine maintenance, as mention in World Bank Maintenance website, periodic maintenance are defined as actions performed on a piece of road at regular and generally long intervals that aims to preserve the road's structural integrity.

These operations are typically huge in scope, necessitating the use of specialised equipment and experienced team. They are more expensive than ordinary maintenance tasks and require specific identification, planning, and, even design. Preventive, resurfacing, overlay, and reconstruction activities are all possible. Generally, resealing and overlay work is performed in reaction to measurable deterioration in road conditions.

### **2.3.3 URGENT MAINTENANCE**

Urgent maintenance is used for repairs that cannot be anticipated but must be addressed immediately, such as collapsing culverts or landslides that obstruct a road. Maintenance does not involve rehabilitation, the construction of shoulders, or road widening. If the parts to be reconstructed account for more than 25% of the total length of the road, the operation is classified as rehabilitation, not maintenance (Burningham,S.,& Stankevich, N. 2005).

According to BituChem (2021), emergency road maintenance is required in the event of a catastrophic event that has an immediate and tangible effect on traffic flow or road user safety. For instance, severe rains might result in floods, causing trouble on the entire road network and posing a very real risk of harm or death to road users and pedestrians.

Moreover, emergency maintenance must be addressed promptly in order to avoid injury and inconvenience. Almost often, road maintenance services and local governments have contingency plans in place to assist them in responding quickly to emergency road maintenance.

## **CHAPTER THREE**

### **THE PROJECT**

#### **3.1 INTRODUCTION OF THE PROJECT**

This chapter will examine in detail road defects and maintenance, as well as the development of a work flow from the start to completion, which will involve Majlis Daerah Lenggong (MDL) and associated Concession. Puncak Emas Infra Sdn Bhd is an associated Concession that has been appointed by the Perak State Government to carry out local authority road maintenance work starting on 01 August 2019 for a contract period of 5 years. The company will perform maintenance work based on Malaysian Roads Records Information System (MARRIS) guidelines set out in the contract.

##### **3.1.1 ROADS DAMAGE HANDLE BY MAJLIS DAERAH LENGGONG (MDL)**

Jurisdiction of Majlis Daerah Lenggong comprises of 43.539 kilometre (km) as of January 2022. The roads in the jurisdiction of Majlis Daerah Lenggong consists of Urban Highways, Low Cost Housing Area Roads, Back Alley, Rural Road. The common maintenance works that MDL often carried out are such:

a) Resurfacing of road

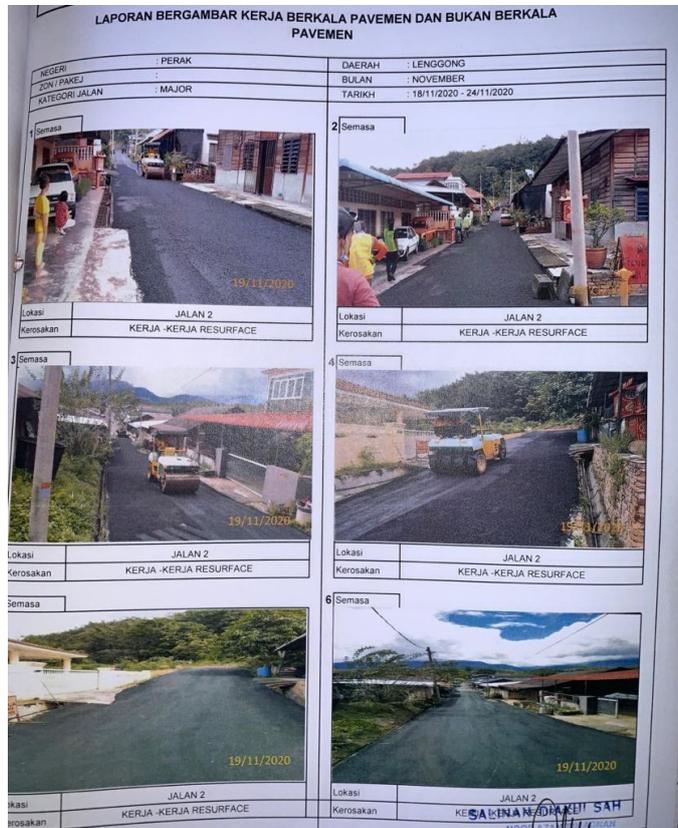


Figure 6 : Defect sheet report during resurfacing work in Padang Gerus, Lenggong

b) Road widening



Figure 7 : Before road widening works in RPT Gua Badak, Lenggong



Figure 8 : During road widening works in RPT Gua Badak, Lenggong



Figure 9 : After road widening works in RPT Gua Badak, Lenggong

c) Upgrading the road



Figure 10 : Demolish work before upgrade



Figure 11 : Construction during upgrade works



Figure 12 : Completion of upgrading works

### **3.2 SCOPE OF MAINTENANCE**

Similar to facility management, the job scope of the maintenance works usually involve routine maintenance, periodic maintenance, emergency works and preventive works. There are also limits boundary for routine maintenance and periodic maintenance were implemented on behalf of government. In every stages of maintenance, various works was carried out to determine the safety and the fund were used accordingly.

### 3.2.1 ROUTINE MAINTENANCE

Routine maintenance work include patching pothole, grass cutting, up keep of road shoulder, road furniture, bridges, culverts, drainage and routine inspection. Table below show the code of maintenance carry out by MDL with Puncak Emas Infra Sdn Bhd and the inspection routine for every type of maintenance.

No	Type of Maintenance	Maintenance Code
1	Pavement Maintenance (Pothole/Crack Sealing)	R01
2	Grass Cutting	R03
3	Road Furniture Cleaning	R04
4	Bridges & Culvert Maintenance	R05
5	Drainage Maintenance	R07

Table 2: Routine Maintenance implement by Majlis Daerah Lenggong and Puncak Emas Infra Sdn Bhd

KATEGORI JALAN	R 01	R 03		R 04	R 05	R 07	B
	PAVEMEN	PEMOTONGAN RUMPUT		PERABOT JALAN	JAMBATAN & PEMBENTUNG	LONGKANG	PEMERIKSAAN RUTIN
	%	minggu	kitaran	(bulan)	(bulan)	(bulan)	(kitaran)
Protokol	0.5%	2	2 / mth	12	6	1	1 / minggu
Utama	0.5%	2	2 / mth	12	6	2	1 / minggu
Sekunder	0.5%	2	2 / mth	0	6	3	1 / minggu
Minor	0.5%	2	2 / mth	0	6	4	1 / minggu

Table 3: Cycle of routine maintenance works

The maintenance code are implement to classify the type of maintenance so that the maintenance team and administration are alert with current maintenance that were carried out. Besides, coding make maintenance become easier either in terms of documentations or during on site works. In

this project, the main focus will be on the road pavement maintenance works which are mention as follows:

- a) Patching Potholes or damage on the road surface were done by 'Mark & Cut' method for all road categories
- b) Crack Sealing were not implemented on protocol roads and main roads. As for the justification, the areas in protocol roads and main roads are more of aesthetic value, this method is more suitable for secondary roads and minor roads.
- c) Road surface maintenance only for other than bituminous materials (Non Premix). Minor repairs of interlocking bricks & imprint pavement and others.
- d) Maintenance around manhole on local authority road.
- e) Removal of plants or debris from paved road surfaces that obstruct traffic.

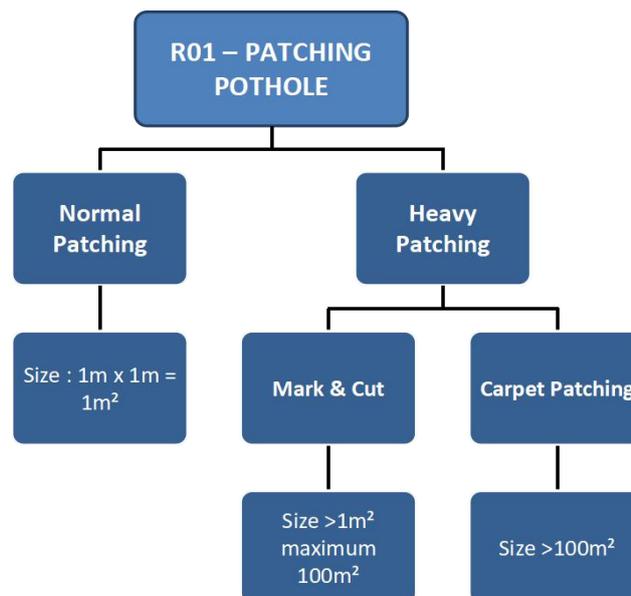


Figure 13 : Pavement Maintenance Works



Figure 14: On-site work for patching pothole and crack sealing

LAPORAN LAWATAN INSPEKTOR RUTIN

TARikh: 10 December 2021  
Muka Surat: 1

TAHUN / BULAN / NO. MINGGU : 2021/DECEMBER/MINGGU 1

TARIKH PERIKSA	NO. & NAMA LALUAN	PANJANG JALAN (KM)	KEROSAKAN DKNALPASTI	KATEGORI					LOKASI KEROSAKAN	CATATAN
				R	SP	BP	K	AB		
<b>TAMAN BUNUT SENYUM LENOONGONG</b>										
01.12.2021	J BUNUT SENYUM	0.402								
01.12.2021	JALAN HKTM	0.852								
01.12.2021	JALAN 1, TAMAN BUNUT SENYUM	0.306								
01.12.2021	JALAN 2, TAMAN BUNUT SENYUM	0.276								
01.12.2021	JALAN 3, TAMAN BUNUT SENYUM	0.216								
01.12.2021	JALAN 4, TAMAN BUNUT SENYUM	0.211								
01.12.2021	JALAN 5, TAMAN BUNUT SENYUM	0.021								
01.12.2021	JALAN 6, TAMAN BUNUT SENYUM	0.044								
01.12.2021	JALAN 7, TAMAN BUNUT SENYUM	0.042								
01.12.2021	JALAN 8, TAMAN BUNUT SENYUM	0.150								
01.12.2021	JALAN 9, TAMAN BUNUT SENYUM	0.126								
01.12.2021	J ALTERNATIF KE BUNUT RAJAH LENOONGONG	0.100								
01.12.2021	J DALAM KPA BKT SENYUM LENOONGONG	0.300								
<b>TAMAN CEMPAKA LENOONGONG</b>										
01.12.2021	TAMAN CEMPAKA LENOONGONG	0.300								
01.12.2021	J TAMAN CEMPAKA LENOONGONG	0.200								
01.12.2021	JALAN 1, TAMAN CEMPAKA	0.115	JALAN ROSAK/ROSEKAN PPK KETGA		X			JALAN 1, TAMAN CEMPAKA	(MINGGU 1) PATCHING	
01.12.2021	JALAN 2, TAMAN CEMPAKA	0.116								
01.12.2021	L TERI 1, TAMAN CEMPAKA	0.050								
01.12.2021	L TERI 2, TAMAN CEMPAKA	0.050								
01.12.2021	L BLK 1, TAMAN CEMPAKA	0.141								
01.12.2021	L BLK 2, TAMAN CEMPAKA	0.055								
01.12.2021	L BLK 3, TAMAN CEMPAKA	0.098								
<b>JALAN HAJI CHE MAT, KAMPUNG SIRA LENOONGONG</b>										
01.12.2021	JALAN HAJI CHE MAT	0.452								
01.12.2021	JALAN HAJI CHE MAT	0.452								

BAGHIAN KERAJAAN TEMPATAN PEJABAT SETIAUSAHA KERAJAAN NEGERI PERAK

Figure 15 : Sample of Routine Inspection Checklist during December 2021

PROSEDUR PENYELIAAN KERJA RUTIN (T.1)		Ref. Doc. No. : PESA/ENG/PSD/RW/F011
		Revision No. :
		Effective Date :
		Page :
<b>LAPORAN BERGAMBAR KERJA-KERJA PEMERIKSAAN RUTIN (T.1)</b>		
NEGERI : PERAK	DAERAH : LENGGONG	
NO. LALUAN : KAMPUNG BARU SELAT PAGAR	BULAN : DECEMBER	
KATEGORI JALAN : MAJOR	TARIKH : 15.12.2021	
1. Penemuan Kerosakan		
		
Lokasi : Lengqong, Perak, Malaysia Lengqong, Lengqong, 34000 Lat 5°10'47N, Long 101°7'13E 12/15/2021 09:54 AM		Lokasi : Lengqong, Perak, Malaysia Lengqong, Lengqong, 34000 Lat 5°10'40N, Long 101°7'13E 12/15/2021 09:54 AM
Kategori : MAJOR Skop Kerja : JALAN ROSAKKOREKAN PIHAK KETIGA Lokasi : JALAN 2,K/8 SELAT PAGAR (B'HAMPIRAN RUMAH NO.223)		Kategori : MAJOR Skop Kerja : JALAN ROSAKKOREKAN PIHAK KETIGA Lokasi : JALAN 2,K/8 SELAT PAGAR (B'HAMPIRAN RUMAH NO.223)
NEGERI : PERAK		DAERAH : LENGGONG
NO. LALUAN : KAMPUNG BARU PADANG GRUS		BULAN : DECEMBER
KATEGORI JALAN : MAJOR		TARIKH : 15.12.2021
2. Penemuan Kerosakan		
		
Lokasi : Lengqong, Perak, Malaysia Lengqong, Lengqong, 34000 Lat 5°10'39N, Long 101°7'14E 12/15/2021 10:16 AM		Lokasi : Lengqong, Perak, Malaysia Lengqong, Lengqong, 34000 Lat 5°10'39N, Long 101°7'14E 12/15/2021 10:16 AM
Kategori : MAJOR Skop Kerja : JALAN ROSAKKOREKAN PIHAK KETIGA Lokasi : JALAN 3,K/8 PADANG GRUS (B'HAMPIRAN RUMAH NO.100)		Kategori : MAJOR Skop Kerja : JALAN ROSAKKOREKAN PIHAK KETIGA Lokasi : JALAN 3,K/8 PADANG GRUS (B'HAMPIRAN RUMAH NO.100)
Disediakan oleh:  ABDUL MUHAMMIN ABDULLAH ZAMRI Technician (Teknikal/Technical/Technicien) (Mg) Sdn. Bhd.) (542113-1) Tarikh: 15-12-2021		Dsemak oleh:  ABD AZRAEI DANIAL BIN ABDUL RAHMAN SITE SUPERVISOR KUALA KANGSAR PUNCAK EMAS INFRA SDN. BHD. (Punca Emas Infra Sdn. Bhd.) (524288-3) Tarikh: 15/12/21
Dikuluskan oleh:  (Pegawai/Officer/Officier) (Mg) Sdn. Bhd.) KHAIRUL SHAHRAN ABDUL KADIR Section Manager Puncak Emas Infra Sdn Bhd (542288-3)		

Figure 16 : Report of road damage by road inspector during December 2021

### 3.2.2 PERIODIC MAINTENANCE

Among the works that require inspection and assessment before being implement are such as:

- i. Maintain pavement (re-paving the road)
- ii. Road structure maintenance
- iii. Sinkhole repair
- iv. Road shoulder repair
- v. Slope repair on road shoulder
- vi. Road furniture maintenance
- vii. Maintenance of damaged bridges and sewers
- viii. Damaged drainage maintenance
- ix. Cutting/pruning of trees below road borders

All periodic maintenance work must be confirmed by Majlis Daerah Lenggong before starting work on site with a proper work instruction.

### 3.2.3 EMERGENCY WORKS

This category of work refers to those road maintenance activities where the occurrences of which are difficult to predict or not within the control of the company but which have an immediate effect on road maintenance and therefore have to be dealt with without delay. The road damage will be repaired accordingly.

No	Emergency Event
1	Landslide
2	Embankment failure and road subsidence
3	Failure or collapse of bridges and their related components
4	Collapse of culverts and drainage structures
5	Flooding
6	Closure of roads due to spillage of chemicals, hazardous, toxic or inflammable materials
7	Closure of roads due to fallen trees

Table 4 : Emergency event that require maintenance

The only maintenance work that can be done involving structure collapse other than slope collapse, is to prepare temporary route.

### **3.2.4 PREVENTIVE WORKS**

Preventive works requires Preliminary action works that need to be implemented to maintain the original function of the existing road elements where the delay in taking such action could cause high financial implications and could endanger the safety of road users. Among the works involve are such:

- i. Slope study
- ii. Road hardness study
- iii. Traffic study

### **3.3 DEFECT LIABILITY PERIOD**

The Defect Liability Period for Periodic Maintenance Works is as follows:

- a) If the maintenance works valued at RM200,000.00 and below, the applicable Defect Liability Period is six (6) months from the date of issuance of the Certificate of Completion for that works.
- b) If the works exceeding the value of RM200,000.00, the applicable Defect Liability Period is two twelve (12} months from the date of issuance of the Certificate of completion for the works.
- c) If works designed by the company, the Defect Liability Period is twenty-four (24) months from the date issuance of Certificate of Completion for such works.

The Company shall repair any defects, shrinkage, or other damage (except and exclude reasonable wear and tear) and take all necessary and appropriate measures to ensure defects, shrinkage, or other damages can reasonably be avoided from occurring in connection with the works which one:

- i. Has become clear and tangible
- ii. Due to workmanship or defective materials or the works are not completed pursuant to the Approved Detailed Design, the Approved Design or under this agreement.

The State Government through the enforcement officer or the enforcement officer representatives shall inform the company through a written notice of the defect (hereinafter referred to as "Notice Defects ") during the Defects Liability Period.

All the repairs work in here shall be carried out at cost and expenses of the company and shall be settled within a reasonable period of time as may be prescribed by the State Government.

### 3.4 WORK PROCEDURES FOR ROADS MAINTENANCE

The flowchart below show the procedures that Majlis Daerah Lenggong and Puncak Emas Infra Sdn Bhd implement in order to deliver a smooth maintenance works without any issues for both party.

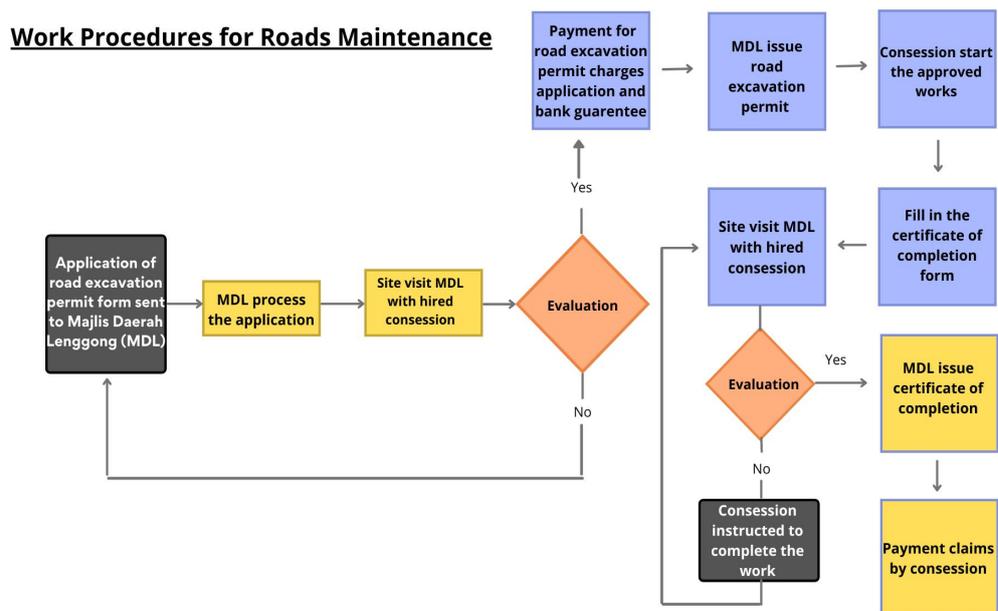


Figure 17 : Procedures for Road Maintenance work

### **3.5 MALAYSIAN ROADS RECORDS INFORMATION SYSTEM (MARRIS)**

Only state roads registered in the MARRIS Online system are eligible for state road maintenance grants. Total grants that will be funded to every state are based on total road length that are registered in MARRIS Online System on 31<sup>st</sup> December in the year before.

Local authority must register state roads in the MARRIS Online System and obtain the first stage certificate no later than 31<sup>st</sup> October and the second certificate (confirmation) no later than 31<sup>st</sup> December each year to enable the road to be included in the following year's state road maintenance allocation.

For roads that are first to be registered, the local authority must ensure that the road has been completed and has a Certificate of Practical Completion (CPC). All newly registered road categories must have the following information:

- i. Street Name
- ii. Road Length and Width
- iii. GPS coordinates
- iv. Road Width and Road Shoulder
- v. Size
- vi. Surface Road Type (SRT)

### 3.5.1 FLOWCHART FOR MARRIS ONLINE SYSTEM WORK PROCEDURE

Figure below illustrate the flow of road registration on MARRIS online system and flow of budget from Ministry of Finance to state government.

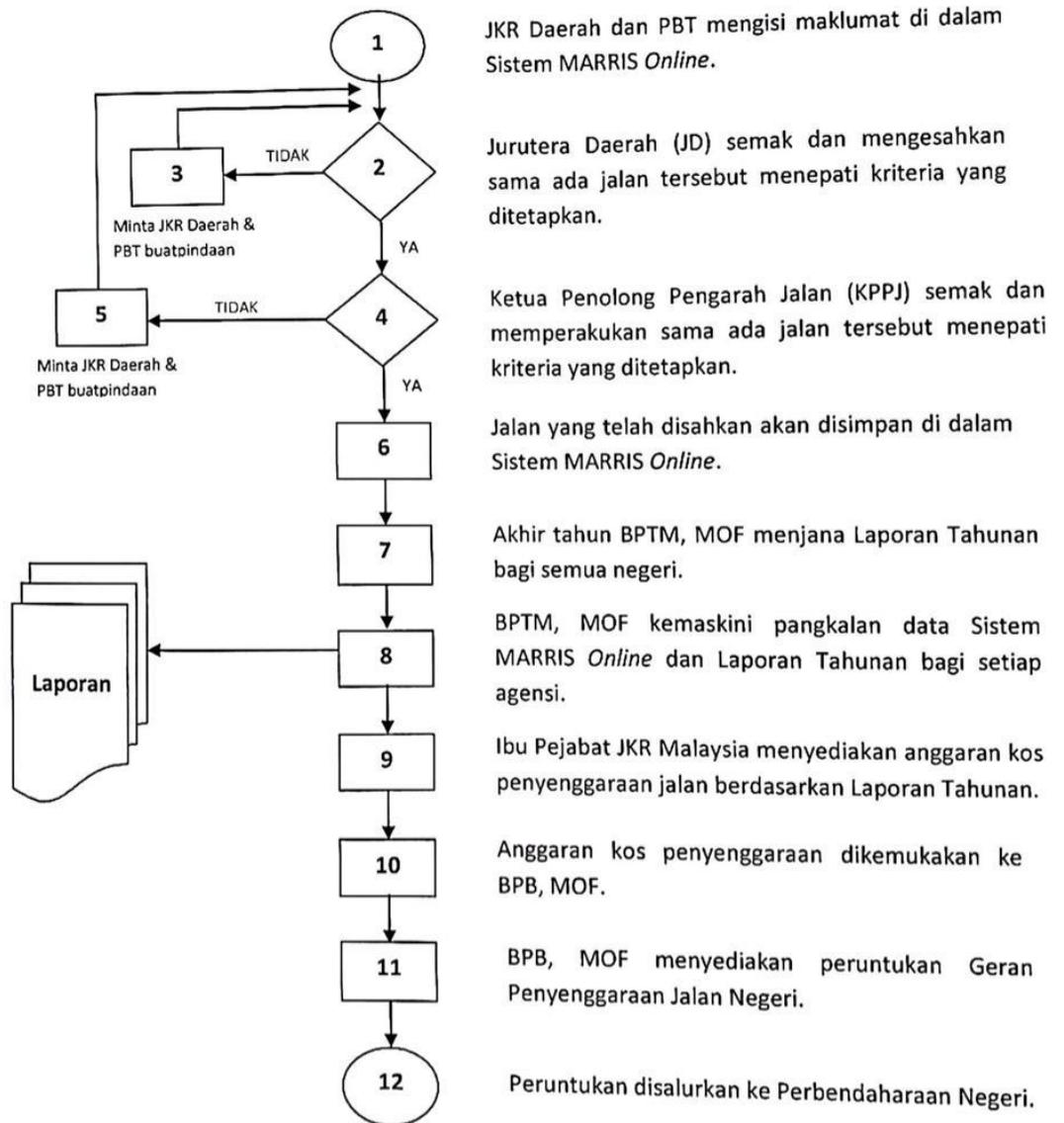


Figure 18 : Procedures for MARRIS road registration and budget allocation

### 3.6 PROJECT BUDGET ALLOCATION

Road damage and maintenance in the jurisdiction of Majlis Daerah Lenggong were funded by the Ministry of Finance, where funding is critical in order for the local authority or a hired Concession to perform maintenance or repair damage that occurs. The chart below shows the flows regarding involved organization where the funds were allocated to the local authority.

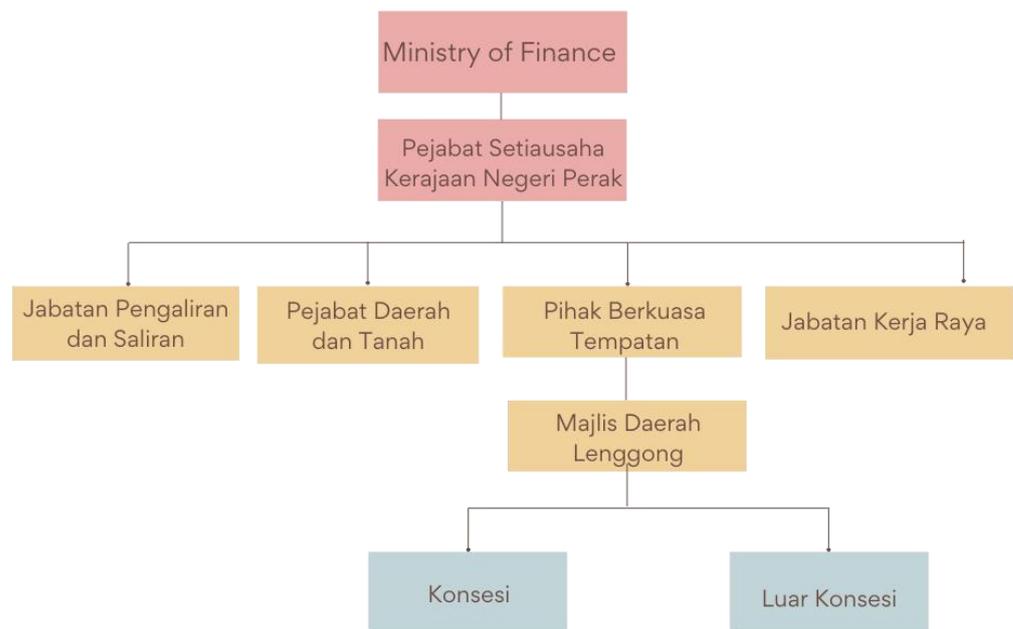


Figure 19 : Organization involved in road maintenance funding

The fund will be allocate from Ministry of Finance (MOF) to every states in Malaysia through every state government. In Perak, the fund will be allocate to Perak State Government and will be divide to different department as they handle different types of road according to the department roles and responsibility in the state. Table below shows the road category and department that handle the roads.

Category of Roads	Department				
	Public Works Department (JKR)	City Council (MB/MP)	District Council (MD)	Irrigation and Drainage Department (JPS)	District and Land Office (PD)
State Roads	●				
Urban Highways		●	●		
Low Cost Housing Area Roads	●	●	●		
Back Alley	●	●	●		
Farm Roads	●			●	
Rural Roads	●	●	●		●
Tourists Islands Roads	●	●	●		

Table 5: List of roads and the responsible department to handle

Usually, 70% of the budget allocation will be use for the planned maintenance works and 30% for emergency works such major pothole or fallen trees. The budget allocation to every department are different according to the current area of the jurisdiction of the department.

### 3.6.1 RATE OF SERVICES CHARGES BY CONCESSIONS

Figure below show a summary of rates of services charged by Puncak Emas Infra Sdn Bhd in a month according to the length of road registered in the current time. The rate of services are divided into pavement maintenance which are usually pothole or crack sealing (R01), grass cutting (R03), road furniture cleaning (RO4), bridges & culvert maintenance (R05) and drainage maintenance (R07). The contract price details can be referred in Appedix 5.

## PENYELENGGARAAN JALAN - JALAN PBT NEGERI PERAK

## PENYENGGARAAN RUTIN BAGI JALAN PBT

## RINGKASAN KATEGORI KERJA DAN KOS PER KILOMETER (KM) PER BULAN (BLN)

ITEM NO.	HURAIAN / BUTIRAN	KADAR HARGA BAGI REKEBENTUK STANDARD JALAN (RM)			
		PEISB			
		Protokol	Major	Sekunder	Minor
<b>R01</b>	<b><u>Menampal Pothole</u></b>				
R01.1	Menampal pothole mengikut capping tahunan	622.90	622.90	485.70	485.70
<b>R03</b>	<b><u>Potong, trim dan membuang rumput, tumbuhan, rumpai dan semak</u></b>				
R03.1	Kawasan rumput :- sisi jalan, cerun, berm, sekitar perabot jalan dan berhampiran longkang mengikut kitaran	479.30	479.30	141.18	76.13
<b>R04</b>	<b><u>Penyelenggaraan Perabot Jalan (Kerja-kerja Mencuci)</u></b>				
R04.1	Mencuci pagar keselamatan, penghadang jalan, penghadang konkrit, papan tanda dan lampu isyarat	22.51	22.51	0.00	0.00
R04.2	Membersih feeder pillar lampu jalan				
<b>R05</b>	<b><u>Penyelenggaraan Jambatan dan Pembentung</u></b>				
R05.1	Mencuci, membersihkan, membuang kelodak dan membuang bendasing dimana loji dan jentara tidak diperlukan untuk kawasan berkenaan seperti laluan jambatan, laluan air dan bumbung. Lain-lain kerja termasuk pembaikan kecil permukaan bukan struktur (tidak termasuk permukaan bawah dek jambatan) mengikut kitaran.	270.67	270.67	79.73	79.73
<b>R07</b>	<b><u>Penyelenggaraan Longkang</u></b>				
R07.1	Membuang kelodak longkang tanah dan longkang konkrit untuk kedua-dua belah jalan dan longkang berm (sehingga berm kedua) mengikut kitaran	512.00	512.00	512.00	512.00
<b>B</b>	<b><u>Pemeriksaan Rutin</u></b>	10.00	10.00	10.00	10.00
	<b><u>Kos Pengurusan (6 %)</u></b>	115.04	115.04	73.72	69.81
	<b>Jumlah Per Km / Bulan</b>	<b>2,032.42</b>	<b>2,032.42</b>	<b>1,302.33</b>	<b>1,233.37</b>
	<b>Jumlah Per Km / Bulan (Dibundarkan)</b>	<b>2,032.00</b>	<b>2,032.00</b>	<b>1,302.00</b>	<b>1,233.00</b>

Figure 20: Summary of Routine Maintenance Rates in a Month

### **3.7 SUMMARY**

All maintenance works must be recorded by both party so that there is no issue regarding maintenance work done by Concession or any claims that relate. This chapter explain that the proper procedure is important to determine the success of a project and the fund that were allocate can be use accordingly.

## **CHAPTER FOUR**

### **PROBLEMS IDENTIFY**

#### **4.1 INTRODUCTION**

During my four months as a practical student here at Majlis Daerah Lenggong, I have been observing and recording every detail that is necessary in order to finish my task. This chapter will outline the issues that I have identified and consider need to be addressed.

#### **4.2 INADEQUATE BUDGET ALLOCATION**

If an emergency event occurs, such as a slope collapsed, MDL and Puncak Emas Infra Sdn Bhd are unable to repair the damage on the spot due to a lack of funds and the large number of maintenance tasks that must be completed. It is necessary for MDL to first submit an application for maintenance for emergency works, and the process may take a long time before it is accepted due to the several phases of procedures that must be completed.

Furthermore, the more frequently an emergency event occurs, the more damage is caused, which cannot be repaired in a short period of time due to a lack of funds previously received by the organisation. The notification of defects need to be send by Puncak Emas Infra Sdn Bhd to MDL in 3 days if the amount of damage is less than RM100,000.00 and 7 days if the amount of damage is more than RM100,000.00.

As an example, if the estimated damage is more than RM100,000.00 and MDL does not have enough budget during emergency event occurs, MDL need to submit an application to Perak State Department for an additional allocation. After receiving an additional allocation, Puncak Emas Infra Sdn Bhd then can proceed to do the maintenance works with the permission from MDL.

As a result of late response in maintenance works, users' safety may be jeopardised because of insufficient budget allocation, which has a negative impact on the performance of MDL and Puncak Emas Infra Sdn Bhd.

#### **4.3 EXPENSIVE RATE OF SERVICES BY CONCESSION**

Expensive rate of services by Puncak Emas Infra Sdn Bhd is one of the factor that lead to insufficient budget allocation. MDL is only a district council so that the allocation given is not as big as municipal council. For instances, during resurface works, MDL need to pay more than usual to Puncak Emas Infra Sdn Bhd which this problem lead MDL to proceed repairs on major problems only. MDL cannot afford to pay Puncak Emas Infra Sdn Bhd to perform all items in periodic maintenance.

MDL is responsible to inspect the job done on site together with Puncak Emas Infra Sdn Bhd so there is no over claim from the Concessions. Over claim may lead to insufficient budget in future to perform maintenance works.

During inspection on site, if the job did not fit with the requirement set by MDL, the maintenance team from Puncak Emas Infra Sdn Bhd need to redo and follow the requirement. However, if the maintenance teams give an extra from the requirement, MDL would accept it but will pay as the requirement that agreed by both party.

#### **4.4 CONFLICT WITH THIRD PARTIES**

Problems with third parties such as Lembaga Air Perak (LAP), Telekom Malaysia (TM) and Tenaga Nasional Berhad (TNB) usually involve when those parties perform a maintenance at their property and in some parts they may dig the roads owned by MDL without permission from MDL.

Due to lack of consent, after settle performing maintenance at their property they may leave the roads owned by MDL in improper way without fixing it

back to the normal and this action may become an additional expenses for MDL to perform maintenance works on the damage roads.

The maintenance works on that road is actually not in the planned maintenance perform by MDL and Puncak Emas Infra Sdn Bhd and need an extra budget on it. If there is permission, MDL only need to claim with involve parties to repair the damage and this method will not bother the planned maintenance works and budget allocation.

## **CHAPTER FIVE**

### **CONCLUSION AND RECOMMENDATIONS**

#### **5.1 CONCLUSION**

It has been an unforgettable experience for me to have spent a total of four months in Majlis Daerah Lenggong. It was an eye opener to see how real world work are conducted, and the exposure to both on-field and office work was a welcome change of scenery. My experience during on site training together with Puncak Emas Infra Sdn Bhd have been quite beneficial, as I am now able to inspect like a site supervisor.

Moreover, being in different units over this practical period has enabled me to gain a variety of management abilities, both hard and soft, that I would not have learned in a classroom setting otherwise. I am pleased that during my internship I had gain new knowledge in a variety of departments and receive exposure to systematic work coordination in a welcoming environment with kind personnel who are always willing to lend a hand.

#### **5.2 RECOMMENDATIONS**

After identifying the problems in previous chapter, I would like to suggest few recommendations that may help to tackle the problems as mention before. Among recommendations are as mention below:

- a) Perform a better management from Majlis Daerah Lenggong

Appointed officer that responsible to handle financial flows may advice to the Department of Building and Landscape to use the budget accordingly by preparing a schedule of project management contain of total expenses in a month and work that need to be done in routine maintenance, periodic maintenance and emergency maintenance. Minimize the budget given for major problems that need maintenance to be done as soon as possible with better quality of workmanship. If there is excessive balance

in the month, then the officer may plan to use the budget on small damage that occur before the damage become worse.

- b) Majlis Daerah Lenggong need to ensure the work done by Concession are fully finished on site

In some parts, the concessions may claims on works that are unfinished and Majlis Daerah Lenggong need to pay more than they supposed to pay. In order to avoid excessive spend on the allocation given, both party must inspect the finished maintenance works on site together and ensure that they are satisfied with the works.

On the other hands, I recommend that Majlis Daerah Lenggong to appoint few staff that responsible to inspect the works on behalf of Majlis Daerah Lenggong. So, the officer does not have to perform inspection on every sites because this way may takes time to do.

- c) State government are recommend to provide budget allocation directly to Majlis Daerah Lenggong

In order to tackle the problems of expensive rate of services charges by Puncak Emas Infra Sdn Bhd, MDL can appoint the local contractor if the state government approve the budget directly to MDL. This way can save the budget a lot compared to Puncak Emas Infra Sdn Bhd services. The workmanship is better because local contractor tend to take care the quality of work in order to maintain their reputation in their business.

- d) All third parties must acknowledge the road ownership before performing maintenance works

The third parties must first know the road ownership and follow the standard operation procedures if they are performing maintenance works on the road that not owned by them. For example, if the owner mention that the road must be compacted after the maintenance works are done,

then the third parties must obey with the rules. They must also repair the roads according to the specification set by the road owner and remains the originality of the road so that no issues will arise in future.

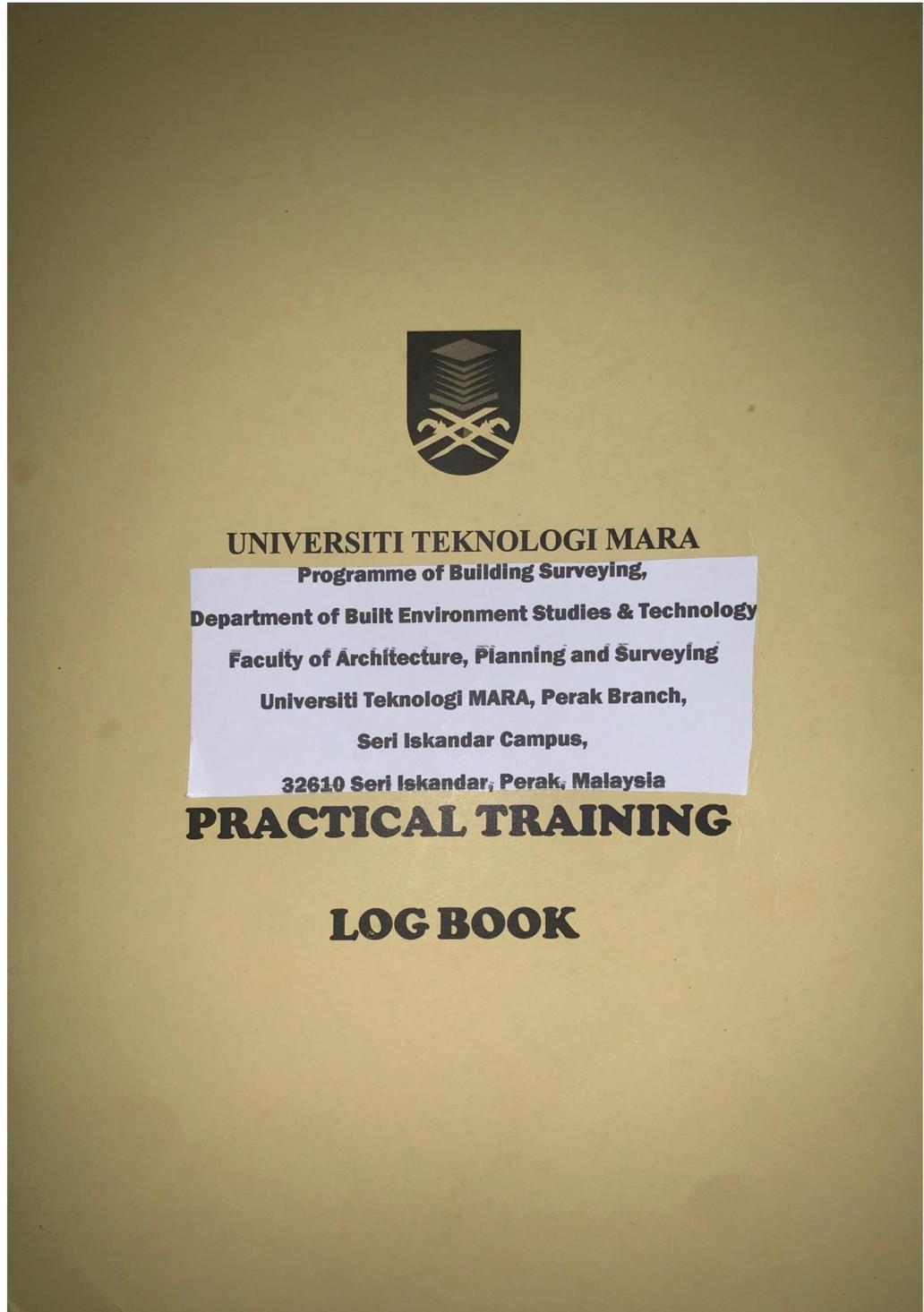
The third parties should submit a permission before conducting the jobs on sites. Regardless in any state of matter, third parties must respect the roads owner. They may at least make a phone call to the person in charged to inform that they will perform a maintenance works before any formal or official letter submitted.

## REFERENCES

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- Burningham, S., & Stankevich, N. (2005). Why road maintenance is important and how to get it done. *The World Bank, Washington, DC*, 1–2. <https://openknowledge.worldbank.org/bitstream/handle/10986/11779/339250rev.pdf?sequence>
- Harvey, M. O. (2012). Optimising Road Maintenance. *International Transport Forum Discussion Papers*, 5. <https://doi.org/10.1787/5k8zvv39tt9s-en>
- The Institution of Engineers, Malaysia. (2018). *Road Maintenance in Malaysia*. CAFEO 36, Singapore. <http://afeo.org/wp-content/uploads/2019/03/IEM-Road-Maintenance.pdf>

## APPENDICES

### Appendix 1 : Internship Logbook



Scanned with CamScanner

1. Student's name: NUR AIN NABILAH BT MOHD DAHALAN
2. Date & Place of Birth: HOSPITAL CAMERON HIGHLANDS, PAHANG (28.05.1998)
3. UiTM I/C No. : 2018260852
4. Course: BACHELOR OF BUILDING SURVEYOR (HONS)
5. Year: 2021 Part : 7
6. Home address: .....
7. Address during practical training:.....
8. Place of training: MAJLIS DAERAH LENGGONG
9. Name of Supervisor in-charge: MEOR SYAHARIZAN BIN MEOR  
MOHD HARIZI
10. Duration of training: From: 11 OCTOBER 2021 to 30 JANUARY 2022

FOR OFFICE USE ONLY

11. Remarks: (Dean/Course Tutor)

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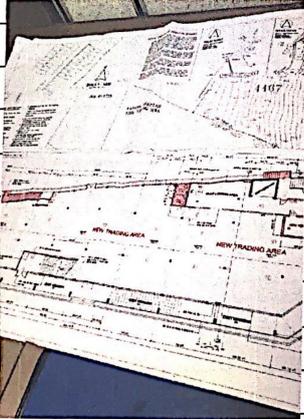
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DATE	EXACT NATURE OF WORK DONE	SUPERVISORS REMARKS
11/10/2021 Monday	- Brief on work scope at MDLG - Meeting with supervisor regarding training area and scope of work of building surveying.	
12/10/2021 Tuesday	- "BIG CLEAN DAY MAJLIS DAERAH LENGGONG" - sorting the files based on years and performing site clearance	
13/10/2021 Wednesday	- "BIG CLEAN DAY MAJLIS DAERAH LENGGONG" - Performing daily maintenance on cleaning at engineering department	
14/10/2021 Thursday	- Check on payments and claim from contractors to MDLG - reorganized letters from contractors	
15/10/2021 Friday	- Project brief regarding contract signed between contractors and MDLG	

  
**MEOR SYAHARIZAN BIN MEOR MOHD HARIRI**  
 Pengerusi Jurutera  
 Penerimaan  
 Majlis Daerah Lenggong  
 Perak Darul Ridzuan  
 Perak Darul Ridzuan



Date	Exact Nature of Work Done	Supervisor's Remarks
25/10/2021	- Work from Home	
Monday	- Update work progress for MDLG	
	projects	
		
26/10/2021	- Work from Home	
Tuesday	- BS Professional Talk 2021	
	- Virtual talk for CLASSIC Assessment	
	System for Building Construction	
	Works	
	 <b>MEOR SYAHARIZAN BIN MEOR MOHD HARIRI</b> Penolong Jurutera Majlis Daerah Lenggong Perak Darul Ridzuan	

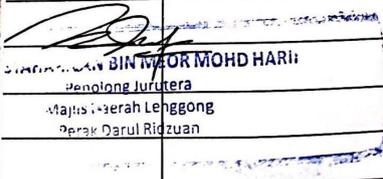
Date	Exact Nature of Works	Supervisor Remarks
27/10/2021 Wednesday	- Site visit for Mural Project in Lenggong.	
28/10/2021 Thursday	- "Aktiviti Program Gotong-Royong Pengindahan Inej Bandar Lenggong 2021" - "Perlawanan Badminton Tertutup Majlis Daerah Lenggong 2021" (P)	
29/10/2021 Friday	- Estimate the area of Econsave sites by referring the drawing plan - "Perlawanan Badminton Tertutup Majlis Daerah Lenggong 2021" (L)	
		
 <b>MEOR SYAHARIZAN BIN MEOR MOHD HARI</b> Penolong Jurutera Majlis Daerah Lenggong Perak Darul Ridzuan		

Date	Exact Nature of Works	Supervisor Remarks:
01/11/2021 Monday	- attend meeting regarding 'Iron Bound' - attend 'Lenggong Heritage Virtual Ride' event at Resort Tadik Raban	
02/11/2021 Tuesday	- FAM TRIP TOURISM LENGGONG 2021 - > hiking and caving with MDLG staff and tourism committee of tourism Perak > visited to Rumah Rusa Ayah An at Bukit Sapi, Lenggong > had some traditional dishes produced by local such as kebebe, sambal <sup>pipit</sup> and few famous cooked deer meat by the local. > went for Sungai Perak Avenue in Kampung Beng and stop in Kampung Durau having tea time with local food prepared by locals such as pulut kelapa, sambal tumis, tenung pipit and the most favourite and iconic food of Lenggong, Ikan perakam.	

  
 MEOR SYAHARIZAN BIN MEOR MOHD HARIRI  
 Penolong Jurutera  
 Majlis Daerah Lenggong  
 Perak Darul Ridzuan

Date	Exact Nature of Works	Supervisors Remarks
03/11/2021 Wednesday	- Farm TRIP Tourism Langgong 2021 Day 2 - - Visited to the heritage sites in Kampung Chepor such Aki's Gallery, Masjid Raja and Telaga Biru - Acknowledge the construction of Aki's Gallery and its history	
		
04/11/2021 Thursday	Deepavali	AN DIN MIEOR MOHD HARIRI Penolong Jurutera Majlis Daerah Langgong Perak Darul Ridzuan
05/11/2021 Friday	Birthday of His Majesty, Sultan of Perak	

Date	Exact Nature of Works	Supervisor's Remarks
08/11/2021 Monday	- Updates on project BPI and of local authority of Perak	
09/11/2021 Tuesday	- site visit to changkat beran shaped construction	
10/11/2021 Wednesday	- site visit on project BPI and P07 of local authority of Perak	
11/11/2021 Thursday	- site visit on project BPI and P07 of local authority of Perak	
12/11/2021 Friday	- site visit to Tasek Raban, Sri Lenggong Inn for before third party starting new works.	
		
		(L-Shaped construction)
		 <b>NEOR SYAHARIZAN BIN MEOR MOHD HARIRI</b> Penolong Jurutera Majlis Daerah Lenggong Perak Darul Ridzuan

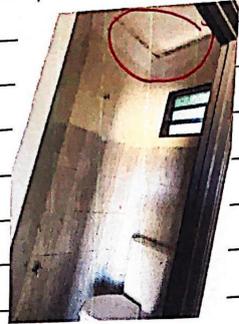
Date	Exact Nature of Works	Remarks
15/11/2021 Monday	- Estimate the area of new building for valuation	
16/11/2021 Tuesday	- site visit to changkat berangan, L-shaped construction	
17/11/2021 Wednesday	- site visit at <sup>RPA</sup> Gua Badak for road and drainage construction  - visiting changkat berangan for progress update	
18/11/2021 Thursday	- Estimate the area of new building for valuation  - meeting for fam trip s.o for tourism lenggong 2021.	
19/11/2021 Friday	- meeting with tourism industry player and for briefing for the FAM TRIP SOCIAL MEDIA INFLUENCER @ LENGGONG 2021	
		

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Date	Exact Nature of Works	Remarks
22/11/2021 Monday	- Estimate the area of new building for valuation	
	- meeting for final draft for social media influencer @ Lenggong 2021	
	- visiting - look up the signage placement for roads in Lenggong.	
23/11/2021 Tuesday	- site visit to pasar awam lenggong for roof construction	
	- site visit to toilet construction near pasar awam lenggong	
Wednesday 24/11/2021 - Saturday 27/11/2021	FAM TRIP 2.0 (Promoting lenggong for tourism) Majlis Daerah Lenggong x social media influencer	
		

Date	Exact Nature of Works	Remarks
29/11/2021 Monday	<ul style="list-style-type: none"> <li>- Meeting <del>third</del> per outsource person (designer) for Laman Budaya signage design.</li> <li>- Visit waste disposal sites for clearance works.</li> </ul>	
30/11/2021 Tuesday	<ul style="list-style-type: none"> <li>- Contract document preparation for claims from contractor</li> </ul>	
1/12/2021 Wednesday	<ul style="list-style-type: none"> <li>- Inspect work done by outsource persons (Puncak Emas Infrastructure Sdn Bhd) for road pathole patching</li> </ul>	
		
2/12/2021 Thursday	<ul style="list-style-type: none"> <li>- Update report for BPI projects for 2022 budget checking.</li> </ul>	
		

Date	Exact Nature of Works	Remarks
06/12/2021 Monday	- Site Visit to viewdeck Bukit Raja, Teluk Batu, Dewan Terbuka Bandar Baru, Sri Lenggong Inn for updates on BPi projects.	
07/12/2021 Tuesday	- Site visit to electrical substation area for valuation works	
08/12/2021 Wednesday	- Site visit to electrical substation area for valuation works in rural areas.	
	Inspection to Teluk Batu - Defect checking in A shoplot before tenant enter the premises	
	- Check the bill of quantities of Teluk Batu Shoplot	
		
		 MEOR SAHARIZAN BIN MEOR MOHD HARIR PENOLONG JURUTERA MAJLIS DAERAH LENGGONG

Date	Exact Nature of Works	Remarks
08/12/2021 Wednesday		Possible cause Defect : Water leaking
		
		
	 MEOR SYAHARIZAN BIN MEOR MOHD HARI PENOLONG JURUTERA MAJLIS DAERAH LINGGONG	

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Date	Exact Nature of Works	Remarks
9/12/2021 Thursday	- Inspection for valuation works on private property	
		
10/12/2021 Friday	documentation regarding Update $\Delta$ BPI projects for meeting preparation	
13/12/2021 Monday	Site visit to Resthouse Lenggong regarding incident occur that create a major defects of the building.	
14 - 17/12/2021 Tuesday - Friday	<ul style="list-style-type: none"> <li>- Bill of quantities preparation for claims on behalf of Majlis Daerah Lenggong</li> <li>- Inspection for the defect and damage</li> <li>- Document preparation for claims to be present to takaful insurance company.</li> </ul>	 <b>MDR SYAHARIZAN BIN MDOR MOHD HARIR</b> PENOLONG JURUTERA MAJLIS DAERAH LENGGONG

Date	Exact Nature of Works	Supervisor Remarks
20 / 12 / 2021 Monday	Prepare bill of quantities for new construction (stand) in Resort Tasik Raban	
21 / 12 / 2021 Tuesday	Prepare bill of quantities for new toilet in Resort Tasik Raban	
22 / 12 / 2021 Wednesday	- Site visit to gerai Terminal Bas Lengong for reconstruction	
	- Measuring works for new construction	
	- survey on things to upgrade at for new stall	
	- site visit for update project BP1 in Kota tampan	
	- site visit to toilet in Resort Tasik Raban's cafe for measuring works before construct new layout	
23 / 12 / 2021 Thursday	Majlis daerah Annual Assembly and appreciation for former staffs.	

MEOR SYAHARIZAN BIN MEOR MOHD HARIF  
PENDALONG JURUTERA  
MAJLIS DAERAH LENGGONG



Date	Exact Nature of Works	Supervisor Name
3 / 1 / 2022 Monday	- Site visit to Tandas Dewan Merdeka	
4 / 1 / 2022 Tuesday	- Brief on railing <sup>and ramps</sup> install steps at Resort Tarik Raban	
5 / 1 / 2022 Wednesday	- Went to Kuala Kangsar for claim with bank	
6 / 1 / 2022 Thursday	- Visit to Tandas Dewan Merdeka for update on finishing material	
7 / 1 / 2022 Friday	- Visit to Tandas Dewan Merdeka for update on plumbing and wiring	



Tandas Dewan Merdeka



Tandas Dewan Merdeka



Resort Tarik Raban

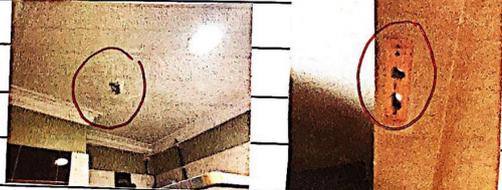
*[Signature]*  
 MEOR SYAHARIZAN BIN MEOR MOHD HARIF  
 PENGLONG JURUTERA  
 MAJLIS DAERAH LENGGONG

Date	Exact Nature of Works	Supervisor Remarks
10/1/2022 Monday	Site visit to Selat Pagor	
		
11/1/2022 Tuesday	Check on updates for Resort Tarik Raban's jetty	
		
	Brief by Encik Meor for jetty installing	
		 MEOR SYAHARIZAN BIN MEOR MOHD HARIF PENOLONG JURUTERA MAJLIS DAERAH...

Date	Exact Nature of Works	Supervisor Name
12/1/2022 Wednesday	Rehearsal for voting on new projects for contractors	
13/1/2022 Thursday	Meeting with contractors for voting new project	
		
	Meeting with contractors	
		
	Live Voting process at MDL	
14/1/2022 Friday	<ul style="list-style-type: none"> <li>- Gather informations for internship reports</li> <li>- Prepare lists of road under MPLG jurisdiction</li> </ul>	

MEOR SYAHARIZAN BIN MEOR MOHD HARI  
PENOLONG JURUTERA  
MAJLIS DAERAH LINGGONG

Date	Exact Nature of Works	Supervisor Remarks
17/1/2022 Monday	Progress check on plumbing system at <del>Pasar</del> Toilet Dewan Merdeka	
		
Tandas Dewan Merdeka		
18/1/2022 Tuesday	Public Holiday - Thai Pusarn	
19/1/2022 Wednesday	Collecting information for internship reports	
20/1/2022 Thursday	- Inspection at Selat Pagar (Finished road Works) for Malaysian Road Information Systems (MARIS)	
		
<p>On site inspection with Puncak Emas Infra Soln Bhd</p> <div style="text-align: right;">   <small>MEOR YAHARIZAN BIN MEOR AROND HARIP PENOLONG JURUTERA MAJLIS DAERAH LENGGONG</small> </div>		

Date	Exact Nature of Works	Supervisor Remarks
21 / 1 / 2022 Friday	Participated in One Stop Centre (OSC) Department meeting	
24 / 1 / 2022 Monday	- Meeting for Outdoor Rainforests Festival (ORF)	
	- Site Visit to Jeti Kampung Batu Ring	
		
	Defect : Expanding of the material at the jetty	
25 / 1 / 2022 Tuesday	Defect inspections at Resort Tasik Raban	
		
	Defect : Holes due to leaking	Defect : missing door lock
26 / 1 / 2022 Wednesday	Secretariat for PLAN Malaysia at Resort Tasik Raban	
		

Date	Exact Nature of Works	Supervisor Remarks
27 / 1 / 2022 Thursday	Small celebration for internship student	
		
	Photo with Engineering Department's Supervisor	
28 / 1 / 2022 Friday	Finalise logbook, internship report and works involving Majlis Daerah Lenggong.	
		 <b>MEOR SYAHARIZAN BIN MEOR MOHD HARIR</b> PENOLONG JURUTERA MAJLIS DAERAH LENGGONG

### Comments

Pelajar menunjukkan prestasi yang amat baik sepanjang bertugas di Majlis. Memberikan komitmen yang tinggi terhadap tugas yang diberikan serta mampu untuk menunjukkan kemahiran dan pengetahuan yang dimiliki semasa melaksanakan tugas. Selain itu pelajar mempamerkan tabiat mendengar dengan baik dan kemahiran bekerja secara berkumpulan.

Terima kasih Bella dan selamat maju jaya!



MEOR SYAHARIZAN BIN MEOR MOHD HARIRI  
PENOLONG JURUTERA  
MAJLIS DAERAH LENGGONG

## Appendix 2 : Lists of Patching Potholes Checklists in December 2021

PUNCAK EMAS INFRA SDN BHD		PROSEDUR PENYELIAAN KERJA RUTIN					No. Ruj. Dokumen : No. Keluaran : No. Pindaan : Tarikh : Muka Surat :	
PUNCAK EMAS INFRA SDN BHD LAPORAN BULANAN PATCHING POTHOLE								
BULAN / TAHUN : DISEMBER 2021								
DAERAH : LENGGONG								
BL	TARIKH PERIKSA	NO & NAMA LALUAN	NO. SEKSYEN		KEROSAKAN DIKENALPASTI	TINDAKAN DIAMBIL	TARIKH TINDAKAN	KUANTITI (m <sup>2</sup> )
			DARI	HINGGA				
1	1/12/2021	BELAKANG PEKAN KUAK	0.00	0.00	POTHOLE	PATCHING	3/12/2021	12.420
2	1/12/2021	BELAKANG PEKAN KUAK	0.00	0.00	POTHOLE	PATCHING	3/12/2021	1.000
3	1/12/2021	BELAKANG PEKAN KUAK	0.00	0.00	POTHOLE	PATCHING	3/12/2021	26.500
4	2/12/2021	JALAN 17 K/B AIR KALA (BERHAMPIRAN RUMAH NO 243)	0.00	0.00	POTHOLE	PATCHING	4/12/2021	24.000
5	2/12/2021	JALAN 17 K/B AIR KALA (BERHAMPIRAN RUMAH NO 243)	0.00	0.00	POTHOLE	PATCHING	4/12/2021	5.100
6	7/12/2021	JALAN 14 K/B PADANG GRUS (BERHAMPIRAN RUMAH NO 109)	0.00	0.00	POTHOLE	PATCHING	9/12/2021	5.000
7	7/12/2021	JALAN 14 K/B PADANG GRUS (BERHAMPIRAN RUMAH NO 109)	0.00	0.00	POTHOLE	PATCHING	9/12/2021	3.100
8	7/12/2021	JALAN 14 K/B PADANG GRUS (BERHAMPIRAN RUMAH NO 109)	0.00	0.00	POTHOLE	PATCHING	9/12/2021	8.160
9	7/12/2021	JALAN 14 K/B PADANG GRUS (BERHAMPIRAN RUMAH NO 109)	0.00	0.00	POTHOLE	PATCHING	9/12/2021	9.100
10	7/12/2021	JALAN K/B PADANG GRUS	0.00	0.00	POTHOLE	PATCHING	9/12/2021	11.600
11	9/12/2021	JALAN K/B AIR KALA (BERHAMPIRAN RUMAH NO163)	0.00	0.00	POTHOLE	PATCHING	11/12/2021	5.270
12	9/12/2021	JALAN K/B AIR KALA (BERHAMPIRAN RUMAH NO163)	0.00	0.00	POTHOLE	PATCHING	11/12/2021	3.300
13	9/12/2021	JALAN K/B AIR KALA (BERHAMPIRAN RUMAH NO163)	0.00	0.00	POTHOLE	PATCHING	11/12/2021	2.600
14	9/12/2021	JALAN K/B AIR KALA (BERHAMPIRAN RUMAH NO163)	0.00	0.00	POTHOLE	PATCHING	11/12/2021	7.000
15	9/12/2021	JALAN K/B AIR KALA (BERHAMPIRAN RUMAH NO218)	0.00	0.00	POTHOLE	PATCHING	11/12/2021	4.000
16	9/12/2021	JALAN K/B AIR KALA (BERHAMPIRAN RUMAH NO218)	0.00	0.00	POTHOLE	PATCHING	11/12/2021	1.950
17	9/12/2021	JALAN K/B AIR KALA (BERHAMPIRAN RUMAH NO218)	0.00	0.00	POTHOLE	PATCHING	11/12/2021	1.980
18	11/12/2021	JALAN 16 K/B AIR KALA (BERHAMPIRAN RUMAH NO283)	0.00	0.00	POTHOLE	PATCHING	13/12/2021	5.100
19	11/12/2021	JALAN 16 K/B AIR KALA (BERHAMPIRAN RUMAH NO283)	0.00	0.00	POTHOLE	PATCHING	13/12/2021	2.720
20	11/12/2021	JALAN 16 K/B AIR KALA (BERHAMPIRAN RUMAH NO283)	0.00	0.00	POTHOLE	PATCHING	13/12/2021	2.660
21	11/12/2021	JALAN 13 K/B AIR KALA (BERHAMPIRAN RUMAH NO16)	0.00	0.00	POTHOLE	PATCHING	13/12/2021	5.920
22	12/12/2021	JALAN 6 K/B SELAT PAGAR (BERHAMPIRAN RUMAH NO240)	0.00	0.00	POTHOLE	PATCHING	14/12/2021	4.000
23	12/12/2021	JALAN 6 K/B SELAT PAGAR (BERHAMPIRAN RUMAH NO240)	0.00	0.00	POTHOLE	PATCHING	14/12/2021	9.630
24	12/12/2021	JALAN 6 K/B SELAT PAGAR (BERHAMPIRAN RUMAH NO234)	0.00	0.00	POTHOLE	PATCHING	14/12/2021	2.280
25	12/12/2021	JALAN 6 K/B SELAT PAGAR (BERHAMPIRAN RUMAH NO234)	0.00	0.00	POTHOLE	PATCHING	14/12/2021	2.380
26	12/12/2021	JALAN 6 K/B SELAT PAGAR (BERHAMPIRAN RUMAH NO234)	0.00	0.00	POTHOLE	PATCHING	14/12/2021	2.250
27	12/12/2021	JALAN 6 K/B SELAT PAGAR (BERHAMPIRAN RUMAH NO227)	0.00	0.00	POTHOLE	PATCHING	14/12/2021	2.890
28								
29								
JUMLAH								163.28

DISEDIAKAN OLEH :  
PENYELIA KAWASAN RAHMAN  
MUHD AZRAEL DRABIC  
SITE SUPERVISOR KUALA KANGSAR  
PUNCAK EMAS INFRA SDN. BHD.  
(542283-X)

DISEMAK OLEH :  
KHATIRUDDIN ABUJUL KADIR  
PENYELIA KAWASAN  
SUKHIT MUBRARI  
Puncak Emas Infra Sdn Bhd  
(542283-X)

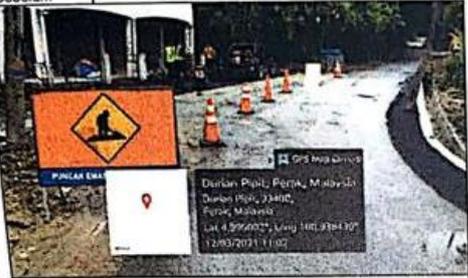
DISAHKAN OLEH :  
MAJLIS DAERAH LENGGONG

## Appendix 3 : On site Inspection Majlis Daerah Lenggong and Puncak Emas Infra Sdn Bhd for Patching Potholes





## Appendix 4 : Pictorial Report for Patching Potholes in December 2021

	<b>PROSEDUR PENYELIAAN KERJA RUTIN</b>	No. Ruj. Dokumen : PBT.PK.19.04.01 - 21(1)	
		No. Keluaran : 00 No. Pindaan : 00 Tarikh : December 2021 Muka Surat : 1/27	
<b>LAPORAN BERGAMBAR KERJA-KERJA PENYELENGGARAAN RUTIN</b> <b>R01 - MENAMPAL LUBANG (PATCHING POTHOLE)</b>			
NEGERI : PERAK		DAERAH : LENGGONG	
ZON / PAKEJ : PT-HUP		BULAN : DECEMBER	
KATEGORI JALAN :		TARIKH : 3.12.2021	
1 Sebelum		1 Sebelum	
			
Lokasi : BELAKANG PEKAN KUAK		Lokasi : BELAKANG PEKAN KUAK	
Kuantiti (m <sup>2</sup> ) : 12.420		Kuantiti (m <sup>2</sup> ) : 12.420	
2 Semasa		2 Semasa	
			
Lokasi : BELAKANG PEKAN KUAK		Lokasi : BELAKANG PEKAN KUAK	
Kuantiti (m <sup>2</sup> ) : 12.420		Kuantiti (m <sup>2</sup> ) : 12.420	
3 Selepas		3 Selepas	
			
Lokasi : BELAKANG PEKAN KUAK		Lokasi : BELAKANG PEKAN KUAK	
Kuantiti (m <sup>2</sup> ) : 12.420		Kuantiti (m <sup>2</sup> ) : 12.420	

## Appendix 5 : Contract Price Details

PERINCIAN HARGA KONTRAK

LAMPIRAN 1

NO	KETERANGAN	PERJANJIAN UTAMA				PERJANJIAN TAMBAHAN				PERTAMBAHAN/ PENGURANGAN (j=h-d)	TEMPOH (k) (TAHUN)	NILAI KERJA BAGI TEMPOH LIMA (5) TAHUN (i=d + (h x 4))	%
		PANJANG JALAN (a)	KADAR HARGA/KM/BLN (b)	JUMLAH / BULAN (c= a x b)	JUMLAH / TAHUN (d=12(c))	PANJANG JALAN (e)	KADAR HARGA/KM/BLN (f)	JUMLAH / BULAN (g=e x f)	JUMLAH / TAHUN (h=12(g))				
		(KM)	(RM)	(RM)	(RM)	(KM)	(RM)	(RM)	(RM)				
1	KERJA-KERJA AWALAN			396,122.39	4,753,468.65			437,330.76	5,247,969.12	494,500.47	5	25,745,345.14	2%
	KERJA PENYELENGGARAAN RUTIN												
2	JALAN PROTOKOL	40.000	2,032.42	81,296.80	975,561.60	101.369	2,032.42	206,024.38	2,472,292.56	1,496,730.96	5	10,864,731.84	
3	JALAN UTAMA	5,832.925	1,761.06	10,272,130.90	123,265,570.80	6,756.774	2,032.42	13,732,602.61	164,791,231.32	41,525,660.52	5	782,430,496.08	83%
4	JALAN SEKUNDER	1,990.957	940.52	1,872,534.88	22,470,418.56	2,647.664	1,302.33	3,448,132.26	41,377,587.12	18,907,168.56	5	187,980,767.04	
5	JALAN MINOR	44.118	826.33	36,456.03	437,472.36	59.901	1,233.37	73,880.10	886,561.20	449,088.84	5	3,983,717.16	
6	KERJA PENYELENGGARAAN BERKALA				20,625,809.92				14,073,415.28	(6,552,394.64)	5	76,919,471.04	6%
7	KERJA PENYELENGGARAAN BERKALA ELEKTRIK								5,000,000.00	5,000,000.00	5	20,000,000.00	2%
8	KERJA PENYELENGGARAAN KECEMASAN				2,000,000.00				2,000,000.00	-	5	10,000,000.00	1%
	JUMLAH	7,908.000		12,658,541.00	174,528,301.89	9,565.708		17,897,970.11	235,849,056.60	61,320,754.71		1,117,924,528.30	
	SST (6%)				10,471,698.11				14,150,943.40	3,679,245.29		67,075,471.70	6%
	NILAI KONTRAK (100%)				185,000,000.00				250,000,000.00	65,000,000.00		1,185,000,000.00	