

# DEPARTMENT OF BUILDING UNIVERSITI TEKNOLOGI MARA (PERAK)

# PROCEDURE OF REPORTING THE BUILDING DEFECTS

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

# OCTOBER 2021

It is recommended that the report of this practical training provided

By

Nurul Izzah Binti Mohd Azli 2019281352

# entitled

# **Procedure Of Reporting The Building Defects**

be accepted in partial fulfillment of requirement has for obtaining Diploma in Building.

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

OCTOBER 2021

# 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 Aspirasi Majumas Sdn. Bhd. for duration of 20 weeks starting from 23 August 2021 and ended on 7 January 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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Date : 23 August 2021

### ACKNOWLEDGEMENT

Bismillahirrahmanirrahim. Alhamdullilah, praise to Allah. To Almighty God, who has blessed me with good health and a long life, without which I would not have been able to complete my internship.

I would like to express my gratitude to the following group of great individuals for their help and advise throughout the practical training. The internship I did with Aspirasi Majumas Sdn. Bhd. was a fantastic opportunity for me to learn and grow professionally. First of all, I would like to say a million thanks to Mr. Hussin who has given me the opportunity to undergo practical training at his firm. I'm also glad for the opportunity to meet so many amazing individuals and experts who guided me during my internship. Mr. Hussin professional team consisting of Ms. Syahirah, Mrs. Nurizzaty, Mr. Afiq, Mr. Hakim, Mr. Qawiy, and Mr. Wafiy that always give me opportunity to learn about new things and explore many things about work life. As a result, I feel myself really fortunate to have been given the opportunity to be a part of it.

I would like to thank to all UiTM lecturers that have taught and educated me to be a better student and person. I would want to convey my gratitude to all of the lecturers who were actively engaged in my training. To Ms. Nor Azizah Binti Talkis, Supervising Lecturer, Ts Noor Azam Bin Yahaya, Evaluation Lecturer, Dr Nor Asma Hafizah Binti Hadzaman, Practical Training Coordinator, and Ts Dr. Dzulkarnaean Bin Ismail, Programme Coordinator. They contributed their time, effort, encouragement, and ideas to the accomplishment of my training, my report, and the important information they have provided throughout the semesters.

Last but not least, I would like to say a special thanks to both my parents who have been so supportive of my study journey, sacrificing for me, and giving everything to me during my studies at UiTM.

Thanks you so much.

## ABSTRACT

Heading towards a developed country, Malaysia has developed a lot in terms of the construction sector from time to time. However, there are also some buildings that have been built but were built carelessly causing the building to suffer from defects. Building defects can causes by unsuitable design and poor craftsmanship that leads to poor final quality. Other than that, improper methods of installation and poor quality of the materials also can cause to building defects of a house. Thus, this report is made to discuss about the management of defects that occur on completed building that have building defects. This report is conducted at single storey bungalow which is take place at Lot 10999, Jalan Tasik Senangin 5/2, Bandar Tasik Senangin, Mukim Lenggeng, Majlis Perbandaran Nilai, Negeri Sembilan. The objective of this study is to study about the process of reporting the building defects by the owner. This inspection follow the company's Standard Operating Procedure (SOP) which mean there some step to follow during doing the inspection. Other objective of this study is to identify the main causes of defects in the houses of the project. So the conclusion it is very important to do defect inspection by client and main contractor because it involves the safety of the building and the safety of the people who will live in the house.

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### **CHAPTER 1.0**

### **INTRODUCTION**

### 1.1 Background of Study

Building faults are a typical occurrence in the construction industry, and it will not go away while development is underway. This is because it is something beyond human expectations. According to the definition of a defect, it is "a failure or deficiency in a building's function, performance, statutory or user requirements, which may express itself within the structure, fabric, services, or other facilities of the afflicted building" (Watt D. S, 1999). Deficiency is another name for defect. Deficiency is defined by Webster's Dictionary as "a condition or characteristic of being inadequate or a shortfall; deficit." Faulty and deficient are both adjectives that describe those that are lacking in some trait that is essential for completeness. "Nonconformity of a component with a standard of specified characteristic" is defined as a fault (Robert T. Ratay, 2005).

A building defect in any way of problem may reduces the value of a house or a building. There are many types of building defects that are generally known to builders. Building defect can come from an architect's design error, a manufacturing problem, faulty materials, poor usage or installation of materials, a contractor's failure to follow the design, or any combination of these factors (N. Ahzahar et al., 2011). There are many causes that cause these building defects to occur. It may be a minor building defect or a major building defect. Minor building defects are such as non – structural cracks, wall dents, water leakage, and corrosion. This is not a serious issue, and it is unlikely to present a safety risk in the near future. Building settlement, soil erosion, and structural cracks are examples of major building defects. Without delay, immediate steps and safeguards must be done if major defect occur (IPM Group, 2020). Therefore, defect have two types which is latent defect and patent defect. The term latent defect refers to flaws that are hidden and difficult to detect. Because they are not apparent to the human eye, they may go undiscovered during normal inspections. These faults can cause harm for years before they are identified, or they can remain undetected for years after construction is done without causing damage. Defectively installed plumbing, for example, may not be discovered until a leak occurs and causes damage years later. Poor soil conditions, on the other hand, may remain and not cause harm to the home for years after construction, depending on seasonal precipitation and water exposure to the soil (The Difference Between Patent and Latent Construction Defects, n.d.). For example, rooms with lead-based paint or a mould infestation beneath the carpeting are instances of latent defects (A. Anthony, n.d.). The appointment and testimony of a highly qualified and experienced expert is usually required to prove a construction problem. A professional, such as an engineer or architect, can identify if a structural problem is caused by poor design, materials, or craftsmanship.

Building defects that are obvious and open are known as patent defects, and they should be found during a normal inspection. These kinds of defects are visible to the human eye. A homeowner could, for example, notice serious plaster cracking or flaking simply by strolling around the house. A patent defect is one that a layperson with no building experience may notice and reasonably comprehend as a problem or defect (The Difference Between Patent and Latent Construction Defects, n.d.). Nevertheless, problems like this should be reported and resolved in a timely manner, and any such issues should be entirely resolved before issuing any certificates or signing off on the project. Cracks in the foundation that are obvious when thoroughly inspected, a missing roof tile, and woodwork on a property that rotted during the construction process are all examples of patent defects (Latent Versus Patent Defects, n.d.).

This study will focus on patent defects and the defect rectification procedure overall. This study also focus on the problems occur at the project and the way the company handle that problems. The defect should first be identified before it can be rectified. This defect inspections conducted out by client at first and the main contractor inspect again after getting complaints from client. All defects complaints received from clients were classified as significant action. There are two sorts of defects that can emerge during the construction of a building. Nevertheless, the goal of this study is to discover procedure of inspection on building defect in this project at Lot 10999, Bandar Tasik Senangin, Negeri Sembilan.

## 1.2 Objectives

The main objective of this internship is to allows you to get hands-on experience working in a real-world setting. It also allows students to put their universitylearned skills, knowledge, and theoretical practice to use.

- i. to study the process of reporting the building defects by the owner.
- ii. to identify the main causes of defects in the houses of the project.

## **1.3** Scope of Study

This study is conducted at a site in Lenggeng, Negeri Sembilan. This study focuses on the supervision of buildings that have been completed and have defects. This study focus more on building defects that occur at the house. The project had started on 9 November 2019 and completed on 8 February 2020. This project is a construction of a single storey bungalow house at Lot 10999, Jalan Tasik Senangin 5/2, Bandar Tasik Senangin, Mukim Lenggeng, Majlis Perbandaran Nilai, Negeri Sembilan. The cost for this project is RM188,000.00 (One Hundred Eighty Eight Thousand Ringgits only). Inspection is carried out when receiving a complaint from the client while the client are making an inspection before occupying the house. The inspection from main contractor has been halted for a while due to Movement Control Order (MCO) implemented by the Malaysia government since 2020. Due to that, this building suffered a lot of building damage because it has been abandoned for a long time and mostly the carelessly built by sub – contractor. Thus, the defect repairs are still underway after the MCO has started to be loosened since 2021.

# 1.4 Method of Study

### **1.4.1** Document review

By reviewing the document, more information will be able to be gathered. All relevant documents about the project have important information and can help to prepare the report and get more accurate information as it has been documented. Moreover, by using this method, it is possible to know the course of the project from the beginning of construction until completion. Thus, many pictures of progress have been documented by the staff for reference.

### 1.4.2 Interviews

By using the interview method, it can also get a lot of information from certain parties. This is because, there are many professionals who handle the project. Including architects, engineers, contractors and site supervisors. In this experienced team, they have different experiences and skills that can help while making observations. By interviewing these professionals, students can get a variety of realistic ideas and views about the project.

# 1.4.3 Observations

This method is performed directly during the site visit for exposure to actual work on site. Defect inspections are performed when the building has been completed and within the defect liability period. Students can find out how the inspection of building defects is done by the responsible party. Students can also learn about how to work while on the site.

### **CHAPTER 2.0**

### **COMPAY BACKGROUND**

# 2.1 Introduction of Company



Figure 2.1 Aspirasi Majumas Sdn. Bhd. logo

Source : Aspirasi Majumas Sdn. Bhd.

Aspirasi Majumas Sdn. Bhd. was established on May 29, 2012. The company operates at No. 88 B-1, Lorong Haruan 5/4, Oakland Commerce Square, 70300 Seremban, Negeri Sembilan. The main business of this company is construction, specifically doing the work of building bungalows and renovating houses at a price that is affordable to the client's budget. Aspirasi Majumas Sdn. Bhd. has also been registered with the Construction Industry Development Board (CIDB). Advantages of Aspirasi Majumas Sdn. Bhd. is to manage the government and bank loan process to make it easier for the company's clients to deal with the relevant parties without having to pay any deposit.

Aspirasi Majumas Sdn. Bhd. is also known as a One – Stop – Contractor because it provides comprehensive services in accordance with Malaysia Law, starting with the preparation of house plans and ending with the approval of the Certificate of Fitness (CF) to occupy a residential building and the subsequent delivery of house keys

to customers. This company has started a construction and renovation business from 2009 until now and according to the company records has completed approximately 300 units of home renovations and 20 units of bungalows.

Since its inception, Aspirasi Majumas Sdn Bhd has shown impressive work performance. All clients who have used the company's services gave feedback that they are very satisfied with the work of the company that has developed and renovating their project with the best results. The confidence and trust has been driven by the level of efficiency and work scrutiny which is the main factor of this company generating confidence and customer trust in the quality of work produced. It is clearly that many customers satisfied with this company works. As a result, the number of projects done by Aspirasi Majumas Sdn Bhd, which is made up of both government and private clients, grows with time.



gure 2.2 Company location

Source : Google Maps



Figure 2.3 Company front view

Source : Google Maps

# 2.2 Company Profile

| Company Name         | Aspirasi Majumas Sdn. Bhd.                     |
|----------------------|--|
| Date of Registration | 29 <sup>th</sup> May 2012                      |
| Registered Address   | No. 112-2B, Jalan Haruan 5/4, Oakland Commerce |
|                      | Square, 70300 Seremban, Negeri Sembilan.       |
| Business Address     | No. 88 B-1, Jalan Haruan 5/4, Oakland Commerce |
|                      | Square, 70300 Seremban, Negeri Sembilan.       |
| E-mail               | aspirasims14@gmail.com                         |
| Telephone/Fax        | +606 6311243 / +606 6311243                    |
| Registration No.     | 1003958-M                                      |
| Company's Banker     | CIMB Bank Jalan Dato Bandar                    |
|                      | Tunggal, 70000 Seremban, Negeri                |
|                      | Sembilan.                                      |
| Company Owner        | Hussin Bin Ali                                 |
| Authorized Capital   | RM 500,000.00                                  |

| Paid - up Capital         | RM 250,000.00  |  |  |  |
|---------------------------|--|--|--|--|
| The Company's             | To be an efficient and integrity contractor company.   |  |  |  |
| Vision And Mission        | Strives to continuously exceed the expectations of our |  |  |  |
|                           | customers through the delivery of excellent products   |  |  |  |
|                           | and services.  |  |  |  |
| <b>Company Objectives</b> | • Be an alternative solution to soaring residential    |  |  |  |
|                           | house prices.  |  |  |  |
|                           | • Provide quality services by applying various types   |  |  |  |
|                           | of effective marketing techniques to achieve           |  |  |  |
|                           | maximum customer satisfaction.                         |  |  |  |
|                           | • Always sensitive and ready for any changes that      |  |  |  |
|                           | occur so that the quality of service is improved       |  |  |  |
|                           | from time to time.                                     |  |  |  |
|                           | • AMS targets the middle – income group to be able     |  |  |  |
|                           | to own their own bungalows more comfortably.           |  |  |  |
|                           |  |  |  |  |



# 2.3 Company Organisation Chart



Figure 2.4 Company chart organization

Source : Aspirasi Majumas Sdn. Bhd.

# • Chief Executive Officer (CEO) – Mr. Hussin Bin Ali

- a) Coordinate the entire project financially.
- b) Decision maker on behalf of the company.
- c) Coordinate the work of negotiating change orders for pass to the construction price.

# • Chief Operating Officer (COO) (Internal) – Mrs. Nurizzaty Binti Hamzah

a) Assist in managing the company's financial records.

- b) Provide an estimate of monthly progress claims.
- c) Take care of company money either for salary or project.
- d) Assist in all work of preparing project documents.

# • Chief Operating Officer (COO) (External) – Ms. Nur Syahirah Binti Jailani

- a) Coordinate the entire project physically.
- b) Carry out contract administration from the beginning to the end of the project.
- c) Responsible for implementing divisional policy management marketing and technical.

# • Technical Team Leader – Mr. Muhamad Afiq Bin Taip

- a) Manage the review and regulation of the designer's drawings and site supervisor control construction matters.
- b) Binding a quotation for a customer's house.
- c) Manage all construction affairs documents and plans.
- d) Participate in customer/contractor meetings and resolve customer engineering and management issues project.

### • Technical Team Executive (Designer) – Mr. Qawiy

- a) Make a drawing of the customer's imaginary house design.
- b) Provide a three dimensional drawing for the customer's example house.

 c) Draw floor plans, technical drawings and three – dimensional drawings each client to send to consultants and architects next to the municipality.

# • Technical Team Executive (Site Supervisor) – Mr. Luqman Hakim Bin Abdul Halim

- a) To carry out site preparation in terms of project operations including quality labor, materials and projects.
- b) Ensure project progress is on track.
- c) Ensure the safety and health of employees during the project is always maintained.
- d) Represent the company for any problems and discussions with JKR and others related.

# 2.4 List of Projects

# 2.4.1 Completed Projects

| No. | Project Title | Project Value | Completion | Project  | Client      |
|-----|---------------|---------------|------------|----------|-------------|
|     |               |               | Date       | Duration |             |
| 1   | Proposed To   | RM130,000.00  | 2015       | 4-5      | Mr.         |
|     | Build A One   |               |            | months   | Shariffudin |
|     | (1) Storey    |               |            |          |             |
|     | Bungalow      |               |            |          |             |
| 2   | Proposed To   | RM170,000.00  | 2015       | 4-5      | Mr.         |
|     | Build A One   |               |            | months   | Rahman      |
|     | (1) Storey    |               |            |          |             |
|     | Bungalow      |               |            |          |             |
| 3   | Proposed To   | RM490,000.00  | 2016       | 8-9      | Mr. Ramzi   |
|     | Build A Two   |               |            | months   |             |
|     |               |               |            |          |             |

|    | (2) Storey  |              |      |        |             |
|----|-------------|--------------|------|--------|-------------|
|    | Bungalow    |              |      |        |             |
|    |             |              |      |        |             |
| 4  | Proposed To | RM340,000.00 | 2017 | 7 - 8  | Mr. Yew     |
|    | Build A One |              |      | months | Wai Hong    |
|    | (1) Storey  |              |      |        |             |
|    | Bungalow    |              |      |        |             |
| 5  | Proposed To | RM230,000.00 | 2017 | 5-6    | Mrs.        |
|    | Build A One |              |      | months | Fazilah     |
|    | (1) Storey  |              |      |        |             |
|    | Bungalow    |              |      |        |             |
| 6  | Proposed To | RM90,605.00  | 2018 | 4-5    | Mr. Anuar   |
|    | Build A One |              |      | months |             |
|    | (1) Storey  |              |      |        |             |
|    | Bungalow    |              |      |        |             |
| 7  | Proposed To | RM350,000.00 | 2018 | 7 - 8  | Mrs.        |
|    | Build A One |              |      | months | Zanariah    |
|    | (1) Storey  |              |      |        |             |
|    | Bungalow    |              |      |        |             |
| 8  | Proposed To | RM275,000.00 | 2018 | 5-6    | Mrs.        |
|    | Build A One |              |      | months | Maskhairiah |
|    | (1) Storey  |              |      |        |             |
|    | Bungalow    |              |      |        |             |
| 9  | Proposed To | RM295,000.00 | 2018 | 5-6    | Ms. Farini  |
|    | Build A One |              |      | months | Elda        |
|    | (1) Storey  |              |      |        |             |
|    | Bungalow    |              |      |        |             |
| 10 | Proposed To | RM190,000.00 | 2019 | 4 – 5  | Mr. Nazli   |
|    | Build A One |              |      | months |             |
|    | (1) Storey  |              |      |        |             |
|    | Bungalow    |              |      |        |             |

| 11 | Proposed To | RM195,000.00 | 2019 | 4-5    | Mrs.      |
|----|-------------|--------------|------|--------|-----------|
|    | Build A One |              |      | months | Rosidah   |
|    | (1) Storey  |              |      |        |           |
|    | Bungalow    |              |      |        |           |
| 12 | Renovation  | RM60,000.00  | 2018 | 4 – 5  | Mr. Rosli |
|    |             |              |      | months | Hilmi     |
| 13 | Renovation  | RM150,000.00 | 2019 | 4 – 5  | Mrs.      |
|    |             |              |      | months | Yusnizar  |

Table 2.2List of completed project

Source : Aspirasi Majumas Sdn. Bhd.

# 2.4.2 Project in Progress

| No | Project Title                                  | Project Value | Client         | Progress |
|----|--|---------------|----------------|----------|
| 1  | Proposed To Build A One                        | RM180,000.00  | Mrs. Azizah    | 45%      |
|    | (1) Storey Bungalow                            |               |                |          |
| 2  | Proposed To Build A One<br>(1) Storey Bungalow | RM298,000.00  | Mrs. Rozita    | 65%      |
| 3  | Proposed To Build A One<br>(1) Storey Bungalow | RM244,000.00  | Mrs. Hidayah   | 45%      |
| 4  | Proposed To Build A One<br>(1) Storey Bungalow | RM295,000.00  | Mrs. Rozita    | 65%      |
| 5  | Proposed To Build A One<br>(1) Storey Bungalow | RM137,000.00  | Mr. Suthasanan | 80%      |

| 6  | Proposed To Build A      | RM490,000.00         | Mr. Ali          | 80%  |
|----|--------------------------|----------------------|------------------|------|
|    | Two (2) Storey Bungalow  |                      |                  |      |
|    |                          |                      |                  |      |
| 7  | Proposed To Build A One  | RM154,700.00         | Mr. Hariz        | 95%  |
|    | (1) Storey Bungalow      |                      |                  |      |
|    |                          |                      |                  |      |
| 8  | Proposed To Build A One  | RM195,000.00         | Mr. Shuhaimi     | 95%  |
|    | (1) Storey Bungalow      |                      |                  |      |
|    |                          |                      |                  |      |
| 9  | Proposed To Build A One  | RM95,000.00          | Mrs. Rohana      | 45%  |
|    | (1) Storey Bungalow      |                      |                  |      |
|    |                          |                      |                  |      |
| 10 | Proposed To Build A One  | RM165.000.00         | Mr. Hindra       | 65%  |
|    | (1) Storey Bungalow      |                      |                  |      |
|    |                          |                      |                  |      |
| 11 | Proposed To Build A      | RM315 900 00         | Mrs Mastura      | 45%  |
| 11 | Two (2) Storey Bungalow  | 100.00               | ivits. ividstura | -570 |
|    | Two (2) Storey Bullgalow |                      |                  |      |
| 10 |                          | <b>D</b> M100.000.00 | M H              | 0.5% |
| 12 | Proposed To Build A One  | RM188,000.00         | Mr. Hazwan       | 95%  |
|    | (1) Storey Bungalow      |                      |                  |      |
|    |                          |                      |                  |      |

Table 2.3List of project in progress

Source : Aspirasi Majumas Sdn. Bhd.

# CHAPTER 3.0

# CASE STUDY

# 3.1 Introduction of Case Study



Figure 3.1 Single Storey Bungalow



Source : Aspirasi Majumas Sdn. Bhd.

This project is a single storey bungalow project that has been completed. This project was built at Lot 10999, Jalan Tasik Senangin 5/2, Bandar Tasik Senangin, Mukim Lenggeng, Majlis Perbandaran Nilai, Negeri Sembilan. The project has been completed on private land owned by the customer. This project was first developed on 9 November 2019 and was fully completed on 8 February 2020. Basically, the house was built with an area of 1500 sq. ft. The price value to complete this house is RM188,000.00 (One Hundred Eighty Eight Thousand Ringgits only).

For details for this house, it has one car porch sized 130 sq. ft. and two terraces on the outside of the house which is terrace 1 sized 32 sq. ft. and terrace 2 sized 50 sq. ft.. Meanwhile, in the interior of the house, there is a living room sized 250 sq. ft., a dining room sized 154 sq. ft., a master bedroom sized 170 sq. ft., bedroom 2 sized 100 sq. ft., bedroom 3 sized 95 sq. ft., bedroom 4 sized 110 sq. ft., a kitchen sized 144 sq. ft., a bathroom sized 25 sq. ft., and a toilet sized 25 sq. ft. Below are the development's key plan, location plan, site plan, and floor plan.



Figure 3.3 Key plan

Source : Aspirasi Majumas Sdn. Bhd.



Figure 3.4 Location Plan

Source : Aspirasi Majumas Sdn. Bhd.



Figure 3.5 Site Plan Source : Aspirasi Majumas Sdn. Bhd.



Figure 3.6 Floor Plan

Source : Aspirasi Majumas Sdn. Bhd.



Figure 3.7 Site Location For Single Storey Bungalow

Source : Aspirasi Majumas Sdn. Bhd.

After the project has been completed and the keys have been given to the client, the client conducts a building defect inspection on the project before occupying the house. After that, the customer made a complaint about the defects of the building in the house to the contractor. Moreover, through the inspection of defects of this building, found that it is only a patent defect that is easy to see the defects compared to latent defects which are quite difficult to inspect and need professional help to conduct the inspection.

Among the defects identified by the client and the main contractor during the inspection were the window panes that were loose in the living room, perforated columns, the top wall of the sliding door that was curved, the plaster ceiling cracked, the sliding door that was loose and the roof of the stinging terrace in the terrace section 1. In the interior of the house there are an empty tiles area. Next on the car porch, it was found that the ceiling plaster was cracked, leaking, the tiles were tilted and the pillars of the house were tilted. On every wall of the house was found cracked wall plaster. Next, the master bedroom and bedroom 4 have frame problems and sloping doors.

## **3.2 Procedure of reporting the building defects**

The following are the steps to perform a defect inspection from step one to completion according to the company's Standard Operating Procedure (SOP) on the project being studied.

## **3.2.1.** Step 1 – Inspection by client

First of all, when the house has been completed and the keys have been given to the client, the main contactor gives a 6 month warranty to the client. Within the 6 months, the client can make a complaint about any type of damage that occurs in the house. The main contractor gives 2 phases of the complaint period to the client within the 6 month warranty of the house. In the period after the warranty of the house, the client finds that there is some type of damage that has occurred in the house. The client takes a picture of the proof of damage and sends the proof to the main contractor for further action. The client also contacted the main contractor to discuss the next steps to resolve the problems.



Figure 3.8 Inspection by client



Figure 3.9 Inspection by client

# **3.2.2** Step 2 – The recorded defects are reviewed by the contractor

After the client and the main contractor have discussed the damage to the house, the main contractor issue a complaint letter and ask the client to fill in the information and fill in the form with all types of damage that the client has found while inspecting the house. The main contractor made a defect review and visiting the site to re – examine all the damage that occurred in the house. Based on the complaint form that the client has provided, the main contactor makes a report in more detail about the defect that occurred.



Figure 3.10 Complaint form



Figure 3.11 Inspection by main contractor



Figure 3.12 Inspection by main contractor

# 3.2.3 Step 3 – A notification letter is sent to the subcontractor involved

After that, the main contractor issue a letter to the sub – contractor for further action. The main contractor discuss with the sub – contractor about all the defect problems that have occurred and set a time to complete and correct all the defects that have occurred. Sub – contractors give their views and ideas on the defect and sub – contractors visit the site before carrying out repair work on the damage to the house.

After the sub – contractor assesses the damage at the construction site, they will notify and request permission from the main contractor to immediately carry out repairs to the house. Sub – contractors also claim money for goods according to the progress that has been carried out according to the schedule set by the main contractor.

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Figure 3.14 Letter of cooperation agreement

| DAT | 1A SUBCONT<br>E<br>KERJA-KERJA P | EMBAIKAN SATU UNIT RUMAH BANGLO UNTUK <b>ENCIK MO</b> F  | : AL YUMN ENTERF<br>: 22/4/2021 | PRISE ( | En. Han<br>DUL RA | hizan H | akim B<br>DI ATA | in Abdı<br>S LOT | ul Rahir<br>10999, | n)<br>MUKI | N  |
|-----|----------------------------------|--|---------------------------------|---------|-------------------|---------|------------------|------------------|--------------------|------------|----|
|     |                                  | LENGGENG, DAERAH SEREME  | BAN, NEGERI SEME                | BILAN   |                   |         |                  |                  |                    |            |    |
| NO  | AREA                             | SKOP KERJA   | JANGKA MASA                     | BULANAN |                   |         |                  |                  |                    |            |    |
|     |                                  |  |                                 | 14/1    | BUL               | AN 1    | 14/4             | 14/1             | BUL<br>W/2         | AN 2       | WA |
| 1   | Teres 1                          | Pintu sliding tak rapat/gap luar dan dalam<br>Kerja -kerja melaras semula kedudukan sliding door   | 1 minggu                        | 1       | - TL              |         |                  |                  | me                 | 113        |    |
|     | Dapur                            | Pintu belakang buka ke luar/dalam pelan buka dari<br>dalam<br>Kerja-kerja memecahkan frame pintu yang lama serta<br>menggantikan frame pintu yang baru   |                                 | 1       |                   |         |                  |                  |                    |            |    |
|     | Bilik Tidur<br>Utama             | Frame dan pintu senget<br>Kerja-kerja memecahkan frame pintu yang lama serta<br>menggantikan frame pintu yang baru   |                                 | 1       |                   |         |                  |                  |                    |            |    |
|     | Bilik Tidur 4                    | Pintu tak rapat<br>Kerja-kerja memecahkan frame pintu yang lama serta<br>menggantikan frame pintu yang baru  |                                 | X       |                   |         |                  |                  |                    |            |    |
| 2   | Teres 1                          | Tiang atas berlubang/simen tidak cukup<br>Kerja-kerja menambah simen konkrit dan melakukan<br>kerja melepa simen   | 3 minggu                        |         | 1                 | 1       | \                |                  |                    |            |    |
|     |                                  | Dinding atas sliding door melengkung ke dalam<br>Kerja-kerja mengetuk dan memecahkan lepaan simen<br>yang lama dan menggantikan dengan lepaan simen yang<br>baru serta mengecat semula dinding |                                 |         | 1                 | 1       | 1                | 1                |                    |            |    |
|     | Teres 2                          | Plug soket - simen tak penuh<br>Kerja-kerja menambah simen dan membaiki kedudukan<br>soket   |                                 |         |                   |         | 1                |                  |                    |            |    |

Figure 3.15 Schedule for sub contractor

# **3.2.4** Step 4 – Repair process by sub – contractor.

After obtaining approval to enter the site from the main contractor, the sub – contractor begins all repair work. By following the set schedule, all defect repair work will be smoother. The speed of sub - contractor workers according to weather conditions because there are times when it rains and makes all the goods wet.

All progress will be informed daily to the contractor because this can examine all the work well. The site supervisor will visiting the site every two days to see the progress of repairing the damage to the house. The site supervisor take pictures of all the work being done in the house to make a progress report.



Figure 3.16 Site visit report



Figure 3.17 Repair in progress

#### **3.2.5** Step 5 – Finalize the problems.

When the damage has been fully repaired by the sub -contractor, the two parties namely the main contractor and the client meet again to finalize all the problems that occurred in the house. Both parties will go back visit the site to check the condition of the house that has been fully repaired. A second inspection will be conducted before returning the house to the client.

### **3.2.6** Step 6 – Retention Sum will be pay to sub – contractor.

When the repair work has been completed, and the client has informed that there is no any problem, the contractor will ask the client to make a letter of satisfaction. Next, the main contractor makes a document about the letter of satisfaction and make the excess payment to the sub – contractor. This is the last step when all problems have been resolved.

# 3.3 Main causes of defects in the house of the project

# 3.3.1. The sub – contractors does not want to proceed with the defect project

When the client has already made a defect inspection and finds a lot of damage has occurred, the sub - contractor does not want to repair all the defects because of too much damage. It is because the sub - contractor does not want to bear the costs. Hence, the sub - contractor is only responsible while developing the house.

Main contractor is responsible for finding a new sub - contractor to rectify all the damage that occurs. While the main contractor was looking for a new sub – contractor, the house was abandoned and there were more

defects on the exterior of the building. It is not an easy task to find new sub – contractors. The new sub - contractor will responsible to completing and repair all the defects.

# 3.3.2. Unprofessional attitude by sub – contractors completing the project

Old sub - contractor workers have completed the project with an attitude of unconcern to home safety and want to complete the project quickly making the building not in good condition. The work done was quite careless and caused a lot of damage to occur. Defects are not properly checked before handing over to the customer was the problem in the first case.

As the solution, the main contractor hires new sub – contractors who are experienced in repairing each building defect. Main contractors need to filter the list to find sub - contractors who have the good skill. When hiring skilled workers, the defect will be repaired carefully. So, the building will last in the long run.

### **3.3.3.** Someone have done damage to the house

Before the house is handed over to the client for a defect inspection, the contractor finds that the house has been vandalized by outsiders. This vandalism is suspected to have been committed during the past Movement Control Order (MCO). This causes a lot of damage to happen outside and inside the house. This is because the project has no hoarding to ensure the safety of the project.

So the solution is the main contractor build the hoarding around the project site to ensure the safety of the house. Without hoarding, outsiders can easily sneak in the site project and vandalism the house.

### **CHAPTER 4.0**

### CONCLUSION

At the end of this study, screening for defects is a very important thing to do before a person stays at home. Therefore, doing a defect inspection can keep the house in a safe condition to live in and maintain the quality of the house for a very long time. Furthermore, there are types of defects that always occur after the building is completed. Most of the defects that can be found are patent defects because they are easy to detect. Patent defects can be easily detected because of their visible appearance to humans. Meanwhile, latent defects are difficult to detect. It is because usually this type of defect occurs at the foundation, cracks inside that are invisible to humans.

In this study, student also found out how procedure of reporting the building defects by the owner is carried out. There are 6 steps to perform a defect inspection according to the company's SOP. Starting from the inspection by the customer, the recorded defects are checked by the main contractor, send a notification letter to the sub – contractor, repair process, resolve the problem with the customer, and pay the sub – contractor after getting the satisfaction letter from the customer. By following these steps, the inspection will be easier to handle and the project can be repaired quickly.

In this case study, student learn about main causes of defects in the house of the project and the solution from the company. In this study found that there are 3 cause of problems and also the solution. First, the sub-contractor does not want to proceed with the defect project and its solution The main contractor is responsible for finding a new sub – contractor to correct any damage that occurs. Second, unprofessional attitude by sub – contractors completing the project and its completion the main contractor hires sub - contractors who are experienced in repairing any defects. Lastly, someone has done damage to the house and its solution the main contractor built a hoarding around the project site to ensure the safety of the house.

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