



اَوْنِيُورْسِيْتِي تِيكْنُولُوْجِي مَارَا

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

TITLE

FINISHING WORK

CASE STUDY : DOUBLE STOREYS

TERRACE AT LAMAN ANNUR, PANJI,

KOTA BHARU

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2010574781

DIPLOMA IN BUILDING SURVEYING

PRACTICAL TRAINING REPORT

(JUNE 2013 – SEPTEMBER 2013)



DEDICATION

With love I dedicate this report to my lecture of Building Surveying Department especially Mr Hasnan Bin Hashim as my supervisor, staff of Pasir Puteh Development Corporation especially En Zulkeflie Bin Husin and also to my parents, all family members and to fellow friend for giving a support and help me in any aspect to complete this report.



ABSTRACT

In this practical report contains information about the selected case study of the finishing work process. This report I do base on observation, interview and experiences about 4 month practical training. This report was be started by introduction of company background and followed by company profile, organisation chart and project has been undertaken. The company that I have chosen to do practical training is Pasir Puteh Development Corporation Sdn.Bhd. In this report also give information about case study during practical training.

The process of finishing work can be divided by into four groups such as floor finishing, wall finishing, roof finishing, and ceiling finishing. The finishes process is importance to show the value of the building. It also can be used to the building because to protect and to keep the span of building. Base on case study, the floor finishes have also four type and material such as ceramics, tile, cement render and timber strip. In this report will be all the information about it and also the process the installation of finishes.

Besides that, in practical report also provide the material and apparatus was be used at case study. It are use to get easy do the work and to avoid the waste time. Time is one case of importance during the construction work. So that, by using the modern material in construction work can be saved time it include can save the cost.

In addition, in this report some problem has be provide base on case study. One example of problem is the installation of roof. It can be effect when rainy days because the water will be enter through hole and will be effect to wall and ceiling. By the way, all the problem must be have answer include the problem that have also followed by recommendation.

Overall, in this practical report will give all the information about the finishing work process was done which is can be give new knowledge.



ACKNOWLEDGMENT

In the name of Allah, the most Gracious, the Most Merciful, I like to draw of palm to show my faith and gratefulness towards HIS upon, divine patience strength and great determination in competing my task.

With love, trust and respect, I would like to thanks is to my beloved Building Survey Lecturer and supervisor that guide to complete my task Sr Hasnan bin Hashim who always be there for teaching with all of their love. The supervision and support that he gave truly help the progression and smoothness of the practical report. The co-operation is much indeed appreciated.

Not forget to wish the special thanks to the all of officer and staff of Pasir Puteh Development Corporation Sdn Bhd especially to Mr Zulkifle Bin Hussin which is my site supervisor and Madam Safarindan Bt Mahmood as my supervisor during practical training at PPDC. And also a big contribution and hard worked from all staff during the four month is very great indeed. All the work that I was handles during practical training not is successfully without the cooperation and guidance from all staff PPDC.

The practical training was makes me learn about the working together in a team to complete a perfect job and it also as a new experience in working environment before I go to real working which challenge us every minute.

Last but not least, I would like to thanks to my family and friends especially those who work together at PPDC. Thanks for help me to implement the final report of practical training was be completed successfully.



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CHAPTER 1

THE COMPANY BACKGROUND



1.1 INTRODUCTION OF COMPANY



Pasir Puteh Development Corporation Sdn Bhd (PPDC) was incorporated on 3rd January 1985 under Company Act 1965 Ordinance with the registration number is *Tempatan 132615T*. First address that use to registered this company at 3893-D, Jalan Hamzah, 15050, Kota Bharu, Kelantan Darul Naim. A few years after that, this company was move to new address at 523 Jalan Raja Perempuan Zainab II Kubang Kerian 16150, Kota Bharu Kelantan. On Dicember 2012, PPDC once again move to current address at Lot 286 Taman Al-Qari, Hadapan Istana Negeri Kubang Kerian 16150 Kota Bharu Kelantan. The company was started with the planning, marketing and constructing of low cost houses in the 80's to become one of the biggest Housing Developers not only in Kelantan but also in the East Coast.

PPDC then was accepted as "Pusat Khidmat Kontraktor" (PKK) Class 'A' Contractor. PPDC also was awarded the First Design and Build Government project in 90's and successfully completed it. Later PPDC was recognise as Construction Industry Development Board (CIDB) 'G7' Grade Contractor. It has gained vast experience in the construction industry from a number of housing projects and government contracts.

With the passing away of Tuan Haji Nik Ab. Rahman Bin Nik Taib, the Executive Chairman of the company, PPDC experienced a setback. However he is replaced by his eldest son, Nik



Mohd Nasrudeen and PPDC will continue to progress to greater heights. The young and energetic managing Director together with the experience management team will continue the legacy of Tuan Haji Nik Ab Rahman and his father, Tuan Haji Nik Taib.

PPDC believes that fulfilling our responsibilities to the public through the provision of high quality shelters and services at reasonable prices shall contribute to better quality living throughout the country.

PPDC is also confident of contributing to the nation building in line with the Government aspiration of Vision 2020.

1.2 Company Brief

Pasir Puteh Development Corporation Sdn. Bhd. (Company Number 132615-T), a Malaysian Muslim wholly owned company. Through its affiliated company, management support by PPDC Management Services Sdn. Bhd., PPDC has ventured into more challenging fields by multimillion projects.

The main business of company is entirely focused on the property and housing development as well as building construction. Nevertheless, PPDC also produce in-house skill construction personnel comprising of a team of experienced construction workers ready and capable to support and give assistance to our contractors. In housing development, PPDC mainly concentrates on low cost houses for the lower income sector of the society. However medium and high cost houses are also being constructed particularly in urban areas where the demand for such houses is abundant. As to date, PPDC has managed to reserve a pool of land bank sufficient enough to spearhead the company through the years ahead.

Due to the adoption of positive management philosophy, PPDC has been able to create confidence and interest amongst professionals. As a result, the company has a very strong management team and a pool of fulltime technical staff coupled with strong support from associates consultants and professional firm to undertake any project companies of its size usually do.



With the help of experienced professionals and management team, PPDC has turned into a market oriented organization which place purchaser as the most important element in the property and housing development industry. PPDC strongly believes that 'Purchaser Comes First' policy will help to ensure the survival and healthy growth of the company in the future.

1.3 Company Profile

Company Profile

<i>Name Of Company</i>	<ul style="list-style-type: none">• PASIR PUTEH DEVELOPMENT CORPORATION SDN BHD (PPDC)
<i>Registration Number</i>	<ul style="list-style-type: none">• Tempatan 132615-T
<i>Date Of Incorporation</i>	<ul style="list-style-type: none">• 3rd January 1985
<i>Business Address</i>	<ul style="list-style-type: none">• Lot 286 Taman Al-Qari, Hadapan Istana Negeri Kubang Kerian 16150 Kota Bharu Kelantan.
<i>Authorized Capital</i>	<ul style="list-style-type: none">• RM 10,000,000 of RM 1.00 each
<i>Paid Up Capital</i>	<ul style="list-style-type: none">• RM 2,050,000
<i>Auditors</i>	<ul style="list-style-type: none">• Chua & Chu Chartered And Public Accountant 3893-D Jalan Hamzah 15050 Kota Bharu Kelantan MALAYSIA
<i>Company Secretary</i>	<ul style="list-style-type: none">• Tan Siew Chin 3893-D Jalan Hamzah 15050 Kota Bharu Kelantan MALAYSIA.



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Solicitors

- Azham Zamiri & Co
Advocates And solicitors
1909-A Jalan Tok Kenali
Kubang Kerian
16150 Kota Bharu
Kelantan

Bankers

- CIMB Bank Berhad
Wisma Ibrahim & Sons,
No 4585-K & 4581-I,
Jalan Sultan Yahya Petra,
Wakaf Siku, 15200 Kota Bharu,
Kelantan, Malaysia

EON Bank Berhad (Kota Bharu Branch)
PT 174 & 175 Block C Jalan Parit Dalam
Seksyen 8 15000 Kota Bharu
Kelantan MALAYSIA

Nature Of Business

- Property Development And Construction

Directors

- Nik Mohd Nasrudeen Bin Nik Ab Rahman (Managing Director)
- Nik Anuar bin Muhammad@Mahmood (Executive Director)
- Abd. Rahman Bin Ahmad (Project Director)

Membership

- Member of Housing Developer Association Malaysia (Membership No. HAD095KEL0017/90)
- Member of Malay Chamber of Commerce (Kelantan) MALAYSIA
- Member of Guild of Malay Contractor Malaysia (Kelantan), MALAYSIA.



***Licences And
Certificate Of
Registration***

- Pusat Khidmat Kontraktor (PKK) Kelas A (Registration No. 0302A920154) with Bumiputera Status
- Construction Industry Development Board Malaysia (CIDB) Grade 7 Registration No. 1970103-KN020661)
- Malaysian Airport Berhad (MAB) (Registration No. 13/000654/94
- Registered as General Supplier / Contractor with KTM (Malaysia Railway)
- Syarikat Perumahan Negara Berhad
- Putrajaya Holdings Sdn. Bhd. (Registration No. PJH/CTR/1192)

Inter - Company

- Hidni Holdings Sdn.Bhd
- Ikatan Intra Sdn.Bhd
- PPDC Management Services Sdn. Bhd



PRACTICAL TRAINING REPORT

1.4 List of Development Project.

1.4.1 LIST OF DEVELOPMENT CURENT PROJECT UNDERTAKEN

	LOCATION	PHASE	TYPE OF HOUSE	UNITS	VALUE (RM)
Desa Salam	Mukim Alor Limbat Marang Terengganu	1A	Double storey low cost terrace	121	4,446,750
		1B	Double storey low cost terrace	106	4,452,000
		1C	Double storey low cost terrace	136	7,480,000
		1C	Double storey low cost terrace	170	9,350,000
Desa Barakah	Lot 3674 & 3675 Mukim Maka Kusial Tanah Merah Kelantan	1	Single storey bungalow	29	3,451,000
		2	Double storey terrace	54	3,299,724
			Double storey bungalow	4	408,024
			Double storey semi detached	4	331,824
		3	Double storey low cost terrace	378	15,876,000
		4	Single storey medium cost terrace	149	9,685,000
		5A	Double storey shop houses	12	1,680,000
		5A1	Double storey shop houses	12	1,680,000
		5B1	Double storey shop office	10	3,000,000
		5C1	Double storey shop houses	12	2,040,000
Desa Sejahtera	Mukim Batu Rakit Kuala Terengganu		Single storey semi detached	26	1,222,000
Desa	Mukim Batu Rakit		Single Storey low	35	1,365,000



PRACTICAL TRAINING REPORT

Kayangan	Kuala Terengganu		Cost Terrace Single Storey Semi-Detached	4	188,000
			Single Storey Bungalow	6	390,000
Taman Sri Sentosa	Padang Pak Amat Pasir Puteh Kelantan		Single storey bungalow	36	2,142,000
Taman Sri Tanjung	Padang Garong Kota Bharu Kelantan		Daouble storey medium cost terrace	53	3,445,000
Desa Rahmat	Mukim Pauh Panji Kota Bharu Kelantan		Double storey low cost terrace	346	8,650,000
Desa Anda	Mukim Jeram Pasir Puteh Kelantan		Double storey low cost	106	2,650,000
Desa Annur	Mukim Telok Panji Kota Bharu Kelantan		Double storey low cost terrace	182	5,460,000
Taman Sri Mahkota Jaya	Lot 2403 Mukim Kuala Kuantan, Kuantan Pahang		Double storey low cost	335	10,650,000
Desa Saujana	Mukim Pelagat Besut Terengganu		Double storey low cost terrace	157	3,925,000
Taman Sri Cempaka	Tanah Merah Kelantan		Medium cost single storey bungalow	16	720,000
Taman Permata	Padang Pak Amat Pasir Puteh Kelantan		Double storey low cost terrace	126	3,150,000
Taman Tanjung Mas	Padang Bongor Panji Kota Bharu Kelantan		Double storey low cost terrace	182	2,160,000
Desa Salam Sejahtera	Mukim Alor Limbat Marang Terengganu	3	Single storey	311	13,062,000



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Desa Samudera	Lot 864, 129 & 130 Mukim Tenglu Mersing Johor		Low cost terrace (18' x 60')	139	5,838,000
			Single storey terrace (20'x60')	148	11,100,000
			Shop houses (20'x70')	37	5,550,000
Taman Lagenda	Repek Bachok		Single terrace (20'x70')	22	2,860,000
			Bungalow	10	2, 500,000
Desa Rahmat	Mukim Telok Panji		Double terrace (20'x70')	6	1,800,000
Taman Permata	Pasir Puteh		Single storey terrace	5	700,000
Taman Melor	Melor		Single storey bungalow	8	2, 500 000
<u>GRAND TOTAL</u>				<u>3151</u>	<u>140,495,322</u>

Table 1.1 List Of Development Project Undertaken



1.5 Vision

“To Be Preferred Contractor and Developer”

Pasir Puteh Development Corporation Sdn Bhd (PPDC) who believe in the significance of client satisfaction, quality-based management and a culture of progressive management within the company for a sustainable success in the sector, bases its quality policy on the following value we constantly strive ;

- To provide the most appropriate solution to client, through assessment of their needs and demands, and consultation, with the PPDC’s experience and expertise in project management.
- To conform to every valid standard within the context of project at the maximum level; contract agreement conditions, comply statutory and regulatory requirements, health and safety at the workplace, other compulsory standard and to all ethical rules.
- To be a sector leader in utilization of modern and valid techniques, material and management systems, and to maintain the sustainable development in every area.
- To provide professional services that help the realization of projects in advance of set deadlines, conforming to every quality standard prescribed.
- To prioritize and value the most valuable asset of PPDC, which is company employees. This is by contributing to their technical and self-development through company’s continuous learning environment and to provide social securities.
- To create permanent relations with subcontractors, suppliers and project partners based on good intentions and trust and accordingly to contribute also to their progress within the sector.
- To transfer successively company corporate culture and values to its employees and will continually improve our products, services and management system.



1.6 Mission

Be to supply the need and to provide affordable shelter for the lower income group and to upgrade the living standard of the society as a whole as lined and encouraged by The Ministry of Housing And Local Government.

1.7 Objective

The main objective of the company is to develop and grows as a leader in the housing and property industry with the ultimate aim of becoming a public company in the near future so that it can meet the challenges of the changing corporate climate in Malaysia. PPDC aspires to provide the best possible service to the purchaser in particular and the public in general by continuing to participate in providing affordable comfort houses in order to ensure a good value for money.

It has also been objective of PPDC to participate in the development of social and economic activities in the country to ensure the well-being of the society as whole.



PRACTICAL TRAINING REPORT

1.8 Organisation Chart

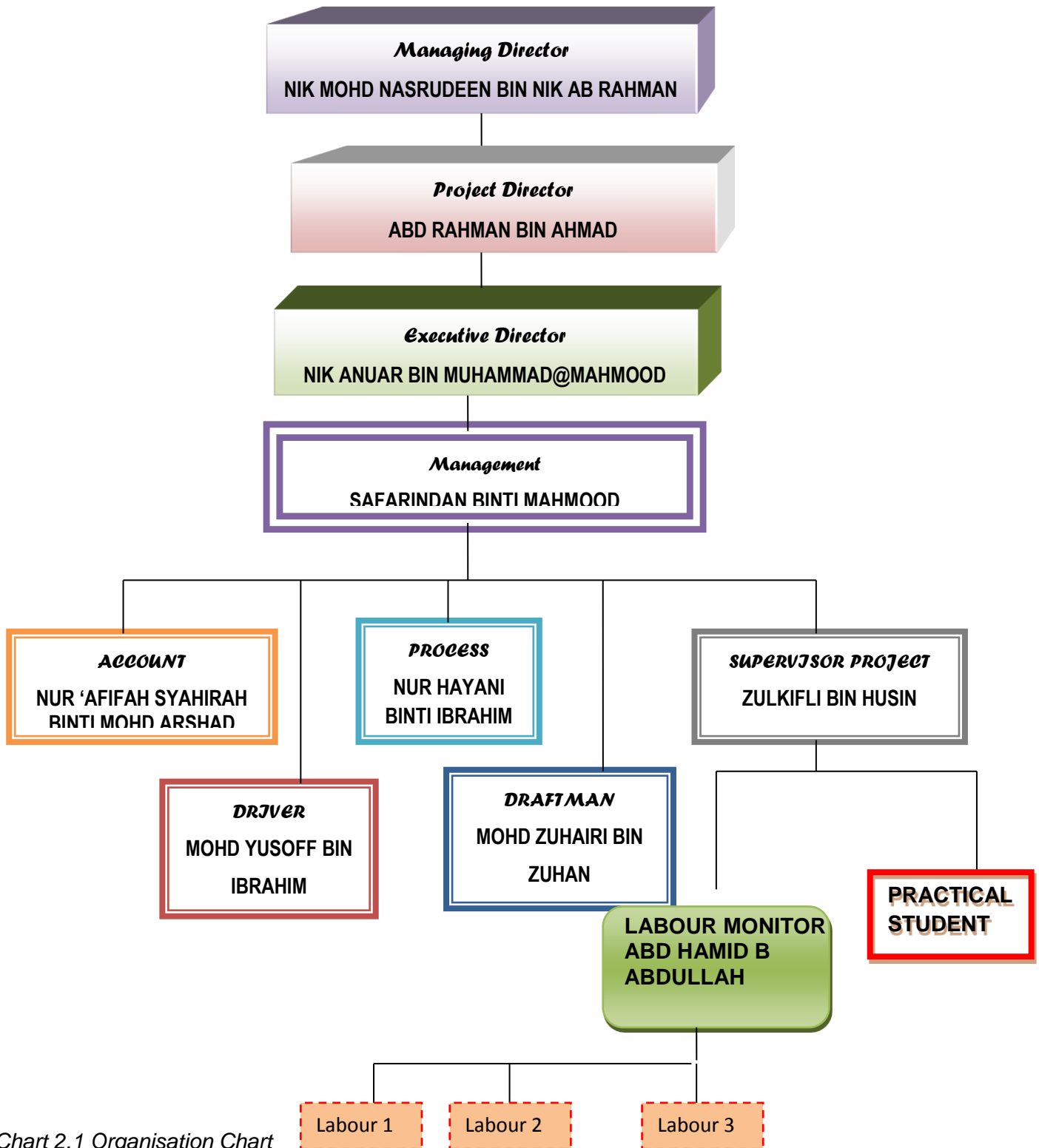


Chart 2.1 Organisation Chart



1.9 Key Management Personnel

The following names with respective designations make up the in-house management team for the implementation of Ikatan Intra Sdn. Bhd projects.

Safarindan Bt Mahmood	•	Account and Administration Officer
Nur' Afifah Syahira Bt Mohd Arshad	•	Account Clerk
Nur Hayani Bt Ibrahim	•	Admin Clerk
Zulkifli Bin Husin	•	Site Supervisor
Mohd. Yusoff Bin Ibrahim	•	Driver

The following professional firms will be assisting the company:

- **Development Manager**

PPDCManagement Services Sdn. Bhd.

Lot 523 Jalan Raja, Perempuan Zainab II, Kubang Kerian, 16150, Kota Bharu Kelantan.

- **Architect**

Ikatan Cipta Bina

Chartered Architect

3455-E, Tingkat 1, Bangunan FA Pennisular, Jalan Sultanah Zainab, 15050 Kota Bharu, Kelantan.

- **Structural Engineer**

Perunding Teknik Padu Sdn. Bhd

Lot 1882, Tingkat 1, Hilir Market, Jalan Tok Kenali, Kubang Kerian, 16150 Kota Bharu Kelantan

- **Civil & Land Surveyor**

- Ezam & Associates

Tingkat 1, Lot 2861 & 2862 Jalan Hospital, Paya Bemban, 15200 Kelantan Darul Naim.

- Jurukur Maju

3377-H, Ting 1, Jln Gajah Mati, 15000 Kota Bharu, Kelantan.



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- **Legal Advisor**

Azham Zamiri & Co

Advocates & Solicitors

1909-A Jalan Tok Kenali, Mukim Kenali Kubang Kerian 16150 Kota Bharu Kelantan.



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1.10 Location Plan

Lot 286 Taman Al-Qari
Hadapan Istana Negeri Kubang Kerian
16150 Kota Bharu
Kelantan.

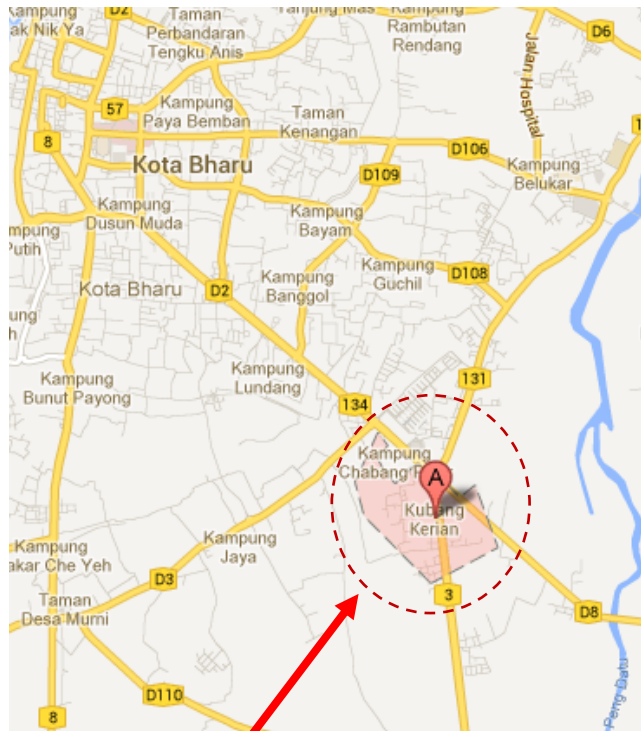


Figure 1.1 Location Plan



CHAPTER 2

LITERATURE REVIEW



CHAPTER 2 LITERATURE REVIEW

2.1 Introductions of Finishes

Interior building finishes can be defining the living space within residential buildings with a range of both natural and synthetic materials. Finishing works is a fine job in building construction process where it forms the beauty of a building. It also used to protect the element of the building and to keep the element to maintain in a long period.

2.2 Type of Finishes

Several types of finishes can be use based on the materials used, environment conditions and costs. Finishing of a building can be divided into several sections:

- Floor finishing
- Wall finishing
- Ceiling finishing
- Roof finishing

2.2.1 Floor finishes

There are three types of floor finishes include in situ floor finishes, applied floor finishes and timber floor finishes. The in situ floor finishes means that the finishes are mixes on site and lies in a fluid state such as installation of mastic asphalt, pitch mastic, granolithic, magnesium oxychloride, tile and so on. While the applied floor finishes means that are supplied in tile or sheet form like uses the flexible PVC tiles and sheet, ceramic tiles, linoleum, carpet and so on. And the third of floor finishes is timber floor finishes. For example are timber boards, timber strip, and timber sheet and so on.



2.2.1.1 TYPE OF FLOOR FINISHES

1. In situ Floor Finishes

I. Magnesium Oxychloride

It is mixed on site using a solution of magnesium chloride with burned magnesite and fillers such as wood, flour, sawdust or limestone. The mixture material of this type is laid in one or two layers of approximately 20mm.

II. Granolithic

Granolithic is the mixture between Portland cement and granite chipping with the ratio 1 cement : 1 sand : 2 granite chipping. It used mainly in situation where easy maintenance and durability space.

III. Mastic asphalt

The bituminous material is obtained from asphalt lakes or from crude oil residues. It can be impervious to water and be form a very good surface and also at the same time it can be fulfil the function as water proofing decking. It is a thermoplastic material and has to be melted before use.

2. Applied Floor Finishes

I. Carpet

Textile floor covering consisting of an upper layer of pile attached to a backing. The pile is generally either made from wool or a manmade fibre such as polypropylene and usually consists of twisted tufts which are often heat-treated to maintain their structure. This also made from nylon and acrylics and can be seen in diverse of styles, type, pattern, colours, qualities and size.

II. Seamless chemical flooring

Seamless chemical floor can be divide in many different materials are available such as latex, polyester, urethane or epoxy compounds which are applied in liquid form to provide a completely seamless floor covering. These are may usually found in wet areas such as laboratories of food processing



plant and if want to make the better traction for seamless chemical floor, the addition of granular or rubberized be needed.

III. Ceramic tile

Ceramic can be divided by a few types and it's categorized by the way the tile units are formed, colour is produced and the units are fired. That's type are wall tile, mosaic, porcelain, paver, quarry, packinghouse tile. The using of ceramic tile probably is the most significant are permanent, maintainability and durability. It also has a good resistance to water so that they are suitable for kitchen halls, garage, and walkway and so on. It is does not require sealants, waxes or other recurrent special treatments needed in some surfacing system. The ceramic tile are made from refined natural clays which are pressed after grinding and tampering into desired shape before being burnt at a high temperature. Clay tile may expand as a result of absorption of water and chemical hydration. Because of that, the expansion joint should be incorporate for this application.

IV. Resilient flooring

Resilient flooring are applies block, strip and sheet of shock-absorbing, sound-deadening or decorative covering to floor, walls and cabinets. Before instillation this finishes, the floor must be disconnect and removes obstacle such as appliances and light fixtures.

V. Marble

Marble flooring can be sophisticated, stunning and attractive. It has been used for thousands of years both as a sculptor's material in flooring and walls. There are uses a natural stone product makes it very durable and stain resistant and it also can be laid reasonable quickly.



Figure 2.1 Picture of marble



Figure 2.2 Picture of Marble

VI. Terrazzo

Terrazzo is a faux-marble flooring or counter topping material it usually used for walkways, floor, patios epoxy-resin and panels by exposing marble chips and other fine aggregates on the surface of finished concrete. There are three layers of materials requires for installation of marble chip terrazzo. The first layer is cement masons or terrazzo worker build a solid and the level concrete foundation must be is 3 to 4 inches deep. Before the second layer is sets, terrazzo workers partially embed metal divider strips in the concrete wherever there is to be a joint or change of colour in the terrazzo. And the third layer, the terrazzo workers blend and place into each of the panels a fine marble chip mixture that may be colour-pigmented. While the mixture is still wet, workers toss additional marble chips of various colours into each panel and roll a lightweight roller over the entire surface.



Figure 2.3 Picture of Terrazzo

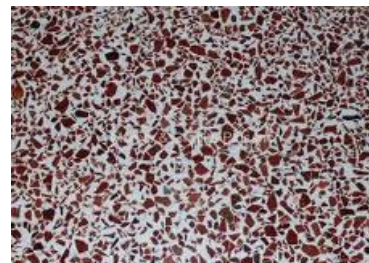


Figure 2.4 picture of Terrazzo



3. TIMBER FLOOR FINISHES

I. Timber Sheet

Timber sheet is made by wood chips to form chipboard by using thermosetting synthetic resins and forms rigid sheets. To support joist or fillets of timber sheet must be used together fixed combination like nailing or screwing.

II. Wood Flooring

There are many type of wood flooring can be use as a finishes. Such as oil-modified urethane, moisture-cured urethane, water-based urethane, conversation-varnish sealers (Swedish finishes), penetrating sealers, paste wax, varnish, lacquer, shellac and so on. Base on this, the paste wax is a oldest product and in some way it is the best because it is easy to apply, cheaper, faster drying, easy to repair and with proper care will survive forever.



Figure 2.5 Type of wood flooring

III. Timber Board

Timber board is means that the timber floor board are joined together by tongued and grooved joints along their edges. The board are well cramped together before being fixed to form a tight joint and it must be laid in a position where they will not be affected by dampness.



2.2.2 WALL FINISHING

PLASTERING WORK

Plastering is one of the finishing of the walls. It used to protect and cover the basic work such as brick arrangement from the climate action. It will produce a flat surface and nearly. A cushion to the finishing paint work and laying of tiles can provides facilities for cleaning and also to give the most comfortable to resident who are live at there. The materials that use for plastering include cement, water and sand lime with ratio.

METHOD OF INSTALLATION PLASTERING WORKS

- I. Layer of bas coat plastering in the finishes brick walls tied. This layer is important because it will absorb water from the layer of finish coat that will plastering then that the wall does not look wet. This layer is also aimed at levelling the brick wall bond that is less flat.
- II. Layer finish coat will plastering later on at a thickness of $\frac{1}{2}$ to depending on the uniformity of the wall using a finishing trowel.
- III. Finally. The layers of plastering will be plaster with a layer of oil (slurry cement). This mixture consists of masonry cement and water. This layer that will highlight the aesthetical features of building constructed.
- IV. After the layers of cement slurry plastering, it will be painted with water using a brush to paint fine lines formed at the wall to retain moisture in the plastering. This is necessary so that the paint will stick to the wall painted.

For the exterior wall plastering, it made only involves two layers of the base coat and finish coat. To make the plastering at the walls outside of home is more gross and appeared. After the layers of finish coat the external wall is painted with water using a sponge. It aims to reveal grosser wall surface



2.2.3 ROOF FINISHING

The construction of roof must be followed by installer of suitable finishes to get the good view in architecture of building. That have many type of roof finishes can be used such as, clay, asbestos, fibre, metal deck, Zink and so on. Base on case study, the metal deck was choosing to use as a roof finishes. It is because, this material is cheaper and easy to handle.

The other benefit if metal deck also have high durability and aesthetics. While many metal deck are now built with composite materials that do not twist splinter or get eaten by termites. The metal decks are stronger and more lightweight than clay or cement render. The metal deck also have last longer because there are made from recycled materials and also it can be recycle themselves and it is unlike and chemical free.



Figure 2.6 The Bituminous



Figure 2.7 The Clay Roof



2.2.4 CEILING FINISHING

Ceiling mostly is made from plasterboard which is either affixed to the underside of the structure or on hangers. It must be installation with are thin strips of wood attached to the structure. Timber ceiling also can be use to apply this fashion.

Ceiling can be dividing into two such as, suspended ceiling and permanent ceiling. The suspended ceiling are allows room for mechanical and electrical equipment. The suspended ceiling has three common types. It there is metal grid with panels. Metal grid with panel is hung on wires. Almost the using this ceiling is used in size 60cmx60cm. It is having incorporated light diffusers and use the infill panel is usually acoustical.

Other than that, have a suspended ceiling are used non-grid metal. It because the prefabricated metal strip are attached together and hung on post forms the structure. In habit, the suspended ceiling is made for auditoriums that have to accommodate light and sound equipment.

Base on case study there are have two type of ceiling that use such as limestone ceiling and gypsum plaster board ceiling. The gypsums are a mineral found in sedimentary rock formations in a crystalline form known as calcium sulphate dehydrate $\text{CaSO}_4 + 2\text{H}_2\text{O}$.

To produce gypsum board, the gypsum is mixed with water and additives to form slurry which is fed between continuous layers of paper on a board machine. As the board moves down a conveyer line, the calcium sulphate recrystallizes or rehydrates, chemical combining with the water that was removed during calcinations and revert to its original rock state. The paper becomes chemically and mechanically bonded to the core. The board is then cut to length and conveyed through dryers to remove any free moisture.

The advantages that can be why to choose the gypsum plaster board such as easy to installation, fire resistance, sound isolation durability, economy cost and versatility. There suitable to use in other function such as to make a partition wall.



Figure 2.8 The Suspended Ceiling



CHAPTER 3

CASE STUDY : DOUBLE STOREY TERRACE HOUSING



CHAPTER 3 CASE STUDY

3.1 Introductions

In the construction work of the building, the finishes are one of the ending to determine the quality, nice and esthetical value of the building. The finishes can be dividing by a few groups such floor finishes, wall finishes, ceiling finishes and roof finishes. Almost of all construction projects are use paint as a finishes at exterior wall of the building include the construction at Laman An-Nur Panji. It uses the paint as the finishes at the exterior and interior of the building. But sometime of the building are use the tile for the exterior wall finishes at the in front of the house. It because to be seen the building is esthetical and nice.

The site at Laman Annur, Panji was built on February 2011 and be finish on February 2014. This project does the 8lot double storey terrace housing. There are use three types of material for floor finishes such as, ceramic, tiles, cement render and timber strip.

The timber is use on thread of staircase as a finishes to showing the esthetical value and it is rough be avoid from smooth. Besides that, the metal deck is use as a roof finishes to economy cost.



3.2 Type of Finishes

There are several type finishes that use at site Laman, ANNUR, Panji such as floor finishes, wall finishes, roof finishes and ceiling finishes. The detail can be referring to chart below:-

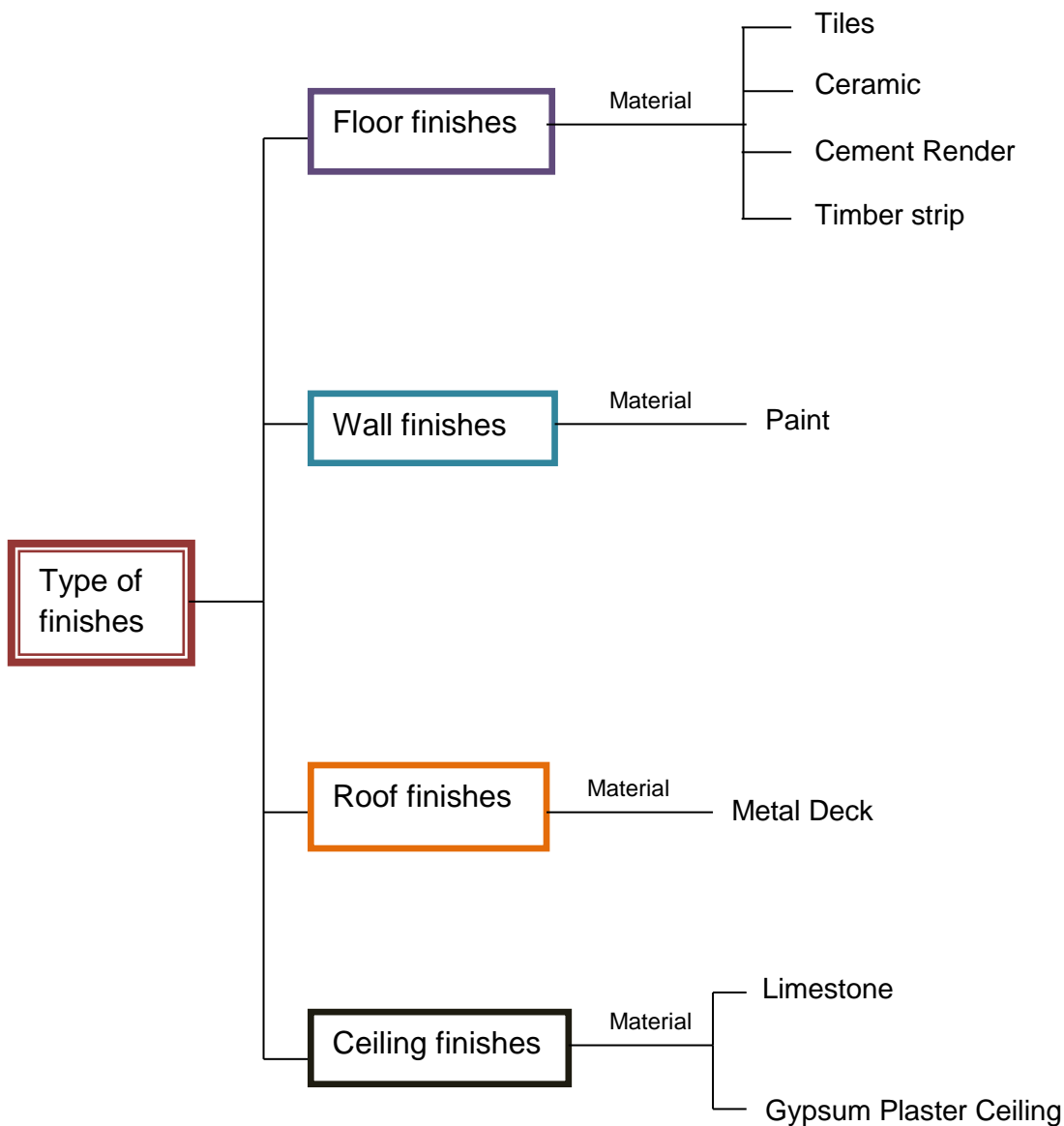


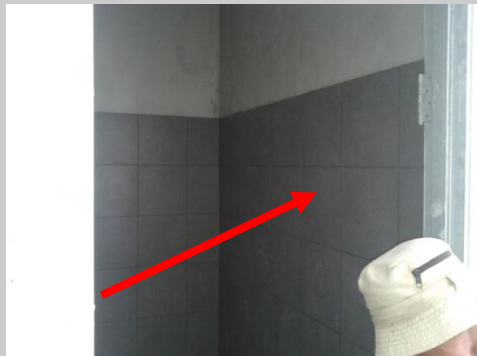


Chart 2.1 The Type Of Floor Finishes



PRACTICAL TRAINING REPORT

3.2.1 FLOOR FINISHES

No	Description	Picture
1	<p><u>Ceramic</u></p> <p>The ceramics was use at living room, family room, bedroom and dining room. It is have smooth face and look so shine. This material is look so elegant and nice.</p>	 <p><i>Figure 3.1 The ceramic</i></p>
2	<p><u>Tile</u></p> <p>Tiles are use at kitchen and bathroom usually because the characteristic of the tile is rough. It is safe to avoid from slippery when the floor is wet.</p>	 <p><i>Figure 3.2 The Tile At Kitchen</i></p>  <p><i>Figure 3.3 The Tile At Bathroom</i></p>



3 Cement Render

Cement render are use at car porch at ground floor. It also use at floor on the porch at first floor.

This mix is combination only water and cement



Figure 3.4 Floor Was Be Cement Render



4 Timber Strip

Timbers are use at the tread of staircase. It is use because to show the building that was built has aesthetics value. The types of timber are use as a finishes is *Seraya Kitam*. It is also is use to avoid from the staircase was slippery because one of the characteristic of timber face is rough. So that, the using of timber very suitable for staircase.



Figure 3.5 The Timber Strip

Table 2.1 Type Of Floor Finishes



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3.2.3 WALL FINISHES

Plastering Process

Before do the painting work, the wall must be plastering to get the surface of wall become flat and smooth. The ratio of mix between cement and sand is 1: 2. At this construction project, there is having two layer of plastering. First layer is mixture between cement and sand with ration 1:2. Second layer is the mixture between white plaster cement and standard cement with ratio 1:2. After that the wall will be painting with coat paint.



Figure 3.6 The Plastering Process



Figure 3.7 The Layer Of Plastering



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Paint

Paint is usually use as a wall finishes. Before use the colouring paint, the wall firstly must be use coat paint which is coat paint is in white colour to show the colouring paint is very shine.



Figure 3.8 The Wall Was Be Coat painting

3.2.4 ROOF FINISHES

The type of roof that uses at case study Laman Annur Panji, is metal deck. It use shed type of construction of roof. By using of this roof type finishes it can be save construction cost. To avoid from the housing have high thermal from metal deck, during the installation, they use fibre as covering layer. The fibre also can absorb the sound when rainy day.



Figure3.9 The Type of Roof Metal Deck



Figure 3.10 The Fibre



3.2.5 CEILING FINISHES

Base on case study, there are use two type of ceiling finishing such as limestone ceiling and gypsums plaster board. The limestone ceilings are use at living room, all of bedroom, kitchen, toilet and family room. While the gypsum plaster board are use at all the paving of the house. The gypsum was choosing to use at paving because it is very durable and easy to install. It is difficult to get decay when the ceiling exposed with rain water. The gypsum board also economic value and suitable to use in resident and offices



Figure 3.11 The Lime Stone Ceiling



3.3 Methods of Installation Works Finishes

3.3.1 Process installation of Ceramic

NO	DESCRIPTION	PICTURE
----	-------------	---------



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1

Before do the installation work of ceramic, the floor should be first do the plastering work. It is because to get the easier the installation of ceramic and it's also to be so tight grip stronger ceramic. The plastering work is use the concrete mixture between the cement and sand. The ratio is 1: 2.



Figure 3.12 The Concrete Floor



Figure 3.13 The Layer Of Cement Mixture Before Ceramic Installation



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2 The second step, do the mixing of water and cement. The ratio that use is 1: 2.



Figure 3.14 The Cement Mixture

3 And then, get the measurement of the ceramic for the installation at the side or hole.



Figure 3.15 The Ceramic Measurement

4 The ceramic should be measured and tick a prior before cutting by using Portable Electric Hand Held Cutting Saw to get suitable size base on the site.



Figure 3.16 The Indicate Process

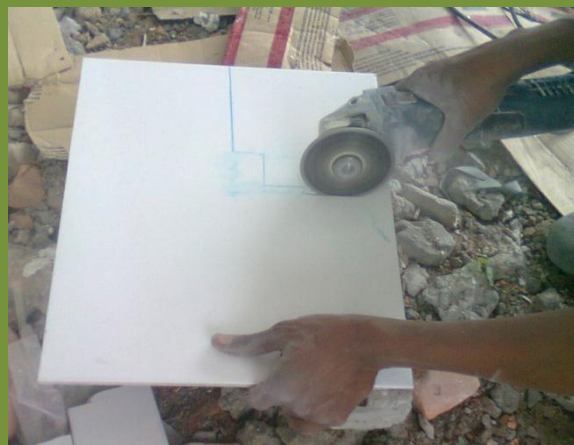


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5 Cutting work is to cut out ceramic excess to be installing near the hole or in close proximity to the object in the middle.



(a)



(b)



(c)

Figure 3.17 The Process Cutting Of Ceramic (a), (b), (c).



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6

After that, clean the floor with wet sponge to get the strong grip between cement mixture and concrete floor.



Figure 3.18 The Sponge Was Be Immerse

7

Next, put the cement mixture into the concrete floor that will be installing the ceramic. The ratio of water and cement mixture are 1: 2. The cement mixture must be put clearly in the whole space which fits easily ceramic size.



(a)



(b)



Figure 3.19 the process of flatten the cement mixture. (a), (b), (c)

(c)

- 8 Pack the ceramic let around by other ceramic. The ceramic should be tap slowly with the tip of the hammer holders.



Figure 3.20 The Process Of Equally The Ceramic

- 9 Do the ceramic levelling with spirit level to get the equality.



Figure 3.21 The Spirit Level

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10 As a result, we will see the layer of floor finishes. This is the first layer is concrete mixture between cement and sand with ratio 1:2. The second layer is use the cement mix with water. This mixture is use for patching and attaching between ceramic and concrete floor.



Figure 3.22 The Layer Of Floor

11 Next, plaster white cement should be mix with water to apply at the gap between ceramic interrupted. The process is to make the floor is tidy. By using the sponge, use a little smear of plaster white cement and dab into the space and gap that have between ceramic with compactly. This purpose is to avoid the ceramic being perishable and unpleasant.



(a)



(b)

Figure 3.23 The Plaster White Cement Mixture (a), (b).



*Figure 3.24 Process Of Dabbed Plaster
White Cement*





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11 Finally, after the completing the sweep of plaster white cement, by using the sponge, the floor should be wiped down with water. After that, the whole floor will be cleaned by using acid water jet. This process is purpose to remove the excess cement that attaches and other matter not required. This process also to make the floor will be seeing cleaner and shine.



(a)



(b)

Figure 3.25 Process Wiped Down The Floor By Using Sponge.(a), (b)



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3.3.2 Process installation of limestone ceiling

No	Description	Picture
1	<u>Roof Structure</u>	

Figure 3.26 The Roof Structure Before Ceiling Installation



2 Firstly, before do the installation of ceiling, there must be install the framework of ceiling. It is purpose to attach the ceiling. The framework can be made up from timber of aluminium. In this case, the aluminium use as material. Screw is use as a fastener of framework.



Figure 3.27 The Process Of Ceiling Framework Installation



Figure 3.28 The Framework Has Be Complete.



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3 After that, the limestone ceiling is installing to attach to the fibre and framework. The attachment by using screw.



Figure 3.29 The Ceiling Was Be Install

4 The last process in ceiling installation is doing the process sweep by using of plaster white cement.






Figure 3.30 The Process Sweep By Using Plaster White Cement.

Table 4.3 Process Installation Of Limestone Ceiling



3.3 Material And Apparatus

No	Function	Materials / Apparatus
1	<p><u>Jack hammer</u></p> <p>It is use to hack the wall, floor or concrete element to do renovation work. It also uses to make a hole at brick wall or concrete floor. Base on case study, it uses to perforation the floor to do the ceramic installation.</p>	 <p><i>Figure 3.31 The Jack Hammer</i></p>
2	<p><u>Portable Electric Hand Held Cutting Saw</u></p> <p>It is use to trim the tile, mosaic, and ceramic. It was used to facilitate the work forming of tile, mosaic and ceramic. It not suitable for cutting work of tile, mosaic and ceramic.</p> <p><u>Ceramic cutter</u></p> <p>The ceramic cutter are use to trim the mosaic, tile, ceramic and tile. This type is only use to cut off the middle and edges of the ceramics. It no suitable for cutting ceramic shape.</p>	 <p><i>Figure 3.32 Portable Electrical Hand Held Cutting Saw</i></p>  <p><i>Figure 3.33 Ceramic Cutter</i></p>



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3

Spirit Water Level

It is be function to indicate whether a surface is horizontal or vertical to get the same level or accurate measurement. The spirit water level just put on the ceramic and sees the equilibrium the level water. If the water levels not reach the equilibrium, it means that the level of ceramic was installing not balance.



(a)



(b)



(c)



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4

Sponge

Sponge is use to mop the floor before and after the installation of ceramic. The use it before installation is because to take easy the installation of ceramic and to get the clean surface.



5

Wheelbarrows.

It is use to carry moderately sized loads. Its structure distributes the weight of comparatively heavy loads allowing an operator to move loads. In this case, it is use to carry the concrete mixture.



6

Cement spade

It is used to cement mixing in small quantities such as mix in the bucket to get the mixture of cement and water to do the masonry of ceramic. It also uses to put the cement mixture in case of ceramic installation.





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7 Lineman Work Glove
Use to protect the skin and hands from being eroded and broken because of the construction work. It also to avoid cement stick on hand.



8 Concrete mixture
Use to do the concrete mixture between cement, sand and aggregate.



9 Shovel
The shovel is use to do the concrete mixture. It also can use to ladle the pieces object like sand, cement, aggregate and soil.





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10 Measuring tape

Use to do the measure length and width of the object and space.



11 Hammer

The hammer is functional to use to knock and pull out the nail. It also can be use to knock the tile and ceramic to get the installation of ceramic was fit.



12 Pliers

It is use to hold object firmly that possibly developed and used to handle hot metal. It is also to use for bending and compressing a wide range material. Besides that, it use to cut any wire.





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13 Chain pulley

Is use to make physical act of lifting object much simpler. It is use at site construction to lift up concrete mixture which is to do the plastering process and ceramic installation.



Table 4.4 Material And Apparatus



3.5 Summary

There are have four types of finishes at case study at Laman Annur, Panji such as, floor finishes, roof finishes, ceiling finishes and wall finishes. The material that use as a finishes at case study are, timber floor finishes, ceramic finishes, tile finishes, limestone ceiling, cement and sand. Cement and sand are use to do the concrete mixture for plastering process. Timber floor finishes are use at staircase because the timber is rough and to avoid from the surface became slippery.



CHAPTER 4

PROBLEM AND RECOMMENDATION



CHAPTER 4 PROBLEM AND RECOMMENDATION

4.1 Problem

In construction work, should not have any problem to get the perfect job. It is because the problem may cause the housing or resident unsafe. And also, if have the broken or defect are detected especially in case incriminate of the human living, the developer will be judge. So that the construction work must be do the survey every day to avoid from the labour do the work half-heartedly. There are four problem that was detected at site construction as follow:-

1 The Installation Ceiling Finishes

The installation of gypsum plaster ceiling at paving is not following the specification. It makes this ceiling be seen bend. Although this problem is not defect to human living but it to show the labour job is not perfectly. And it may be can because the complaint from client because the house is shows not tidy.

2 The Installation of Roof

Second problem is the installation of roof is not following the plan. It also make because the unskilled labour. This problem can cause the house get the defect when rainy day. It because, when rainy day, the water can enter the house thru the hole at narrow opening space between the metal deck roof and wall of the house. So that, it can be the wall and ceiling interior of the house is wet.

3 The Installation of Stop Cord

Next problem is the installation of piping without stop cord. It can be the water cannot be applied at any source of piping. When the water is open, water is exit at hole of piping that does not the installation of stop cord. So water not is exit thru the taps pipe.



4 The Installation of Drainage

Other problem is, installation of drainage not have the gradient. It because base on the main drainage the hole exit to main drainage is high and about high level with man hole. So that, the level of drainage was install same level at the end of the drainage and at the connection of drainage with main drainage.



4.2 Recommendation

1 Hack Ceiling and Restore

The problem of ceiling installation at paving must be hack and restore again. The repairing work should be monitor with their supervisor to avoid the labour do the second mistake. The installation also should be measure the level to get the ceiling equally.

2 Hack, Restore And Install The Flashing.

It is because the defect installation of roof only have at two houses only and it is not uses the high cost. The flashing also must be install to avoid from rain water enter the house thru hole of roof. Before more severe damage I should to avoid immediately, it is because the main function of roofing structure is to close from rain water enter their house, so, if have leakage at roof it will be effect interior structure such as ceiling and wall.

2 Install the Stop Cord

After known this problem, the labour monitor does the install of stop cord at piping was detected. So that, the problem was be settle.

4 Install The New Main Drainage.

The project manager should do the main drainage system or large drainage at left elevation of this house. It because the main existing drainage system is high opening to water enters their hole. In future, if the installation of drainage has no gradient, the drainage will be stagnant water and need regular maintenance to avoid from bad smell and mosquito breeding.



CHAPTER 5

CONCLUSSION



CHAPTER 5 CONCLUSION

The practical training is core subject in programmed building surveying. This subject is undertaken to every student when they are at semester 6 or last semester before graduation. Every student should be chosen one the company is related with their subject to do the practical training. So that, I was choose Pasir Puteh Development Corporation Sdn.Bhd. as the company that I have done practical training. This company is doing the development of housing. During 4 month I done practical, I was given the site at Laman Annur, Panji to supervise. This project is construction of 8 lot double storey terrace housing.

Base on case study that I have supervise, during the construction, there are many problem have at the site. Most of the problems are due to the negligence of workers. For example, the installer of roof finishes. The labour do their work not refer to plan, at the same time, the worker that undertaken is inexperienced causing have a leak after installation. And the roof must be repair and it is cause the waste time. Besides that, the installation of stop cord in piping system they are forgetting. Other than that, the installation of ceiling is not refer to plan and the worker do their job half-heartedly and not indicate the proper measurement cause the installation of ceiling seeing bend.

There are four types of finishes work can be divide that have at construction Laman Annur such as, floor finishes, wall finishes, ceiling finishes and roof finishes. The floor finishes that use are have four type like timber floor finishes, ceramic floor finishes, tile floor finishes and cement render floor finishes. Most of the building are use painting process as a wall finishes include the construction work at case study. Base on case study, all the housing that was do, the developer are choosing limestone to be ceiling finishes and metal deck as a roof finishes.

All the construction work must pass throw the finishes work process at the end of construction. This process to show their building was, beautiful, neat and orderly. The finishes work also will be seeing the building is a grand building, luxury building or standard building. Finishes in the building can be given a comfortable to occupy in the building to do their work every day.



REFERENCES

- ④ Note Finishes by En Zaril.
- ④ Profile Pasir Puteh Development Sdn Bhd Journal.
- ④ <http://home.howstuffworks.com/home-improvement/construction/materials/how-is-ceramic-tile-made.htm>
- ④ <http://free-ed.net/free-ed/Resources/Trades/carpentry/Building01/default.asp>
- ④ Observation at case study
- ④ Interview with site supervisor Mr Zulkiflie b Husin and site monitor labour Mr Abd Hamid b Abdullah



APPENDIXES