



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

**ARCHITECTURAL RENOVATION WORKS OF THE DEPUTY VICE-  
CHANCELLOR'S OFFICE (ACADEMIC & INTERNATIONAL) ON  
LEVEL 3, CHANCELLOR'S BUILDING, SULTAN ABDUL JALIL SHAH  
CAMPUS (KSAJS), UNIVERSITI PENDIDIKAN SULTAN IDRIS,  
TANJONG MALIM, PERAK**

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BACHELORS OF BUILDING SURVEYING

PRACTICAL TRAINING REPORT

OCTOBER 2021 – JANUARY 2022

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FEBRUARY 2022

This practical training report is fulfilment of the practical training course.

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## **ACKNOWLEDGEMENT**

Alhamdulillah, praised to Allah S.W.T our creator, I am Muhammad Iqbal Abdullah, so blessed that I have managed to put an end to my internship session successfully with Allah's blessing I would like to thank Him for giving me good health and ability to go through my internship peacefully and well.

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# **CHAPTER 1: COMPANY BACKGROUND**

## **CHAPTER 1: INTRODUCTION**

### **1.1 INTRODUCTION**

Industrial training is one way to enhance the student on how working in an organization especially in Building Surveying field. We are required to undergo the practical from 10 October 2021 until January 2022. Objective of the training is to expose students to the real working environment in the field or industry related to courses taken.

In addition, students also have the opportunity to enhance their knowledge and skills in addition to practice what they have learned at the university. This Technical Report is a full report about what student done throughout the practical training.

This report contains information about industrial training organization, technical reports on the work done by the trainees during industrial training, conclusions or inferences to the overall report, and comments related to training conducted and recommendations to the organization for process improvement in the future.

Overall, this report is presented to the Industrial Training Committee for evaluation and to understand all the work that has been done by the students during their industrial training in the organization. Thus, this report is expected to be useful to readers as additional reading material and as a source of knowledge in the field.

## 1.2 OBJECTIVE OF INDUSTRIAL TRAINING

Among the main objectives of industrial training is:

- To build individual personalities that can work as a team, trustworthy, confidence, and full of responsibility.
- To provide opportunities for students to gain work experience in a related field of study.
- To understanding corporate culture in preparation for employment.
- To mastering skills courses by linking the theory learned from university.
- To develop character, attitude and skills to communicate or communicate with other people.
- To stimulate students to increase academic achievement after going through his own work experience.



### **1.3 OBJECTIVE OF TECHNICAL REPORT**

Upon completion of training conducted in an industry, then each student is required to make or provide a full report and according to the standards set by the university.

It is intended to assess the effectiveness of industrial training undertaken by students during the practical period. This report is made because it is an important document which to be used as evidence against the practice that followed. It also as a guideline and reference for the interview later. Done a good job will not making any sense if it is not recorded or included in the report book for reference later.

Thus, writing reports require specific observations from students. The standards also train students to follow the instructions and all regulations given. This report must also be easily understood by the lecturer and other parties for evaluation and reference to the report.

## 1.4 THE IMPORTANCE OF INDUSTRIAL TRAINING

To students, industrial training is a branch of knowledge that provides an opportunity for every student to apply the lesson learning during a session in the classroom. It can be seen from different perspectives, for example, indirectly it can intensify existing skills found in a student's own self as well as gain new skills and knowledge in a particular field of work.

Experience and knowledge is very important to make the student good in the future. In addition, industry training also reduces nervousness and feeling awkward when students face the real working world. Any difficulties encountered during industrial training will be a useful experience. Indirectly, it will bring awareness to the students that the situation in the workplace actually is not as easy as learned in class.

On the other hand, industrial training is also important because it makes easier for students to apply for suitable positions after graduation. This is no doubt because in general the firm emphasizes individuals with high knowledge as well as experience of working there. Besides, the input obtained from this exercise is very large. Students can use the experience and skills acquired during the practical as guide and supplies for the future.

## **1.5 INDUSTRIAL BACKGROUND**

### **1.5.1 ESTABLISHMENT OF JPPHB**

Jabatan Pengurusan Pembangunan dan Harta Benda (JPPHB) was established same with the establishment of Universiti Pendidikan Sultan Idris (UPSI). JPPHB formerly known as the Jabatan Pembangunan dan Penyelenggaraan Bahagian. Its function is to taken care the physical development and maintenance for the entire campus. On March 1, 2002, this section has been upgraded to Jabatan Pengurusan Pembangunan dan Harta Benda (JPPHB).\

JPPHB role is to implement physical development and infrastructure to support the process of teaching and learning based on the mission and vision of the University as follows:

1. JPPHB serve as a referral source or adviser in the technical aspects related to the physical development of the University.
2. Handling the planning and implementation of projects involved in Rancangan Malaysia 5 Tahun which need to be consistent with long-term plans of the University.
3. Manage the planning and implementation of project management for the entire infrastructure including assets of the university such as the sewerage system, drainage system, water system piping, landscaping, mechanical systems, electrical systems and telecommunications systems.
4. Manage the planning and implementation of development projects and maintenance of all buildings, especially those involved in the process of teaching and learning such as lecture rooms, laboratories and ICT systems.
5. Monitor the projects development and maintenance from the beginning of the briefing, followed by the implementation on site, right down to the end user.

JPPHB currently has five main parts and some parts have several units according to their function respectively. JPPHB role is important to the successful development and realization of teaching and learning excellence purpose. In addition, effective maintenance is required to ensure that the facilities and infrastructure that is built is always at an optimal level of consumption and will achieve a satisfying period of use.

The five main parts are:

- Facilities Management Division
- Project Management Division
- Landscape Division
- Contract & Quantity Surveying Division
- Administration, Finance and Property Division



*Figure 1 Main part of JPPHB*

# 1.5.2 JPPHB ORGANIZATION CHART

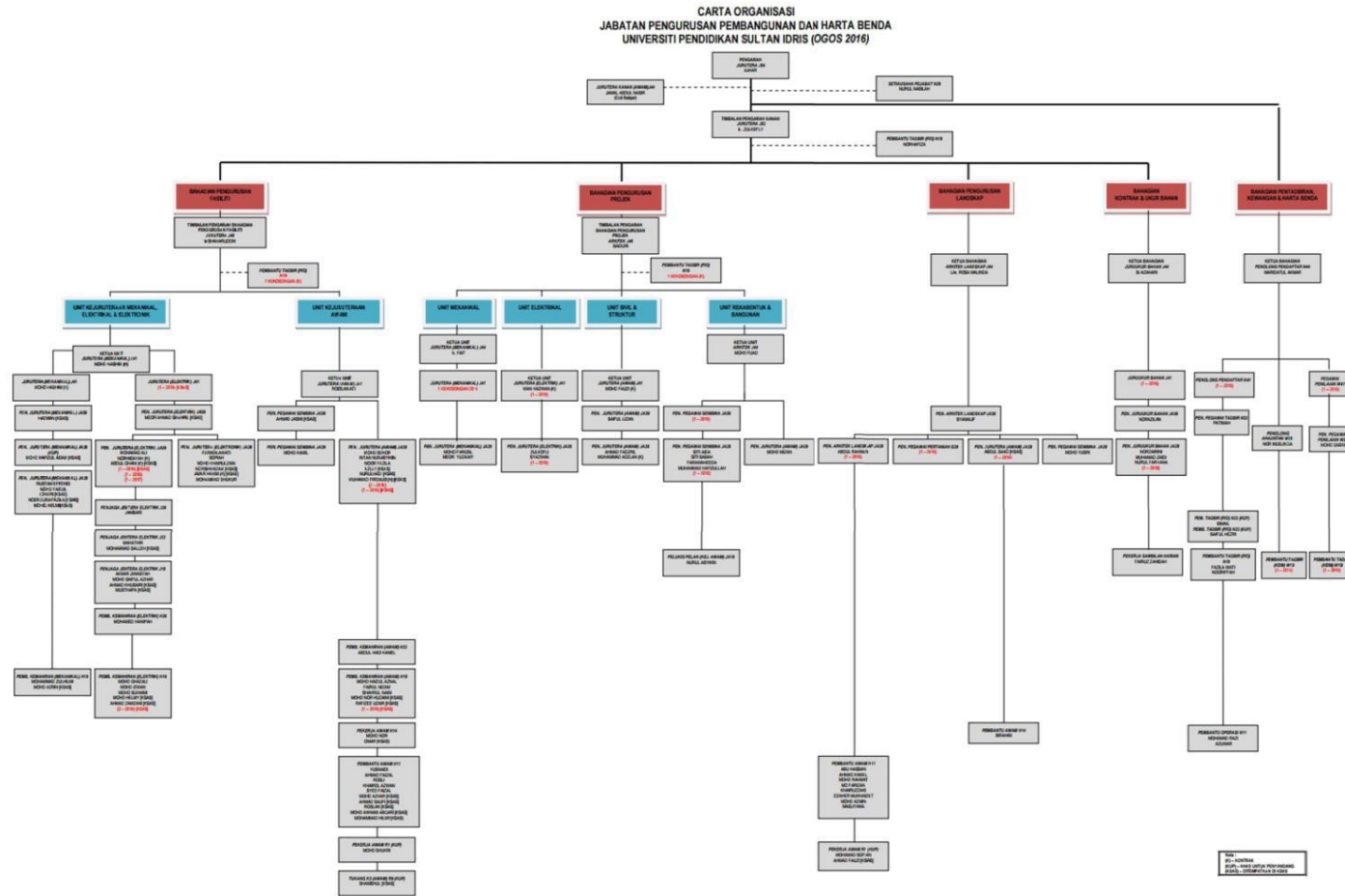


Figure 2 JPPHB Organization Chart

### **1.5.3 VISION, MISSION, QUALITY BASE & SCOPE OF WORK**

#### Vision of JPPHB

Being the lead in physical development and asset management to support University vision.

#### Mission of JPPHB

To implement and realization the development of the University based on the concept and principles of the Comprehensive Asset Management (Total Asset Management) and MS ISO 9001: 2008 UPSI, through the expertise and experience based on moral values and professional ethics.

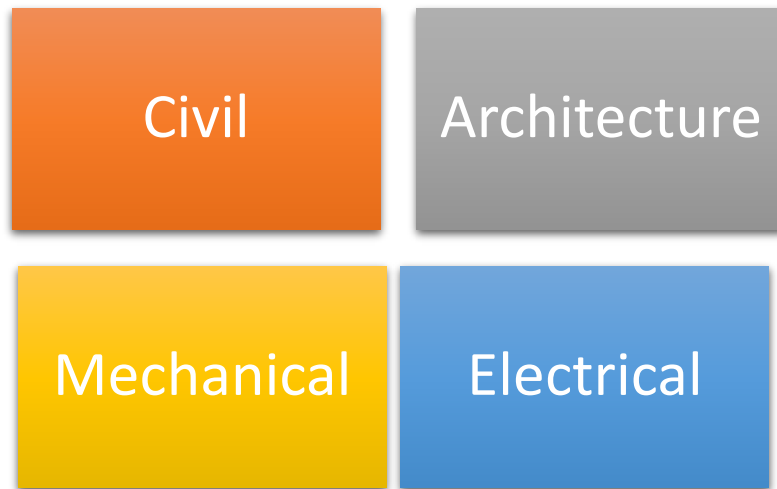
#### Quality base of JPPHB

JPPHB committed to design, implement and provide the physical development for the entire University continuously based on the quality of infrastructure facilities for teaching and learning to meet the requirement of will and direction of the University.

#### Scope of work for Project Management Division

1. Manage the planning and monitoring the implementation of the RMK10 and RMK11 and internal projects.
2. Managing projects to upgrade and renovate the building.

Project Management Department is divide into three unit:-



*Figure 3 Part of Project Management Division*

#### Civil Unit Function

Civil engineer functions can be divided into three categories: those performed prior to construction (feasibility studies, site investigations, and design), those performed during construction (dealing with clients, consulting engineers, and contractors), and those performed after construction (feasibility studies, site investigations, and design) (maintenance and research).

#### Architecture Unit Function

To use in order to meet both practical and expressive needs, and therefore to achieve both utilitarian and artistic goals.

#### Mechanical Unit Function

Mechanical unit create, produce, and test mechanical and thermal equipment such as tools, engines, and machines.

#### Electrical Unit Function

From electric motors and navigation systems to power production equipment and the electrical components of buildings and personal gadgets, design, develop, test, and oversee the manufacturing of electrical equipment.

### 1.5.4 PROJECT MANAGEMENT DIVISION ORGANIZATION CHART

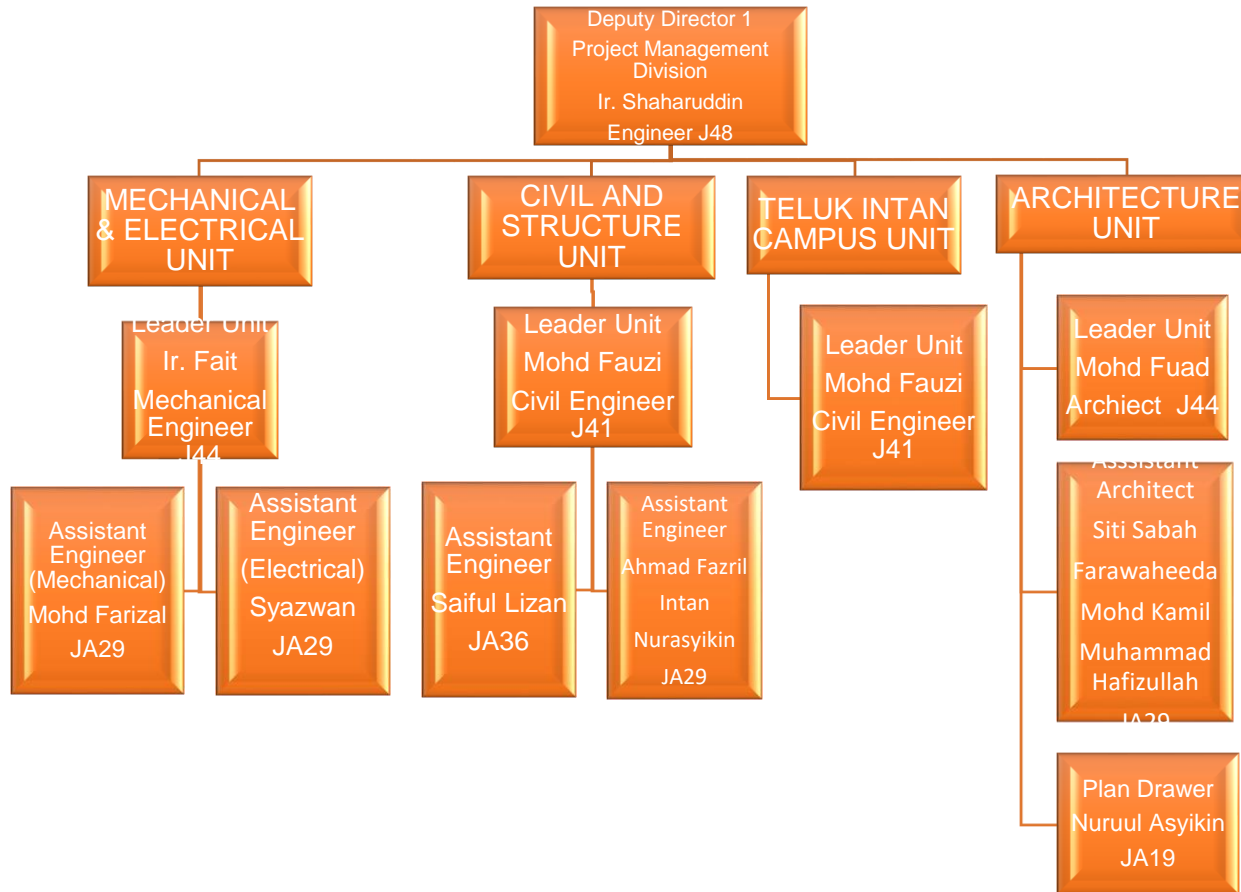


Figure 4 Project Management Division Organization Chart



## 1.6 TRAINING ACTIVITIES

WEEK	JOB/TASK GIVEN
1 11/10/2021 - 15/10/2021	<ul style="list-style-type: none"> <li>- Technical report</li> <li>- Taking off Plan</li> <li>- -Provide BQ for road construction</li> <li>- Defect inspection at student's college</li> <li>- Building tour</li> </ul>
2 18/20/2021 – 22/10/2021	<ul style="list-style-type: none"> <li>- Technical report</li> <li>- Document and file reviewing</li> </ul>
3 25/10/2021 – 29/10/2021	<ul style="list-style-type: none"> <li>- Technical report and file reviewing</li> <li>- Make JKR rate comparison by year</li> <li>- Technical report</li> </ul>
4 1/11/2021 – 5/1/2021	<ul style="list-style-type: none"> <li>- Technical report</li> <li>- File and document reviewing</li> </ul>
5 8/11/2021 – 12/11/2021	<ul style="list-style-type: none"> <li>- Document and file reviewing</li> <li>- Technical report</li> </ul>
6 15/11/2021 – 19/11/2021	<ul style="list-style-type: none"> <li>- Technical report</li> <li>- Construction project review (Archery Field Construction )</li> <li>- Renovation Project inspection</li> </ul>
7 22/11/2021 – 26/11/2021	<ul style="list-style-type: none"> <li>- Technical report</li> <li>- Document and file reviewing</li> </ul>
8	<ul style="list-style-type: none"> <li>- Technical report</li> <li>- Document and file reviewing</li> </ul>

29/11/2021 – 3/12/2021	<ul style="list-style-type: none"> <li>- Renovation Project inspection</li> </ul>
9 6/12/2021 – 10/12/2021	<ul style="list-style-type: none"> <li>- Technical report</li> <li>- Document and file reviewing</li> <li>- Renovation Project inspection</li> <li>- -Assisted landscape division to manage landscape vegetation for event</li> </ul>
10 13/12/2021 – 17/12/2021	<ul style="list-style-type: none"> <li>- Site inspection (land survey)</li> <li>- Technical report</li> <li>- Site inspection for swimming pool construction</li> <li>- Feasibility study for new outdoor café project</li> <li>- Site measure for renovation purpose</li> </ul>
11 20/12/2021- 24/12/2021	<ul style="list-style-type: none"> <li>- Technical report</li> <li>- Site inspection (pebble-washes installation)</li> <li>- Site inspection (sewerage system)</li> <li>- Site inspection ( sport court )</li> </ul>
12 27/12/2021 – 31/12/2021	<ul style="list-style-type: none"> <li>- Technical report</li> <li>- Site inspection (TNCAA office's renovation project)</li> <li>- Site inspection (Lecture room renovation )</li> </ul>
13 3/1/2022 – 7/1/2022	<ul style="list-style-type: none"> <li>- Technical report</li> <li>- Site inspection (TNCAA office's renovation project)</li> <li>- Site inspection (Lecture room renovation )</li> <li>- Prepare the chronology report</li> </ul>
14 10/1/2022 – 14/1/2022	<ul style="list-style-type: none"> <li>- Technical report</li> <li>- Site inspection (TNCAA office's renovation project)</li> <li>- Site inspection (Lecture room renovation )</li> <li>- Prepare the chronology report</li> <li>- Site measure for renovation purpose</li> </ul>
15 17/1/2022- 21/1/2022	<ul style="list-style-type: none"> <li>- Technical report</li> <li>- Site inspection (TNCAA office's renovation project)</li> <li>- Site inspection (Lecture room renovation )</li> <li>- Prepare the chronology report</li> </ul>

	<ul style="list-style-type: none"> <li>- Site measure for renovation purpose</li> </ul>
<p>16 24/1/2022 – 28/1/2022</p>	<ul style="list-style-type: none"> <li>- Technical report</li> <li>- Site inspection (TNCAA office's renovation project)</li> <li>- Site inspection (Lecture room renovation )</li> <li>- Prepare the chronology report</li> <li>- Site measure for renovation purpose</li> <li>- -Assisted Landscape division (interlocking cleaning inspection)</li> <li>- Get endorsed plan at Lands &amp; Mines Federal at Putrajaya</li> <li>- Farewell party</li> </ul>

# **CHAPTER 2**

## **LITERATURE REVIEW**

## **CHAPTER 2: LITERATURE REIEW**

### **2.1 INTRODUCTION TO CONSTRUCTION**

The term "construction" refers to the process of constructing anything. This might be anything from highways to business buildings to a brand new movie theatre. It happens all the time all around us. The larger the project, the longer it will take to complete, therefore some work may take a few weeks while others may take several years. There is a lot of hard labour involved in creating a structure, and there are several stages.

During The work on a building's full construction cycle, for example, will begin with the foundation stage and progress through frame, exterior, drywall, and finishing. These stages may alter depending on what is being created, and there may be more or fewer stages. Construction is a collaborative effort that necessitates a lot of collaboration. Depending on the scale of the project, a construction project may require a large or small staff. There are several duties to be done, each needing a particular set of talents, regardless of the size of the organization.

On a construction site, each person is responsible for doing their own job using their own skills. On one construction site there could be over 50 men and women all doing different jobs such as a roofer, engineer, electrician, plumber and many more. Not all the members of the workforce will be based on site either; some may be driving on the road delivering supplies or back at the office planning the construction. This is because there can be a lot of people working on a construction site at one time, there is a lot going on all at once. Building also requires many different types of equipment, ranging from small tools to large equipment such as vehicles. If not used correctly, both of these types of equipment can be very dangerous to the person using it and also everyone else around them. This is why safety is always the primary focus on a construction site.

## **2.2 TYPES OF CONSTRUCTION**

### **2.2.1 PRIVATE CONSTRUCTION PROJECTS**

A private construction project is any project in which a private entity owns, controls, or commissions the work. Individuals, homeowners, businesses, other corporate entities, non-profit groups, privately supported schools, hospitals, and publicly listed enterprises are examples of private parties. Private construction projects occur in numerous shapes and sizes, and it's at this point that examining the nature of the work accomplished may help divide private construction into subcategories. The following are examples of subcategories:

#### **a) Residential Construction**

Whenever work is being done on a single-family home or a residential complex with (typically) less than three or four units. Working on an apartment complex would be classified as a business project rather than a residential one. Working at a condominium, for example, would be classified residential if performed on a single unit, but commercial if performed on the entire complex or shared parts.

#### **b) Commercial Construction**

Commercial construction is the construction of any buildings or similar structures for commercial purposes. Commercial construction includes a huge variety of projects including building restaurants, grocery stores, skyscrapers, shopping centers, sports facilities, hospitals, private schools and universities, etc.

#### **c) Industrial Construction**

This is a relatively small segment of the construction industry. These projects include power plants, manufacturing plants, solar wind farms, refineries, etc. While termed "industrial construction," it is pretty interchangeable with "commercial construction."

### **2.2.2 STATE CONSTRUCTION PROJECTS**

When discussing state building projects, some individuals are perplexed by the phrase "state," which might apply to projects commissioned by a county, city, municipality, government board, public school board, or any other state-funded institution. As a result, any government-funded work that is not "federal" – as defined in the following section – is referred to as "state construction." State-funded building projects come in a range of shapes and sizes. It might be anything as simple as the construction of a public school or a government facility (like a court room). These projects can also be rather complex, such as the building of a bridge, sewer line, motorways, and so on.

### **2.2.3 FEDERAL CONSTRUCTION PROJECTS**

State and federal building projects are extremely similar. They can take a number of shapes, much like state projects: extremely simple and conventional, as well as quite complicated. And the structures being built are often identical to those built by state governments: courthouses, government buildings, flood control projects, and so on. The only difference between state and federal projects is who owns or controls the project's underlying location. The distinction is not in which organisation supports the project; federal money are used in both state and private initiatives. Who owns and controls the project makes a difference.

## 2.3 CONSTRUCTION PROJECT MANAGEMENT

Construction management is both an art and a science, and it's typically fairly difficult to master. It's difficult since you have to consider a wide variety of variables and try to predict what influence each one will have on a building job. For example, a construction manager in the middle of a project must consider the following factors.:

- the weather
- the availability of construction workers who may be sick or may not feel like showing up for work
- the fact that some materials are out of stock just when they are needed
- the availability or non-availability of key equipment like cranes
- changes made to the existing design by architects and clients the previous evening
- juggling the work of 20 or more different trades at the same time
- surprise discoveries of electrical cables below the ground that no-one knew about
- inspection and permitting delays by government authorities

It is the inter-relationships between all these variables and the effect they will have on the project that creates complexity in project management. Compounding these problems is the team from the owners of the building, who often sit in plush offices far from the construction site, have little understanding of the difficulties in building construction, and demand that the project be finished before time. It is these difficulties that make it both extremely challenging, as well as extremely rewarding if done right. Construction management is best done by people with a detailed knowledge of building construction, such as civil engineers or architects. However, some aspects of this work, such as financial planning or procurement, can be done by people who do not have a construction background. With enough training and experience, a layman can gain enough expertise to work as a construction project manager.



A project's construction management can be handled by a variety of entities. It can be done by the project's contractors, the project's owners, independent consultants engaged by the owners, the project's designers, or the project's investors. It's crucial to remember that each agency in a project may have different goals and motives. For example, a contractor may desire to raise the building's expenses, while the owner may wish to lower them. Because they are paid a monthly fee to manage the project, independent consultants may seek to postpone it. The main aspect of construction management are:

- construction scheduling
- quality control
- contract management
- procurement management
- construction finance management

## 2.4 RENOVATION WORKS

In statistics, the word "renovation" is used to distinguish between construction work on existing building stock and new construction; it encompasses both repair and non-repair work. The term 'repair,' rather than 'renovation,' is sometimes used to describe the notion covered here, which is defined as the alteration of a constructed item to a desirable condition, either technologically or functionally. In terms of hierarchy, they are a catch-all word for the following:

- 'refurbishment' and 'renewal', where a building or parts thereof are renewed,
- 'modernization', 'rehabilitation', 'retrofit or refit', 'refresh' and 'upgrading',

If the object's quality is greatly increased, such as by increasing a building's energy efficiency, connecting it to water and sewer networks, or constructing a lift, '-rebuilding' and 'reconfigure,' which seek to maintain or restore the cultural historical worth or architectural value of the item, and '-restoration,' which strives to restore the cultural historical value or architectural value of the thing.

## 2.5 DEMOLITION WORKS

The term 'demolition' refers to the process of destroying a structure. It is possible to 'reuse' or 'recycle' materials. This is referred to as 'rebuilding' when a new structure is constructed on the same plot as the old one, even if it is comparable to the prior one. The WHS Regulations classify any job associated with the destruction of a structure as "construction work." The rules pertaining to construction work must be followed when doing demolition work. Demolition work refers to the demolition or dismantling of a load-bearing structure or a section of a structure that is somehow connected to the structure's physical integrity, but does not include:

- the dismantling of formwork, falsework, scaffolding or other structures designed or used to provide support, access or containment during construction work, or
- The removal of power, light or telecommunication poles.

Buildings, sheds, towers, chimney stacks, silos, and storage tanks are examples of structures, which can be fixed or mobile, temporary or permanent. 'High risk construction work' refers to the destruction of a load-bearing or otherwise connected to the structure's physical integrity element. Before high-risk construction work begins, a safe work method statement (SWMS) must be written. Demolition activity that is required to be reported under the WHS Regulations include:

- demolition of a structure, or a part of a structure that is load-bearing or otherwise

Related to the physical integrity of the structure, that is at least 6 meters in height

- demolition work involving load shifting machinery on a suspended floor, and
- Demolition work involving explosives.

# **CHAPTER 3: CASE STUDY**

## CHAPTER 3: CASE STUDY

### 3.1 INTRODUCTION TO CASE STUDY

During my internship undergo, I was involved with the process of renovation works at Deputy Vice Chancellor (Academic and International)'s Office where located at Level 3 at Bangunan Canselori UPSI (Kampus Sultan Abdul Jalil Shah). The project consist of Architecture, Electrical and Mechanical works. The Contractor that involve in this project is ZS Niaga Enterprise. The main reason of the renovation work is personal request from the client, Deputy Vice Chancellor where she asked to exchange the old office form 2<sup>nd</sup> floor to 3<sup>rd</sup> floor which the room is more space than the old.

The figure below show the location of the project which is “Kerja- Kerja Mengubahsuai Pejabat Timbalan Naib Canselor (Akademik & Antarabangsa) Di Aras 3, Bangunan Canselori Kampus Sultan Abdul Jalil Shah (Ksajs), Universiti Pendidikan Sultan Idris, Tanjong Malim, Perak”.



Figure 5 Site Plan of Bangunan Canselori UPSI

### 3.2 EXECUTIVE SUMMARY OF THE PROJECT CASE STUDY

Project title	Kerja- Kerja Mengubahsuai Pejabat Timbalan Naib Canselor (Akademik & Antarabangsa) Di Aras 3, Bangunan Canselori Kampus Sultan Abdul Jalil Shah (Ksajs), Universiti Pendidikan Sultan Idris, Tanjong Malim, Perak
CIDB Registration	1981230-WP050349
Contract amount	RM80,975.00
Contract period	16 Weeks
Commencement date	17 November 2021
Completion Date	09 March 2022
Defect Liability Period	6 Month
Enforcement Officer	Ts. Ir. Zulkefly bin Mohd Yusof

### 3.3 RENOVATION WORK PROCESS

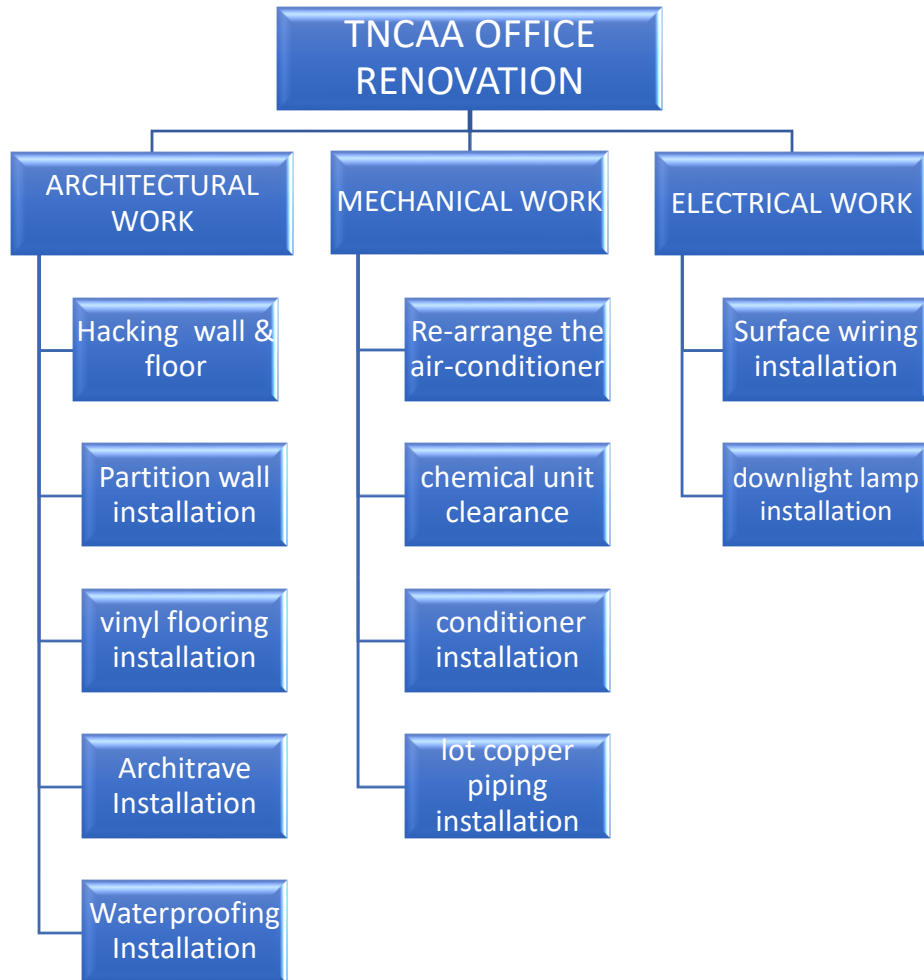


Figure 6 TNCAA Office Renovation Work

### 3.4 RENOVATION PLAN

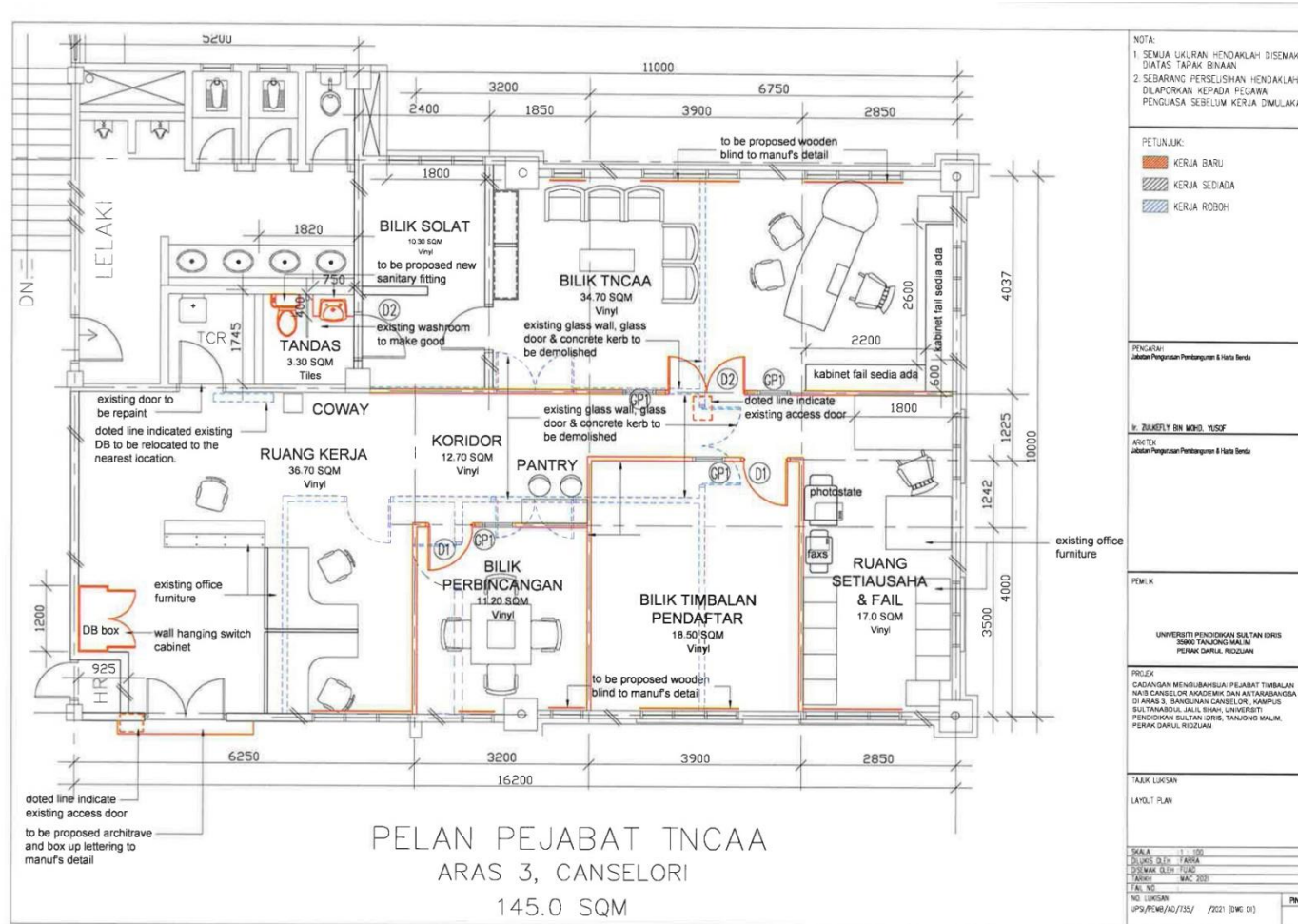


Figure 7 TNCAA Office Plan



### 3.5 ORIGINAL LAYOUT OF DEPUTY VICE CHANCELLOR OFFICE



Figure 9 Existed Main Entrance Door



Figure 8 Existed TNCAA Main Office



Figure 10 Original layout of TNCAA Office

### 3.6 RENOVATION WORK PROGRESS

<p>Lifting, moving, stacking, demolishing and repairing works.</p>	<ul style="list-style-type: none"> <li>- Breaking and demolishing work of entire floor tiles and toilet walls for new tile replacement work.</li> <li>- Including sanitary fitting, complete with waste &amp; soil pipe and piping fittings repairing work</li> <li>- bring out the entire glass walls, concrete curbs, carpets, existing wallpaper</li> <li>- bring waste and construction materials out of the campus area as directed by the indenture officer</li> </ul> <div data-bbox="842 860 1214 1348" data-label="Image"> </div> <p style="text-align: center;"><i>Figure 11 Lifting works</i></p> <div data-bbox="673 1417 1386 1738" data-label="Image"> </div> <p style="text-align: center;"><i>Figure 12 Demolition Works</i></p>
<p>partition walls installation works including painting work</p>	<ul style="list-style-type: none"> <li>- installation of 75mm thick wall of double layer type 12 mm thick gypsum board (full height partition) with 2800mm height including aluminum frame (top and bottom)</li> </ul>


- apply 1 coat of scheme coat and 2 coats of emulsion paint for interior wall
- using Nippon and Jotun coat brand
- -second layer were applied after first layer was completely dried
- Setting off must been done before partition wall installation to make sure the wall is align



*Figure 13 Setting off floor Partition wall Installation*



*Figure 14 Setting off floor Partition wall Installation*

	 <p data-bbox="624 902 1139 931"><i>Figure 15 Setting off floor Partition wall Installation</i></p>
<p data-bbox="204 958 600 1048">Vinyl flooring installation works</p>	<ul data-bbox="675 958 1390 1601" style="list-style-type: none"> <li>- vinyl flooring installation work including leveling the floor surface in advance with suitable material / scheme coat, complete with MDF skirting</li> <li>- vinyl specification:- <ul style="list-style-type: none"> <li>3.0mm Thickness</li> <li>Anti-termites</li> <li>100% water proof</li> <li>Slip resistance</li> <li>Low maintenance</li> <li>Chemical resistance</li> <li>Eco-friendly</li> </ul> </li> </ul>

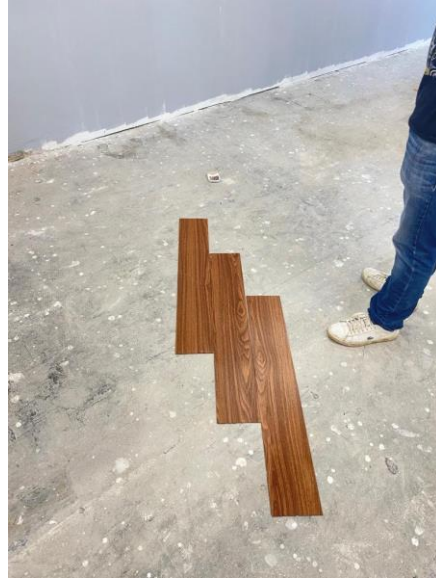
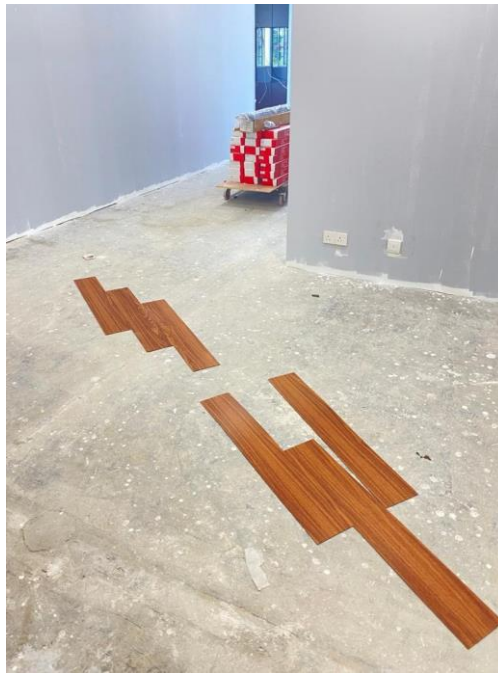


Figure 16 shape of Floor Vinyl Installation



designing, supplying and installing architrave

- design, supply and install architrave on the main entrance (double swing glass door) from vinyl type with a complete framework with a corporate image concept

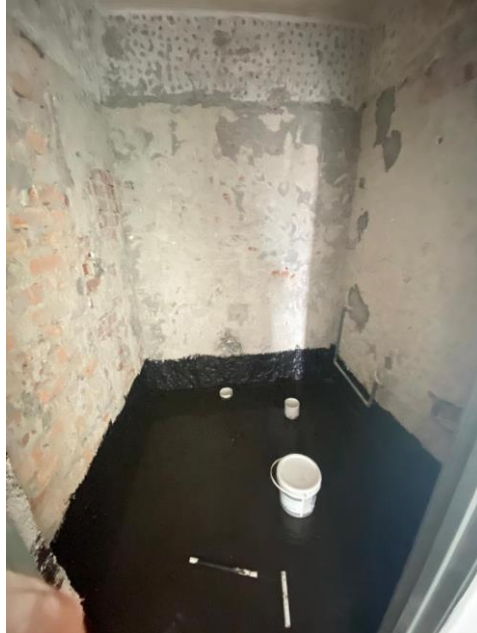


Figure 17 vinyl measure and cutting work



<p>bilingual signage works</p>	<ul style="list-style-type: none"> <li>- design and install box up lettering according to size and suitable height on site</li> <li>- specification:-            stainless steel /EG/ Aluminums            weatherproof paint            aluminum bracket / steel wall plug &amp; screw or other method suitable on site            use Arial Black Font</li> </ul>  <p style="text-align: center;"><i>Figure 18 complete bilingual signage works</i></p>
<p>Waterproofing installation</p>	<ul style="list-style-type: none"> <li>- 3 layers of waterproofing installation works (cementitious waterproofing) on the existing floor including plastering 300mm high waterproofing material on the entire wall including laying grouting material around the floor</li> <li>- Used Bostik and Sika Brand</li> </ul>

- After waterproofing installation, ponding test was run to check any leaking occur
- Check the 2<sup>nd</sup> level if there any leaking at ceiling part



*Figure 19 Ponding Test*



*Figure 20 Leaking Inspection on 2nd floor*

Tile work

- supply and plastering of rough cement to receive the installation of floor tiles from the



	<p>type of homogeneous heavy duty non slip measuring 300mm x 600mm x 8mm</p> <ul style="list-style-type: none"> <li>- plastering wall tiles glazed porcelain tiles measuring 300mm x 600mm x 8mm</li> <li>- plastering concrete top</li> </ul> <div data-bbox="721 524 1259 1234" data-label="Image"> </div> <p style="text-align: center;"><i>Figure 21 wall tiles finishes</i></p>
<p>plumbing systems and toilet fittings installation</p>	<ul style="list-style-type: none"> <li>- construction and installation of reinforced concrete top BRS A7 with a mixture of 1: 2: 4 with a height of 750mm from the floor level</li> <li>- concrete top size:800mm(L) x 400mm(W)</li> <li>- supply and complete toilet equipment including all related facilities <ul style="list-style-type: none"> <li>-ceramic water closet</li> <li>-heavy duty stainless steel water tap</li> <li>-stainless steel flexible hose bidet with hook</li> <li>-Semi-recessed ceramic basin</li> <li>-stainless steel floor trap</li> </ul> </li> </ul>



*Figure 22 concrete top*



*Figure 23 water supply pipe*

Ceiling Works

- installation of 2100 (L) x 600 (W) mm suspended ceiling of 12mm thick mineral fiber board type with aluminum frame, ceiling tee, binding wire and other related fittings



*Figure 24 Complete ceiling and lamp installation*

**CHAPTER 4:**  
**PROCESS / PROBLEM IDENTIFY**

## CHAPTER 4: PROCESS/PROBEL IDENTIFY

### 4.1 PROBLEM IDENTIFY ON SITE

#### 4.1.1 Old plumbing system

Building rules evolve with time, and the rehabilitation effort revealed that the plumbing and electrical systems were no longer up to code. During W.C. installation, the contractor runs into a situation where the waste pipe is too far from the wall, leaving some room at the toilet's corner but making it less appealing to look at. Old sewerage system makes the new element become harder to install. As a result, the contractor suggests to the officer that it be covered up with a new concrete top, which was not specified in the Bills of Quantities (BQ), complicating the claim procedure.

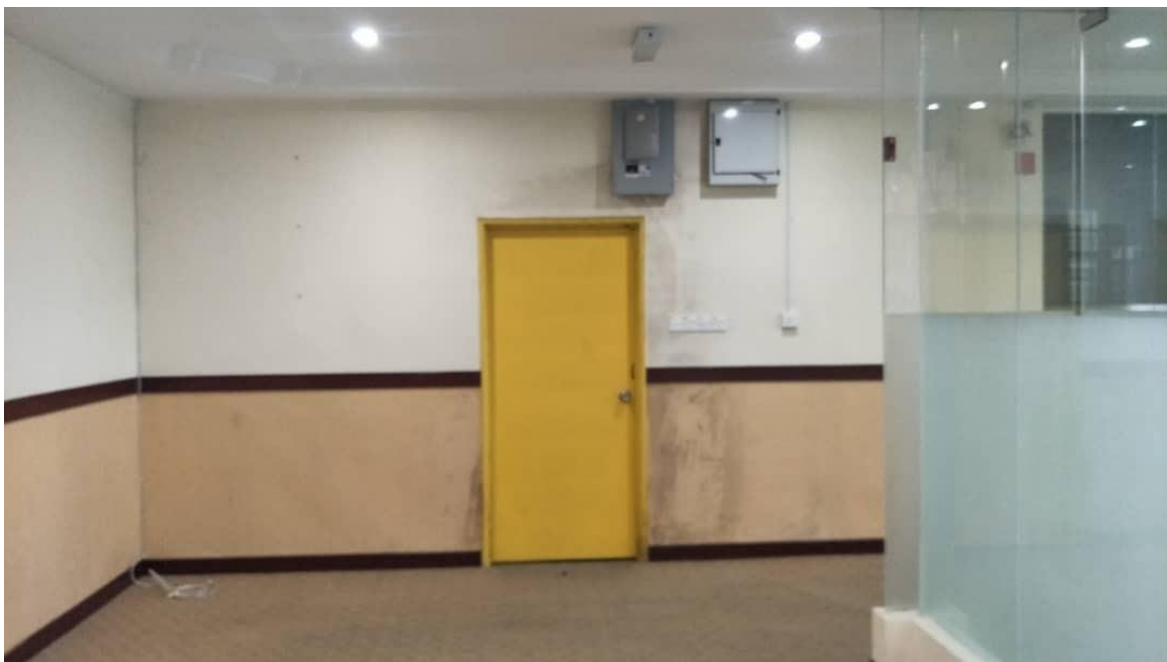


*Figure 25 W.C Installation*

- Left some space (3-4 Inches) from the wall, make the aesthetical value become less
- New concrete top will block the water supply pipe to fit the W.C

## 4.2.2 Water damage

Water damage is a serious but all-too-common concern in the building industry, and it's the root of a lot of remodeling problems. It might start with a roof leak that goes unnoticed until the water has seeped through the ceiling. Water damage can also be caused by faulty plumbing, such as a broken or leaky pipe. It is deceiving. We may not discover a leak until the walls are opened up for renovation. The repercussions of deteriorating wood and plaster, as well as mold, mildew, and termites, can be disastrous. If water damage is detected during the renovation process, the contractor will priorities addressing and properly repairing any structural or roofing issues.



*Figure 26 watermark at the wall*

# **CHAPTER 5: CONCLUSION**

## **CHAPTER 5: CONCLUSION**

### **5.1 CONCLUSION AND RECOMMENDATION**

Overall, I find that industrial training provided by final semester students is particularly beneficial to me. With industrial training, I've been able to have a better understanding of the real and broader sector of work.

Furthermore, the information learned at university may be directly utilised in the business. The gap between divergence and actual instruction, particularly in terms of how to connect with strangers, is vast. Their manner of communicating appears to be more mature. This is now my benefit in terms of improving my communication skills.

As a result, this training is excellent and should be continued in order to generate more high-quality graduates who want to become active professionals. Many of the new information and experience that I have gained both in the office and on the job came from my industrial training at the JPPHB UPSI (Project Management Division) as part of the in-house management team.

This information and experience will help me to grow as a person and brighten my future. When I enter the real world of work, all of my education and experience will help me gain confidence, competence, and ability to execute my job. I get a lot of expertise and techniques when working in the office or on the job. Although work in the office is not tiring when compared with work at site.

I am really appreciative for the wonderful chance I have been given in this life. All of their instruction will be put to good use by me. In terms of my connection with the company's employees, I have never had an issue. This is due to the fact that everyone in the company is upbeat and concerned in the work I perform. It is quite proud of the teamwork that is being applied in all of the work that is being done.

Following my relevant construction site visit during my internship, I got a plethora of useful information and expertise. I was able to learn something that I would not have been able to learn in a lecture or class. Following the site tour, I now have a greater



grasp of how a construction site operates.

During the building time, I had observed and investigated a variety of materials and tools. This is eye-opening for me because I've never seen anything like it before. In addition, the site contractor informed me about the many expert refurbishment building techniques that were employed and how they were applied.

Most significantly, I was able to see how much emphasis is placed on safety on the building site, even though it is under cover. When a construction project is underway, they require that every worker wear the appropriate safety equipment. Furthermore, safety signs were spotted reminding workers to constantly focus on their personal safety.

Aside from that, the construction site manager is crucial. The building site was properly organised, as I could observe throughout my visit. There was a location to dispose of all household garbage, and all materials and tools were stored safely to maintain their stability and security when they were utilized in the future.

Based on my on-site remodeling experience, I can say that I learned more about the many sorts of finishes for each structure and architectural aspect. It's critical to understand how to use the most appropriate finishes and elements while keeping the project's cost low. Every form of finish, such as floor, ceiling, and wall, has its own set of benefits and drawbacks. In comparison to the other sorts of finishes, the ones used in my case study are the most appropriate. It's long-lasting, attractive, and cost-effective. The most crucial aspect for each part is that it is environmentally friendly, as our university in Malaysia is working to become more environmentally friendly. Several issues arise during the process, but with the assistance of my supervisor, I am able to handle and resolve all of them.

Finally, my understanding of building sites has substantially improved as a result of my visit. I am happy for the opportunity to travel there since I have received a great deal of information.. I wish that I could have more chance like this in the future as it really benefit me a lot.

## REFERENCES

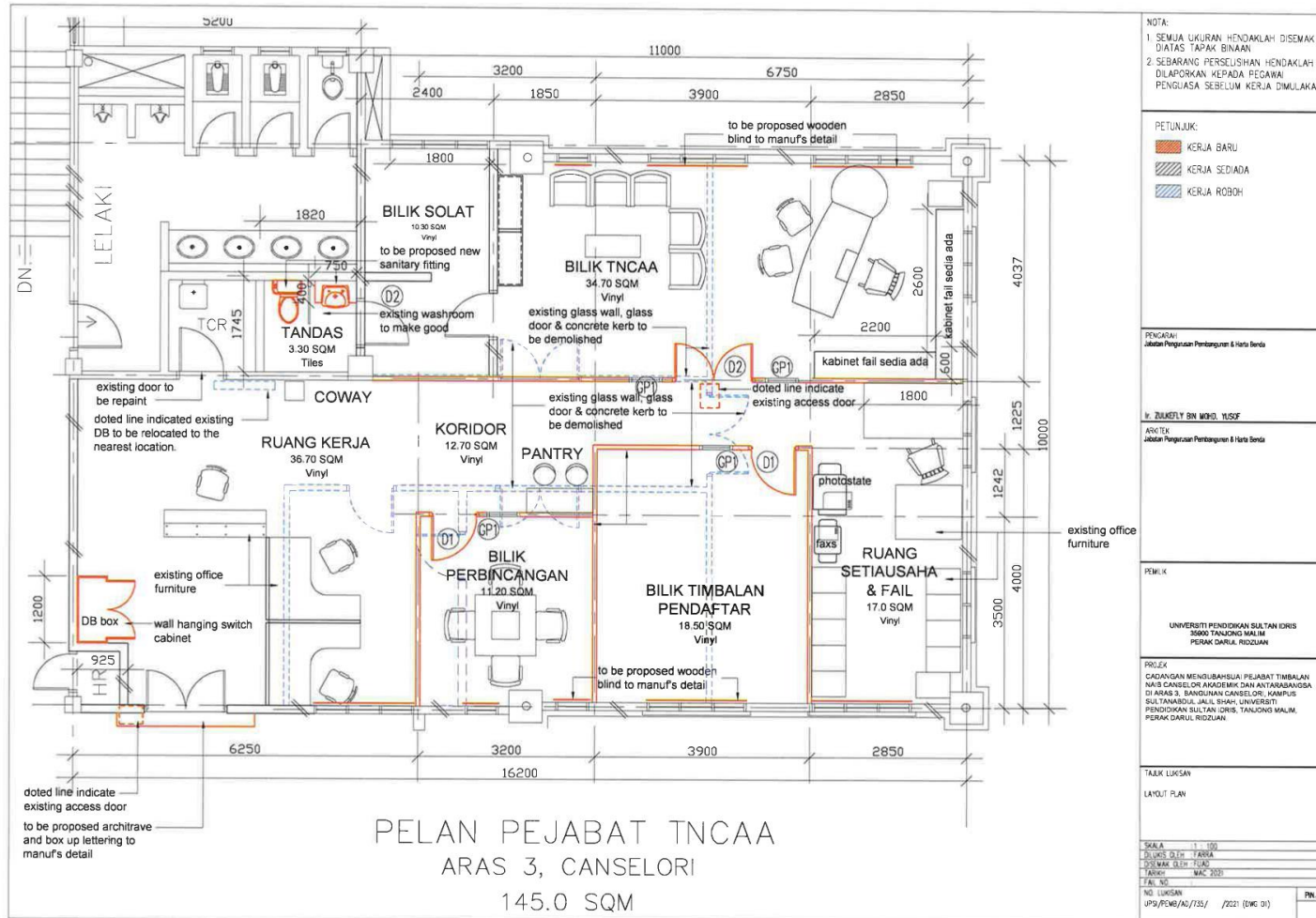
### Interview

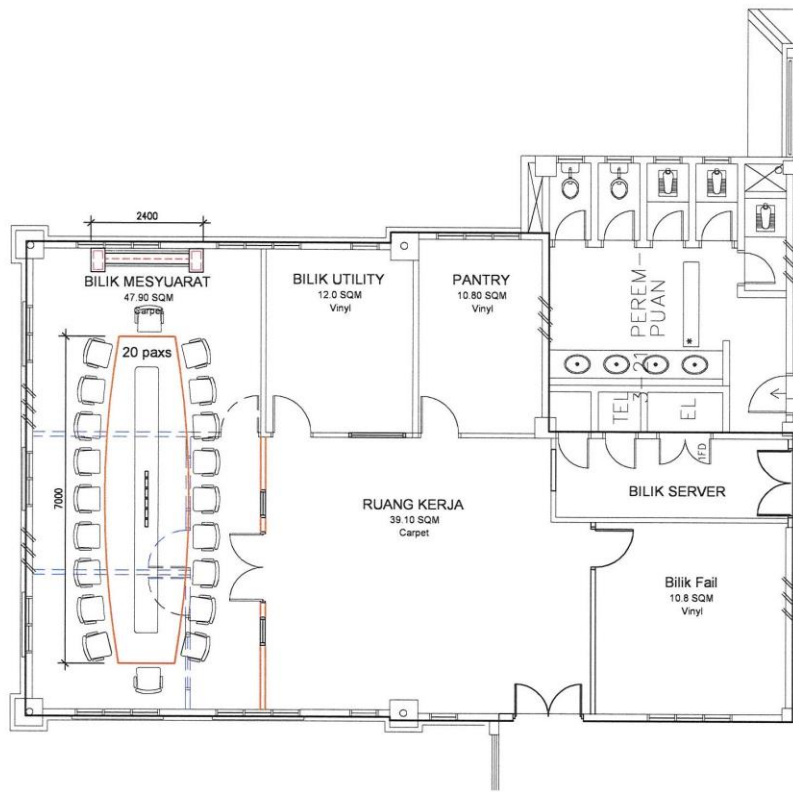
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### Articles/Reading

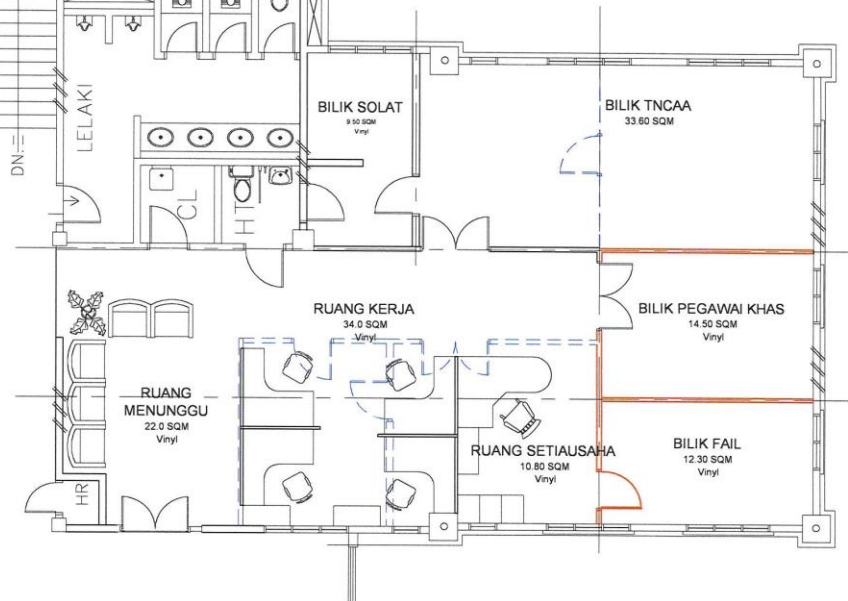
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# APPENDICES

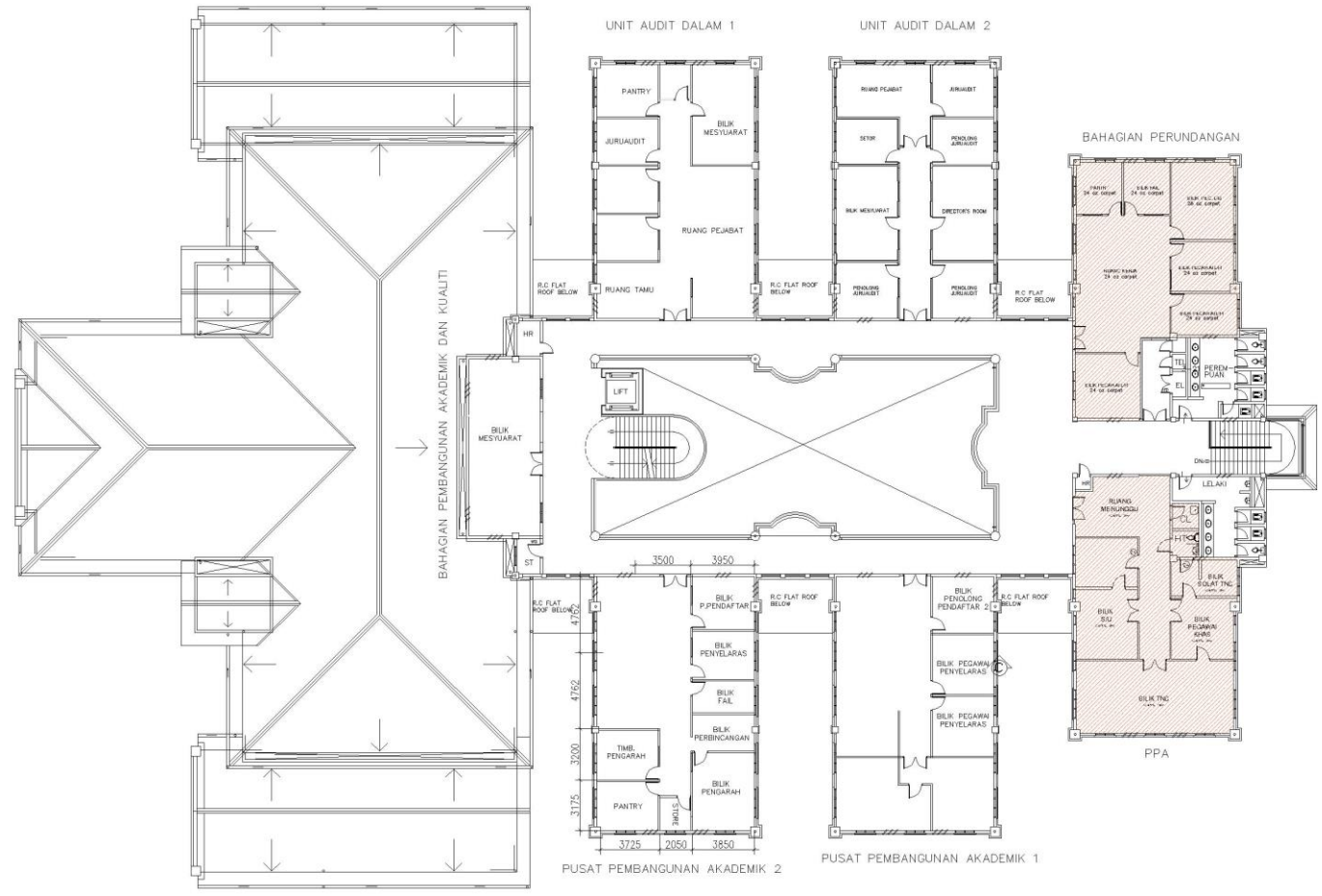




PEJABAT TNCAA 2 (PUU)



PEJABAT TNCAA 1 (PPA)



PELAN TINGKAT TIGA  
Skala 1:100