



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

SERI ISKANDAR CAMPUS

BUILDING CONDITION ASSESSMENT AT PEJABAT DAERAH YAN

NURUL ATIKAH BINTI IBRAHIM (2018260968)

BACHELOR OF BUILDING SURVEYING (HONS.)

PRACTICAL TRAINING REPORT

FEBRUARY 2022





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This practical training report is fulfilment of the practical training course

PREPARED BY

NAME: NURUL ATIKAH BINTI IBRAHIM

SIGNATURE:

SUPERVISING LECTURER

NAME	: SR DR NOORAZLINA BINTI KAMARULZAMAN

SIGNATURE :

DATE :.....





ACKNOWLEDGEMENT

Assalamualaikum warahmatullahi wabarakatuh...

Alhamdulillah, the highest gratitude thanks to Allah SWT because with his guidance, willingness, and blessings, I finally had my practical report done on time. This dissertation represents not only me but all the inspiring people in my life along the long journey of struggle and success. I would like to take this opportunity to thank all those who are either directly or indirectly interested in helping me complete this internship report as a partial fulfilment of the Bachelor of Building Surveyor honor requirements.

Next, I would like to loudly applaud my supervisor Sr Dr Noorazlina binti Kamarulzaman offering her best advice and information to fulfil her duties. All the lecturers involved in the supervising duties, for sure, did their job splendidly and oversaw us one by one. Until I successfully complete this report, I will not be able to solve the problem during the process.

Finally, my special thanks to my parents, Mr. Ibrahim Bin Hasan and Mrs. Che Mazanah Binti Baharom, and to my beloved brothers and sisters who always give me physical, moral, and motivational support. I would also like to thank all staff of Pejabat Daerah Yan who have given me the time, space, and support to complete my report and my internship either directly or indirectly. May God bless all of you, S.W.T.

Thank you very much to all of you.





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CHAPTER ONE: (INTRODUCTION)





1.0 INTRODUCTION

Industrial training is one of the most important components for students to be awarded a certificate degree. Within four months, who wants to get a certificate degree, the student must go to industrial training at the selected company. Students will be placed in private companies or government agencies to practice them into real life and work environments that are very different from the learning situation in college.

In this chapter, it is all about the general information of the selected companies for practical training that have been selected based on the needs that have been stated. This information includes profiles and general information about the company's background.

The selected company is based on the requirements that have been given through the lecture and must be adhered to by all students. The company must have a scope of work related to the student course such as construction, maintenance and on safety at the project site. In this chapter is also described the organization of the company starting from the head to the staff. That could be some information about this company.



1.1 PROPERTY INFORMATION



Name	Pejabat Daerah dan Tanah Yan
Address	Pejabat Daerah Dan Tanah Yan,
	Kampung Sungai Udang, 06900 Yan,
	Kedah
Total Floors	2
Year of Built	1997
Office No.	04-7028808
Operation Times	8.00 am – 5.00 pm
Email	pty@kedah.gov.my
Website	https://webpdt.kedah.gov.my

Table 1: Property Information of Pejabat Daerah Dan Tanah Yan

1.2 LOCATION OF PEJABAT DAERAH DAN TANAH YAN

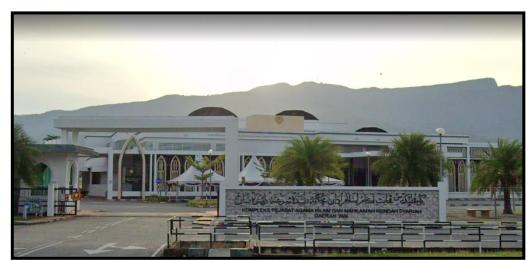


Figure 1: Location of Pejabat Daerah dan Tanah Yan

1.2.1 SURROUNDING AREA



North



South

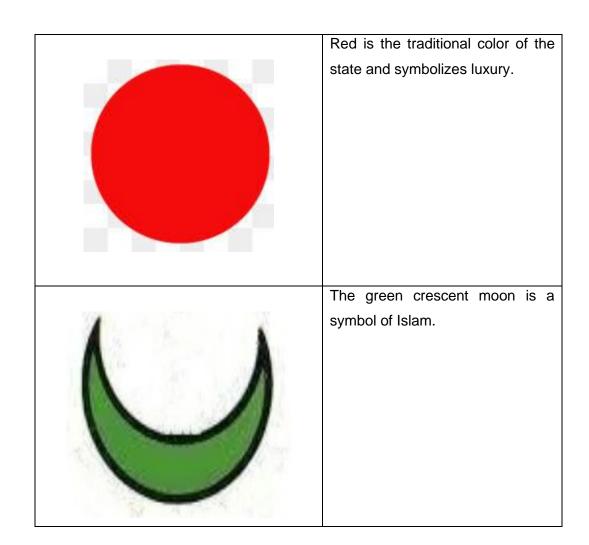


East



1.3 LOGO OF ORGANIZATION







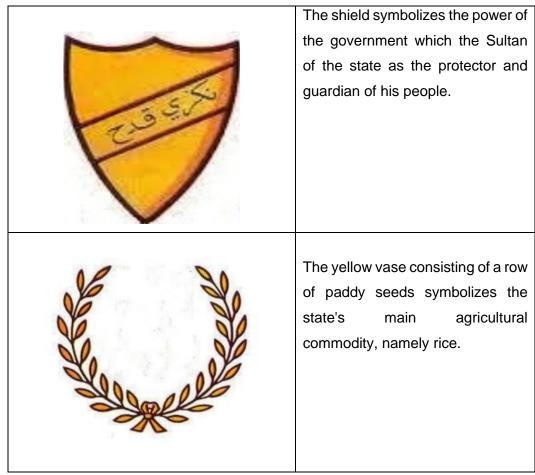


Table 2: Logo of Organization at Pejabat Daerah dan Tanah Yan





1.4 ORGANIZATION BACKGROUND

Yan District is said to have been opened in 1906/07 equivalent to 1324hijrah. Yan District is one of the smallest districts in Kedah, it borders Kota Setar District in the North, Pendang District in the East and Kuala Muda District in the South bordering Gunung Jerai (3992 feet above sea level) which is the highest mountain in State of Kedah, and it is one of the resorts available in this state. The whole is on the West side opposite the Straits of Malacca.

It is understood that the 'Yan' pronounced today is better known as the 'YEN' pronunciation. 'Yen' in Siamese means 'Cold' and it is possible that the name was taken in conjunction with the name given to a river in this town. Yan Town which was the focus of the opening of Yan District was the Administrative Center for Yan District, dating back to the early 20th century. According to historical facts, the Yan area was an award from the Sultan of Kedah to Syed Othman Al-Qadri for carrying out the duties of collecting taxes and administering the district.

The district was officially created in 1909 after the British intervened in Kedah. Tengku Mansor Ibnu Al Marhum Sultan Abdul Hamid was appointed as a District Officer for the first time. At that time, the main task of the District Officer was as an Administrator and Judge for minor offenses as well as a Tax Collector. The initial administration was housed in a wooden building located at Jalan Pegawai, Yan. The Yan Land Office is located next to the District Office where the head of the two departments is the District Officer himself. After operating for more than a quarter of a century (26 years), the Yan District and Land Office has now moved to a two - story building in the Sungai Udang Area, 2 km from Pekan Yan, in June 1997.





1.5 VISION, MISSION, OBJECTIVE AND FUNCTION

i. VISION

To be an organization that can provide fast, accurate and effective services so that the balance of physical and social development can be met while making the district a tourist district, a clean and prosperous district.

ii. MISSION

- Plan, implement and coordinate development programs and cooperation with various agencies to make the district a tourist district.
- To be a driving force towards creating a dynamic, innovative, and visionary society.
- Ensure that the services provided are more systematic to make the district
 office as an agency that plays a role in achieving the vision of the
 department.
- Provide and improve physical and socio-economic infrastructure facilities to the residents of the district.
- Encourage a cooperative attitude among the community towards integrated and balanced human development.

iii. OBJECTIVE

- Provide fast, accurate and effective services to the people
- Enforce the law and maximize government revenue
- Ensuring the security and unity of the people on an ongoing basis
- To be the coordinating agency between government departments, statutory bodies, and the private sector in Yan district.

iv. FUNCTION

To plan, coordinate, and implement land development in the district to the maximum level as recommended by the government.

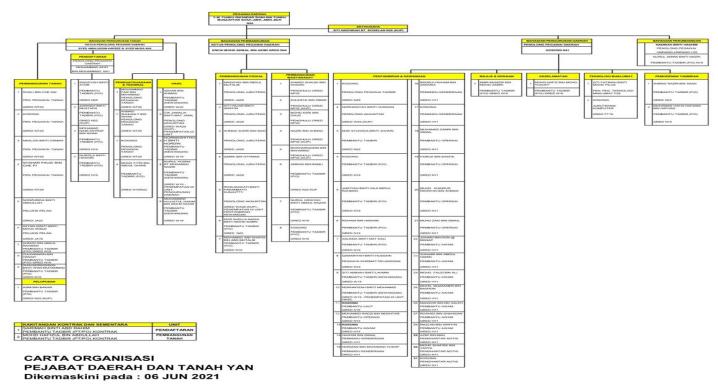


Table 3: Organization Chart of Pejabat Daerah Dan Tanah Yan

Figure above shows the organization chart of Pejabat Daerah dan Tanah Yan. Based on the figure above, there are four departments in Pejabat Daerah Yan. The departments are Land Management Department, Building Department, District Management Department and Legal Department.

1.6 BUILDING DEPARTMENT

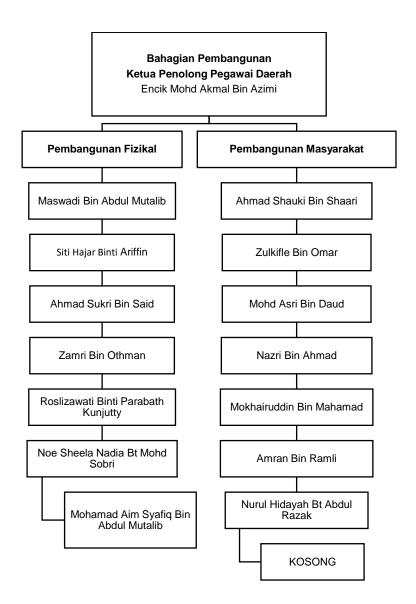


Table 4: Organization Chart of Building Department

Figure show the organization chart of Building Department. Under building department, there are two part which are physically building and community building. This department conducted by Encik Mohd Akmal bin Azimi who is the Chief Assistant District Officer.



1.7 BUILDING FACILITIES AND BUILDING SERVICES

1.7.1 Building Facilities

No.	Building Facilities	Descriptions
1.	Figure 2: Parking	Parking area is the place that people stop and disengaging a vehicle and leaving it unoccupied.
2.		A pantry is a room where drinks, food and sometimes dishes, house cleaning, chemicals or supplies are stored. It is also a place for staff to dine at lunch.
	Figure 3: Pantry	



Muslim place of worship 3. became centers of religious learning and religious communities, and in addition it also became the center community. Figure 4: Prayer room Seating area is the most 4. important in the building. By provide the seating area for the visitors, it can fulfil the requirement of the building. Figure 5: Seating area 5. The store is used to store all items including toilet cleaners, stationery and so on. Figure 6: Storeroom



6.



Figure 7: Customer services counter

Customer service representatives help customers with complaints and questions, give customers information about all that they want.

7.



Figure 8: Meeting room

The meeting room is a room that provided for singular events such as clients meetings and so on.

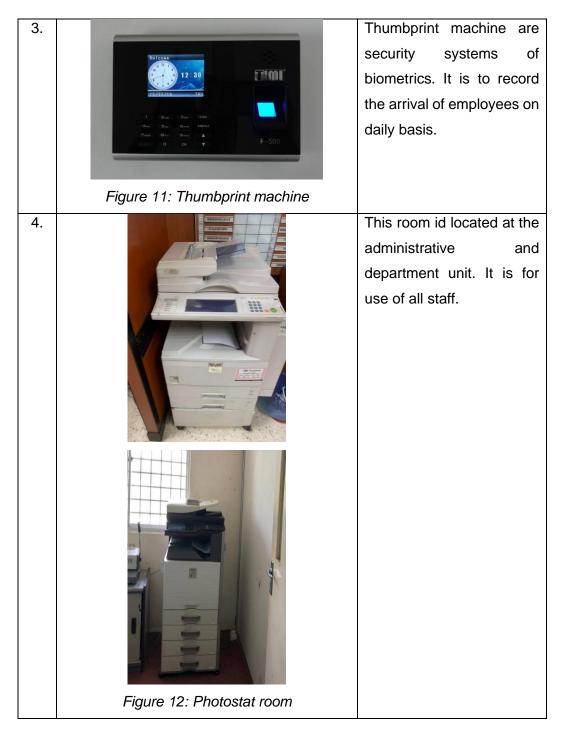




1.7.2 Building Services

No.	Building Services	Descriptions
1.		Sanitary fittings are the pieces of furniture that are in a bathroom. This all components used to connect sanitary tubes or piping.
	Figure 9: Sanitary fitting	
2.	Figure 10: Security system	Security systems work on the simple concept of securing entry points into a home with sensors that communicate with a control panel or command center installed in a convenient location somewhere.









5. Fire extinguisher is used to extinguish or control small fires, often in emergency situations. It located at every floor.

Figure 13: Fire extinguisher





CHAPTER TWO: LITERATURE REVIEW





2.1 INTRODUCTION

Failures and defects are common phenomena in construction industry. Negative impacts may arise towards cost, duration, and resources of project. Failures and defects can cause unnecessary expenditure and delays. They are also generating controversies among parties involved. Furthermore, if this situation is left unanswered and untreated, it will lead to more serious problems in the future upcoming construction projects in Malaysia.

The main function of a building is to protect the occupants and contents from the weather, mainly rain, wind, and extremes of temperature. It is most important to provide the basic needs which will achieve all these functions. Features such as windows, pipe, air conditioning system and finishes are only additional. Obviously, a building must be structurally safe to survive, and the floors must be capable of resisting any normal imposed loads.





2.2 MEANING OF DEFECT

Defect can be defined as a fault or problem in something or someone that spoils that thing or person or causes it, him, or her not to work correctly (C. University, 2020). According to Strata Management (2020), a problem with a building is only considered a construction defect if it is caused by poor design, shoddy workmanship, inferior materials, or non-compliance with the National Construction Code's structural performance criteria.

According to Webster's Dictionary, defect is defined as lack of something necessary for completeness, shortcoming. It is also defined as an imperfection; fault; blemish. Another term for defect is deficiency. Webster's Dictionary defines the word deficiency as a state or quality of being deficient or a shortage, deficit. As for deficient, it is defined as to be wanting, lacking in some quality necessary for completeness; defective and one that is deficient.

Defect is "the nonconformity of a component with a standard of specified characteristic". Defect is "the nonconformity of a component with a standard of specified characteristic". A building defect may include any problem that reduces the value of a home, condominium, or building. Building defects can be the result of design error by the architect, a manufacturing flaw, defective materials, improper use or installation of materials, lack of adherence to the design by the contractor, or any combination of them. A defect may be failing or shortcoming in the function, performance, statutory or user requirement of a building and might manifest itself within the structure, fabric, services, or other facilities of the affected building (David S. Watt, 1999:94).





2.3 TYPES OF DEFECTS

Common types of building defects include structural defects resulting in cracks or collapse; defective or faulty electrical wiring and/or lighting; defective or faulty plumbing; inadequate or faulty drainage systems; inadequate or faulty ventilation, cooling, or heating systems; inadequate insulation or sound proofing; and inadequate fire protection/suppression systems. Additionally, dry rot, wood rot, mold, fungus, or termite or vermin infestation may also be the result of a building defect. A building defect may also include damage caused by land movement or earth settlement. Proving a building defect commonly requires the hiring and testimony of a highly trained and experienced expert. An expert, such as an engineer or architect will be able to determine whether a construction problem is the result of improper design, material, or workmanship.

Ismail et al. [10] performed a study to investigate the most common defects in 72 new terrace houses in Malaysia. The most common defects were ones on the corners of walls, uneven joints, lack of angles and planes of walls, unevenly painted walls, cavities in wall tiles, doors and windows not closing, unfinished works (such as the unfinished installation of railings), and dampness. The results of studies concerning the number and type of defects are also presented in.

2.3.1 Uneven Wall



Figure 14: Uneven Wall

Uneven walls are typically caused by framework that is erected at an angle or by a warp in the wood. Although it is advisable to remedy an uneven wall before applying drywall, there are still techniques to correct the problem after the finish material has been put.

2.3.2 Dampness



Figure 15: Dampness

Dampness is the presence of undesired moisture in a building's structure, which can be caused by incursion from the outside or condensation from within. Condensation and rain penetration, both of which are influenced by the ambient environment, are responsible for a large percentage of damp problems in buildings. The form and porosity of the construction materials through which this evaporation restricted capillary penetration occurs are dictated by the shape and porosity of the construction materials through which this evaporation limited capillary penetration occurs. Higher levels of humidity increase structural damp.

2.3.3 Window Can Not Close Properly



Figure 16: Window Cannot Close Properly

Windows are one of the most important components in determining whether a home is pleasant. A jammed window is a frequent household problem, but it can sometimes indicate more serious issues. The most common reason of stuck windows is a shifting foundation. When a home moves, it puts pressure on the





window frames. The window sash channels (the tracks on which a window glides) will no longer line up with the window if the frame is damaged, preventing the window from fully opening or shutting.

2.3.4 Termite Attack



Figure 17: Termite Attack

Termites are a highly structured creature that builds populations. Their attack on wood has a negative impact on its quality and strength. Some insects attack only living trees, dying when the wood reaches a certain moisture level. If the holes made by these insects aren't too numerous, they have little effect on the strength of the structure (ambrosia beetles or pinhole borers). Other insects, on the other hand, degrade the wood after it has been seasoned. Termites are one such insect. Termite infestations have a negative impact on the quality and strength of the wood.





2.4 CAUSES OF DEFECT

A few studies have also been devoted to the causes of defects. Ahzahar et al. [15] investigated the factors contributing to construction failures and defects in Malaysia. According to the authors, defects and faults in buildings are affected by, among others, certain building materials, errors during construction, corruption, lack of supervision, and design errors.

Building problems can be caused by a variety of factors. Building faults are caused by design and construction issues such as poor workmanship, construction materials, faulty construction, and failure to meet specifications, among other things. Aside from it, flaws are caused by climatic conditions, a lack of maintenance, the external environment, a lack of time, and a lack of money. All of these factors will lower the value of the buildings over time, and the cost of repairing them will be high if the problems are ignored by the residents (Anthony, 2013).

2.4.1 Poor Workmanship

Poor workmanship on construction sites has long been a focus in Malaysian media, particularly through newspapers, because of poor workmanship and low-quality materials utilized, which have been highlighted as key causes of problems in construction projects while establishing new buildings (Abdulrazak et al, 2010). Aside from that, elements that lead to poor craftsmanship include a lack of supervision, a lack of experience and expertise on the part of the workers, as well as a language barrier and a lack of communication.

According to Anthony (2013), residential buildings that are recently erected have flaws because of poor craftsmanship on the part of the contractor or developer (Anthony, 2013). When it comes to building structures, the contractor, on the other hand, plays an essential role. This is since they must supervise all the work from the first pile-up to the project's conclusion. If sufficient supervision is not provided, the workers may build the structure without the knowledge of the site staff. As a result, whether concrete is being poured or formwork is being installed, it is critical to keep an eye on the employees.





2.4.2 Complicated Role of The Subcontractor

According to Khalid et al. (2006), the subcontractor's participation is to blame for the construction's shortcomings. This is since subcontractors play a crucial role on the construction site. Subcontractors perform most of the construction work, with the primary contractors relying solely on the subcontractors to complete the work (Khalid et al., 2006). Furthermore, subcontractors perform around 90% of the building work, leaving the principal contractor to focus solely on coordination and management (Khalid et al., 2006).

Aside from that, subcontracting labour poses serious problems in terms of work coordination and quality control (Chan et al, 2006). This is because there are many different types of subcontractors working on the same project, which makes it difficult for the primary contractor to examine, supervise, and oversee the work done by the subcontractors. This will eventually lead to substandard craftsmanship.





CHAPTER THREE: CASE STUDY



PART A: EXECUTIVE SUMMARY

3.1 PROPERTY INFORMATION



Name	Pejabat Daerah Dan Tanah Yan
Address	Pejabat Daerah Dan Tanah Yan,
	Kampung Sungai Udang, 06900 Yan,
	Kedah
Total Floors	2
Year of built	1997
Office No.	04-7028808
Operation Times	8.00 am – 5.00 pm
Email	pty@kedah.gov.my
Website	https://webpdt.kedah.gov.my

Table 5: Property Information of Pejabat Daerah Dan Tanah Yan





3.1.1 PURPOSE AND SCOPE OF WORK

My purpose and scope of work of office building of Pejabat Daerah Yan in terms of its element, and all the major and minor defects. With this data and information, I can acknowledge which one will be the priorities for me to repair and to do maintenance works. I required to prepare a Comprehensive Building Condition Assessment Report. A report clearly described on the:

- To be remain, my scope of inspection only focuses on external and internal of the building.
- During inspection, I only use measuring tape to measure all the element and defects. There is no long ladder are use during inspection. The building is full occupied at that time since it is an office building during the inspection been carried out.
- My report has been written in general terms. I do not prepare all the schedule listing defects by other adjacent buildings.
- Indication on each building elements, it should be supported with appropriate photo. Indication on the types of defects, possible causes, remedial work, and analysis of building defect. It should be supported with appropriate diagram, sketches, and photo.
- Preparing a measured drawing plan.
- This report is private and confidential, and it is prepared for academic purpose only.





3.2 TERMS OF REFERENCE

3.2.1 Scope of Inspection Work

My scope of inspection work reports provides owner's property with a detailed of defect lists on a property that require rectification to prevent further deterioration of the building. The remedial works of these defects is being explain thoroughly in detailed in the report. For each item that being inspected, it is the inspector's intention to do the following:

- Inspection at external building
- Inspection at internal building
- Inspection of defects, define its possible causes and its remedies for the building
- Measures the building with building conditions by using BARIS assessment which is Building Assessment Rating System.

Therefore, I need to:

- Provide building inspection checklist
- Provide BARIS Assessment based on CPBS101,
- Identify of building defects related to the building element, materials, and specification and to propose suitable rectification works.
- To prepare the detail costing for rectification works (major defects) based on the element of the building
- Provide floor plan of the building.





3.2.2 LIMITATION OF THE REPORT

The client acknowledges that:

- > Some items may be subject to reporting purpose with special purpose
- > The inspections only cover accessible areas
- > The inspection does not specify areas to be inspected or areas that prevent from being inspected except for places or spaces that are not accessible such as roofs, ceiling, and floor coverings.



3.3 LIMITATION OF INSPECTION

Limitation is limiting work that need to do because to take a safety measurement. It also protects the privacy of building occupant and visual work that cannot be occur by ordinary human being such as seeing foundation underground. Next, limitation of equipment. No equipment has been used to measure humidity of dampness and state the condition by stating the colors of dampness instead to know level of serious of the dampness. This is a list of area or space that is not readily accessible while inspection or any inspection work that may have high risk and may affect to the existing condition of building or injury to the surveyor.

ITEM	DESCRIPTION				
Roof spaces	This area is not accessible				
Room	Room of high officers within the offices is not accessible.				
Foundation	inspection work cannot access the size of the foundation to this property. Excavation of trial holes around the base of main wall is needed.				

Table 6: Limitation of Inspection





3.3.1 SCOPE OF LIMITATION

The findings of this study must be seen considering some limitations. They may be some possible limitations in this study. The list of possible limitation is:

- Defect on roof cannot be measured because of restriction and safety reasons precaution to the students.
- If the defect is on the wall and quite high, there will be difficulty to measure the defect.
- Defect on water tank cannot be identify because the water tank quite high and safety reason to the students.
- Foundation

Despite of all the limitation listed, there are no reduce the numbers of defect that can be found in the case study.





3.4 FINDING AND RECOMMENDATION

The data that been recorded on site need to be kick in the spreadsheet to allow the surveyor to identify and analysis about the current condition of the building. Based on the data gained from the spreadsheet the building rating is in fair category which needs an immediate repair and organized maintenance. The total marks of the overall defects are 125 and the number of defects that have been detected is 11 for our inspection area. Then, the overall score in this building for the rating purpose is 11 which is included all the defects that have been found during my inspection.

From the information above, I would like to suggest and highlight on the major or minor defects that might become worst if left unattended over a period time. Client must alert about the defect in this property to prevent from any problems in future and all the defects must be repaired as soon as possible. The major defect is wear and tear of the window at the pantry. Besides that, broken tiles at the sanitary and this is one of the sick building syndromes.

Besides, my suggestion is to replace all the defective component in this property is one of the safety aspects for the occupant in the building. Other defects in this building should be noted and take a serious action because it might give impact towards the office reputation.

It is recommendable that the owner or the responsible party organized schedule for maintenance or make a planned maintenance for this building to keep this building in a good condition for occupies benefaction and to prolong its age in the future.





PART B: MAIN REPORT

3.5 INTRODUCTION

To complete my practical training requirement, I have choose building condition survey report as my practical training report. Therefore, I have chosen office building of Pejabat Daerah Yan as my case study to do building inspection survey based on Building Condition Assessment (BCA).

This report describes the defects in the building as well as how to fix the defects. The scope of this work is to learn more about how to do inspections and how to prevent defects from occurring. The inspection is also intended to find out what building defects are, to make regular maintenance, and to find out how to fix building defects. The purpose of the inspection is to identify the condition of the building by looking for any defects and to suggest the remedial work to repair the defect to ensure that the building is in good condition and functioning for a long time.

3.6 DESCRIPTION OF PROPERTY



Figure 18: Description of Property

The district was officially created in 1909 after the British intervened in Kedah. Tengku Mansor Ibnu Al Marhum Sultan Abdul Hamid was appointed as a District Officer for the first time. At that time, the main task of the District Officer was as an Administrator and Judge for minor offenses as well as a Tax Collector. The initial administration was housed in a wooden building located at Jalan Pegawai, Yan. The Yan Land Office is located next to the District Office where the head of the two departments is the District Officer himself. After operating for more than a quarter of a century (26 years), the Yan District and Land Office has now moved to a two - story building in the Sungai Udang Area, 2 km from Pekan Yan, in June 1997.





3.7 METHOD OF INSPECTION

During my inspection works at office building Pejabat Daerah Yan, I have done a lot of work procedures to finish up my inspection work in details. Tools and equipment that I have used are:

NO.	NAME OF TOOLS	FUNCTION OF TOOLS					
1.	Measuring tape	To measure the distance					
		• To measure around curves or corners.					
		Unit: meter (m), feet (ft.)					
2.	Mobile phones	To take picture of the building and					
		defect.					
		Capture evidence for obtain data.					
3.	Notebooks	To record data, sketches, etc.					
		To sketch building orientation for					
		measured drawing purposed					
4.	Pen & Pencil	To record data obtained on fieldwork.					

Table 7: Method of Inspection





3.8 BUILDING CONDITION ASSESSMENT

After the inspection work, we been done, we had observed that there are 11 defects found in the building. All the defects occurred at the fabric or element in the building. This building needs to be maintained well to keep its aesthetic value so that it can be passed on to the future generations. Refer appendix for details BARIS (Building Assessment Rating System).

3.8.1 Fabric And Component

3.8.1.1 Ceiling

- a. Dampness on the ceiling is due to poor ventilation, humidity, and leakage from the roof. The condition of this defect is minor repair while the priority is minor defect but can lead to serious if left unattended. For the photo, location, condition, and priority refer to defect sheet no (F5).
- b. Mould growth at the ceiling. Mould growth may cause by leakage from the roof. The condition of this defect is major defect while the priority is serious defect and cannot function to an acceptable standard. For the photo, location, condition, and priority refer to defect sheet no (F6).
- c. Broken ceiling due to the heavy load and poor workmanship. The condition is malfunction while the priority is element or structure does not function at all and risks that can be led to fatality and/or injury. For the photo, location, condition, and priority refer to defect sheet no (F7).

3.8.1.2 Wall

- a. Peeling of the paint at the external wall. The paint finishes peel off due to the splashing of rainwater and weather changes. The condition is major repair while the priority is minor defect but can lead to serious defect if left unattended. For the photo, location, condition, and priority refer to defect sheet no (F8).
- b. Loose wall skirting board at the musolla. It is due to the poor workmanship and old. The condition is major repair while the priority is serious defect and cannot function to an acceptable standard. For the photo, location, condition, and priority refer to defect sheet no (F9).





3.8.1.3 Sanitary

- a. Mould growth at the toilet tile. Mould growth may cause by poor ventilation, humidity, and condensation. The condition is minor repair while the priority is minor defect but can be led to serious defect if lefts unattended. For the photo, location, condition, and priority refer to defect sheet no (F1).
- b. Broken tiles at the toilet. It is due to the old items and poor workmanship. The condition is major repair while the priority is serious defect and cannot function to an acceptable standard. For the photo, location, condition, and priority refer to defect sheet no (F2).

3.8.1.4 Window

- a. Rust on the window hinge due to the poor ventilation and humidity. The condition major repair while the priority is minor defect but can lead to serious if left unattended. For the photo, location, condition, and priority refer to defect sheet no (F3).
- b. Wear and tear on the window due to the old items. The condition dilapidated while the priority is element or structure does not function at all and risks that can lead to fatality and/or injury. For the photo, location, condition, and priority refer to defect sheet no (F4).

3.8.2 Building Service

3.8.2.1 Lamp

- a. Malfunction lamp due to the old items and improper wiring. The condition is major repair while the priority is serious defect and cannot function to an acceptable standard. For the photo, location, condition, and priority refer to defect sheet no (S10).
- b. Pest attack on the lamp is due to the missing part of roof. The condition of this defect is major repair, and the priority is minor defect but can lead to serious if left unattended. For the photo, location, condition, and priority refer to defect sheet no (S11).



3.9 DEFECT ANALYSIS

3.9.1 DEFECT ANALYSIS BY DEFECT

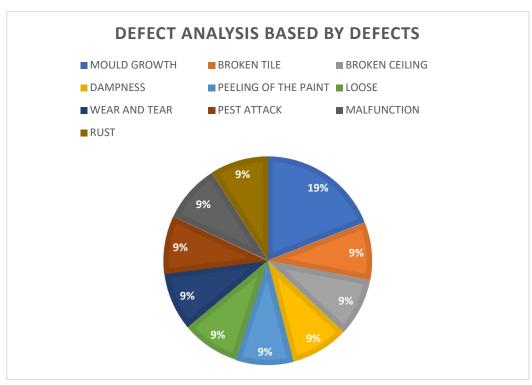


Figure 19: Defect Analysis by Defect

Based on the pie chart above, we can conclude that there are 11 types of defects which are mould growth, dampness, broken, peeling of the paint, rusty, pest attack, malfunction, loose, wear and tear. However, there are four major defects that detected in this building.

In our investigation, its diagnose that the mould growth (19%) are causes by the missing part of roof and poor ventilation, humidity, and condensation. While the other defects such as broken tile and ceiling, pest attack, dampness, peeling, rusty, malfunction, loose, wear and tear only 9%.

3.9.2 DEFECT ANALYSIS BY ELEMENT

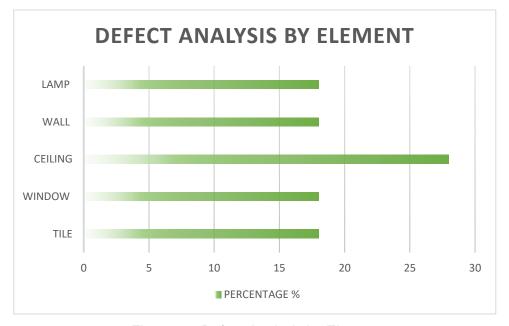


Figure 20: Defect Analysis by Element

Based on the bar chart, ceiling accurate the highest defect which is 28%. The defect has been found at the element such as dampness, mould growth and broken. Next, the elements of lamp, wall, window, ceiling, and tile recorded are the same which is 18% for each of them. The defect that has been found at lamp, wall, window, ceiling, and tile such as broken, wear and tear, malfunction, mould growth, dampness, loose, peeling and pest attack.



3.9.3 DEFECT ANALYSIS BY CONDITION AND PRIORITY

Scale		Priority assessment				
		E4	U3	R2	N1	
Condition	5	2				
assessment	4	2	1			
	3	1	1	1		
	2		1	2		
	1					

Figure 21: Defect Analysis by Condition and Priority

The table above show the total matrix of the condition assessment and priority assessment. Based on the table, there are a total 6 scale of condition assessment which is 1 until 5 and 4 scale for priority assessment which is 1 until 4. For scale 1 it is normal, for scale 2 is repair condition, for scale 3 is urgent condition and for scale 4 is emergency condition.

For the data shows in the table above, there are total of 2 amount of defect which falls under the matrix 4, which came from condition assessment with scale 2 and priority assessment of 2 which is routine. So, it is normal and green code but can lead to serious if ignored.

Next, there are 1 defect falls under the matrix of 6, which came from condition assessment with scale 3 and a priority assessment with scale 2. So, it is urgent and yellow code for fair rating. There are 1 defect falls under the matrix of 6, which came from condition assessment with scale 2 and a priority assessment with scale 3 which is urgent and yellow code. Besides, there are total of 1 of defect which falls under the matrix of 9, which came from condition assessment with scale 3 and a priority assessment of 3 which is urgent and yellow code. There are 1 defect falls under the matrix of 12, which came from condition assessment with scale 3 and a priority assessment with scale 4. So, it is urgent and yellow code for fair rating.





Next, there are total of 2 amount of defect which falls under the matrix 16 which came from condition assessment with scale 4 and priority assessment with scale 4. This is serious defect which coded red. Lastly, there are 2 defects which falls under the matrix 20 which came from condition assessment with scale 5 and priority assessment with scale 4. So, it is serious defect and red code for dilapidation rating.



3.10 CONCLUSION AND RECOMMENDATION

In conclusion, overall, of the building condition for Pejabat Daerah Yan the worst defects that be found are wear and tear and broken tiles. Wear and tear and broken tiles happen because of the old items. The overall of the rating system of defects for this case study is Fair where the score is 11.36 while the total defects is 11 and total mark 125.

Remedies For Defects at The Ceiling

	Ceiling						
No.	Remedies						
F5	Replace and fix broken or missing roof. Remove and replace the						
	ceiling with new and paint over with water repellent materials.						
F6	Replace the missing part of roof. Then, gear up with gloves,						
	goggles, and face mask. Stand on something sturdy, such as a						
	stool or stepladder. Spray the mould with white vinegar, hydrogen						
	peroxide, or a baking soda solution. Scrub with a brush or scourer.						
	Rinse and dry thoroughly.						
F7	Remove and replace with new one						

Table 8: Remedies for Defects at The Ceiling



Remedies For Defect at The Wall

	Wall						
No.	Remedies						
F8	Remove loose and flaking paint with a scraper or wire brush,						
	sanding the surface, and feathering the edges. If the flaking occurs						
	in multiple layers of paint, use of a face filler may be necessary.						
	Prime bare wood areas before repainting. Use of a top-quality						
	primer and topcoat should prevent a recurrence of the problem.						
F9	Remove the skirting board with scraper and clean it up. Apply some						
	silicone to the back of the skirting board. Press the skirting board						
	into position and make sure it is tight. Apply a thin bead, across the						
	gap all the way along the top and smooth with your finger. Leave it						
	for hours and ready for painting.						

Table 9: Remedies for Defects at The Wall

Remedies For Defect at The Sanitary.

	Sanitary						
No.	Remedies						
F1	Combine 1 part bleach with 2 parts waters in a spray bottle and spritz the affected area. Let the solution sit for 10 minutes. The mold should start to fade away on its own, but if areas of stubborn mold remain, use a coarse brush (for larger areas) or old toothbrush (for smaller areas) to scrub the mold away. Rinse the surface thoroughly with water afterward.						
F2	Remove the broken that affected tiles and replace with new semi- polish mosaic tiles excluding ckrids.						

Table 10: Remedies for Defects at The Sanitary

Remedies For Defect at The Window

Window							
No.	No. Remedies						
F3	Remove the window hinge using a screwdriver. Then, carefully install the new hinges						
F4	Remove the window and replace with new one.						

Table 11: Remedies for Defects at The Window

Remedies For Defect at The Lamp

Lamp					
No.	No. Remedies				
S10	Remove the malfunction lamp and replace with new one.				
S11	Remove and clean the affected area that pest attack				

Table 12: Remedies for Defects at The Lamp





The job description is to repair peeling of the paint on the wall. Refers to defect indication F8.

Ref	Description Item	Unit	Quantity	Price	Amount
JKH					(RM)
M4	Scrape the old lime	M2	1	6.10	6.10
	paint, old distemper				
	and so on from				
	plastered surfaces,				
	wash and repair all				
	cracks and other				
	deformed surfaces.				
M1	Washed any surface	M2	1	0.80	0.80
	with soap and air.				
M19	Prepared a surface	M2	1	4.20	4.20
	and apply a single				
	layer of cement based				
	on a brick or concrete				
	surface.				
M42	Provide surface and	M2	1	12.10	12.10
	rub two layers of				
	weatherproof				
	(weather shield) on				
	the surface.				
Price	Based on JKH				23.10
No.	Details Additional				
				Percentage	
1.	Additional percentage: 10%			10%	2.31
	Due to location factor -	Yan			
	Total Co	ost of W	ork		25.41

Table 13: Job Description to Repair Peeling of The Paint





The job description is to repair the broken tiles at the sanitary. Refers to defect indication F2.

Ref	Description Item	Unit	Quantity	Price	Amount
JKH					(RM)
J6	Semi-polish mosaic	M2	1	67.30	67.30
	tiles excluding ckrids				
Price Based on JKH					
No.	No. Details Additional				
1.	1. Additional percentage: 10%				
Due to location factor - Yan					
	74.03				

Table 14: Job Description to Repair the Broken Tile at Sanitary



The job description is to repair malfunction window. Refers to defect indication F4.

Ref	Description Item	Unit	Quantity	Price	Amount			
JKH					(RM)			
143	Supply and install	M2	1	344.20	344.20			
	aluminum cement							
	windows including sill							
	fittings as specified							
	including installing							
	frames and fastened							
	with 'Butyl mastic							
	sealer' or equivalent							
	and approved (glass							
	measured separately)							
Price	Based on JKH		l		344.20			
No.	Detai	ls		Additional				
				Percentage				
1.	Additional percentage:			10%	34.42			
	Due to location factor -	Yan						
	Total C	ost of W	ork	Total Cost of Work				

Table 15: Job Description to Repair Malfunction Window

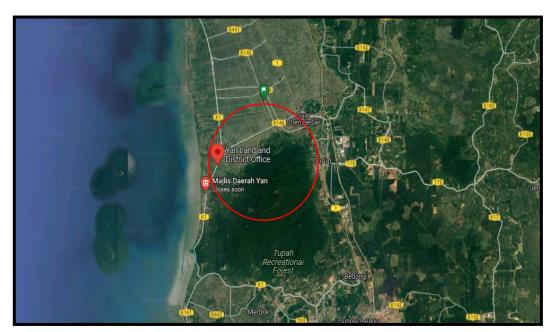


COST ESTIMATING FOR REMEDIAL WORKS BUILDING CONDITION SURVEY AT PEJABAT DAERAH YAN

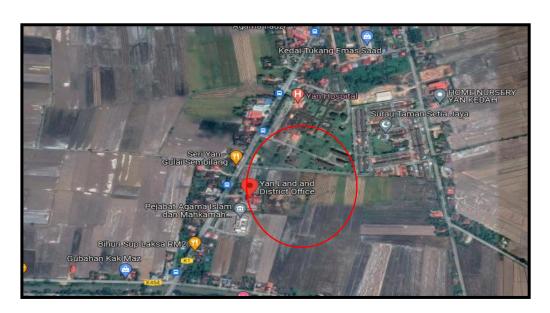
No.	Description Of Works	Unit	Quantity	Rate (RM)	Cost (RM)
F8	Paint back the peeling of the paint on the	M²	1	23.10	25.41
	wall				
F2	Replace with the new semi-polish mosaic	M²	1	67.30	74.03
	tiles				
F3	Install the new window	M²	1	344.20	378.62
	TOTAL ESTIMATE COST OF REPAIR				

Table 16: Cost Estimating Remedial Works at Pejabat Daerah Yan

PART C: APPENDICES



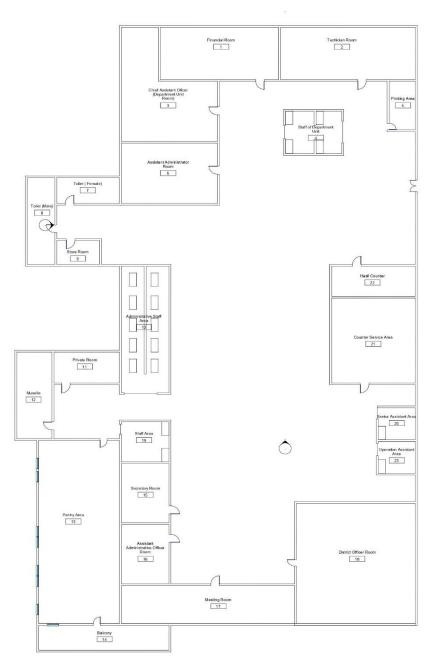
Site Plan



Location Plan



Building Plan



Building Plan of Pejabat Daerah Yan



DEFECT SHEET

Defect sheet No.	F1/11	Level 2				
		Loca	tion	Sanitary (Internal)	
		Element/co	omponent	Til	е	
			B	ARIS		
		Condition	Priority	Matrix	Color	
		2	2	4		
		Defect Description				
		Mould growth at the toilet				
			Possible C	ause/source		
		Due to poor	ventilation, l	numidity, and c	ondensation	





Defect sheet No.	F2/11	Level		2		
		Loca	tion	Sanitary	(Internal)	
	TO COLUMN TO THE PARTY OF THE P	Element/co	mponent	Т	ïle	
			В	ARIS		
		Condition	Priority	Matrix	Color	
		5	4	20		
Thin			Defect	ct Description		
		Broken tiles at the toilet				
			Possible (Cause/source		
		Due to the old items and poor workmanship				





Defect sheet No.	F3/11	Level		2		
		Locat	tion	Pantry (I	nternal)	
		Element/co	mponent	Wind	wok	
			BA	ARIS		
		Condition	Priority	Matrix	Color	
		3	3	9		
		Defect Description				
			Rust	y hinge		
A STATE OF			Possible C	ause/source		
		Rusty win	dow hinge du	ue to poor venti	lation and	
			hun	nidity.		



Defect sheet No.	F4/11	Level			2	
		Loca	ition	Pantry	(Internal)	
		Element/co	omponent	Window		
		Condition	Priority	Matrix	Color	
		5	4	20		
		Wear and tear				
WE I SO			Possible C	ause/source		
			Due to	the old		



Defect sheet No.	F5/11	Level		2	
		Locat	ion	(Inter	nal)
		Element/component		Ceil	ing
		BARIS			
		Condition	Priority	Matrix	Color
		2	2	4	
		Defect Description			
		Dampness		oness	
		Possible Cause/source			
		Dampness due to poor ventilation, humidity, and leakage from the roof			



Defect sheet No.	F6/11	Level		2	
		Locat	ion	Store (In	iternal)
	- 12	Element/co	mponent	Ceili	ng
		BARIS			
		Condition	Priority	Matrix	Color
		3	4	12	
		Defect Description Mould growth			
			Possible Ca	use/source	
		Leakage from the roof allowing mould growth.			



Defect sheet No.	F7/11	Level		2	
1		Locat	tion	Pantry (I	nternal)
		Element/co	mponent	Ceil	ing
			ВА	RIS	
	,	Condition	Priority	Matrix	Color
			4	16	
		Defect Description Broken ceiling			
			Possible C	ause/source	
	1	Due to th	ne poor workn	nanship and he	avy load





Defect sheet No.	F8/11	Level		2	
		Loca	tion	Pantry (E	xternal)
		Element/component		Wa	ıll
		BARIS			
		Condition	Priority	Matrix	Color
		4	4	16	
		Peeling of the paint at the external wall Possible Cause/source			
		The paint finishes peel off due to the splashing of rainwater and weather changes			





Defect sheet No.	F9/11	Level		2		
		Locat	tion	Musolla (Internal)	
	1	Element/co	mponent	Wa	all	
			В	ARIS		
		Condition	Priority	Matrix	Color	
		3	2	6		
		Defect Description				
			Loose wall	skirting board		
			Possible C	ause/source		
		Due	to the poor w	orkmanship an	d old	



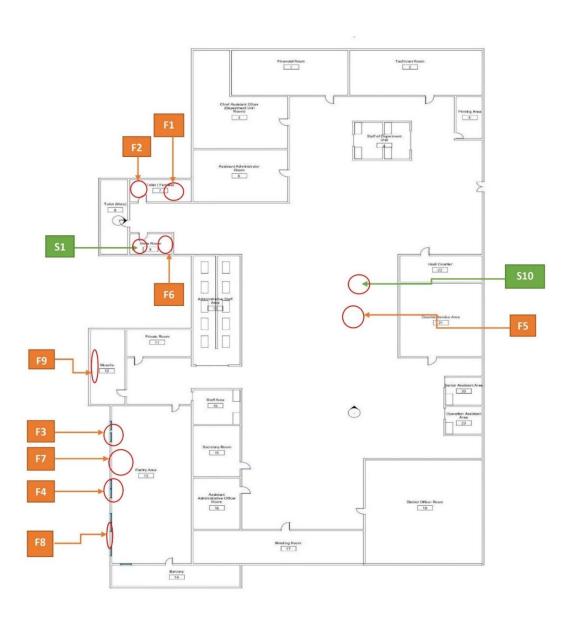
Defect sheet No.	S10/11	Level		2		
		Locat	tion	(Inter	nal)	
7		Element/co	mponent	Lan	пр	
		BARIS				
	Condition Priori		Priority	Matrix	Color	
		4	3	12		
			Defect De	escription		
			Malfunction emergency lamp			
			Possible Ca	ause/source		
Due to the improper wiring and old ite				items		



Defect sheet No.	S11/11	Level		2	
		Loca	tion	Store (In	ternal)
		Element/co	omponent	Lam	пр
			ВА	RIS	
		Condition	Priority	Matrix	Color
		2	3	6	
		Pest attack Possible Cause/source			
		[Due to the miss	sing part of roo	f



DEFECT INDICATION PLAN



Defect Indication Plan of Pejabat Daerah Yan





CHAPTER FOUR: PROBLEM OR PROCESS





4.1 Introduction

This chapter will discuss about the problems that encountered while conducting the survey at Pejabat Daerah Yan. There are some problems as following:

4.2 Problem Identify

NO.	PROBLEM
1.	NOT HAVING PROPER EQUIPMENT DURING RESEARCH.
	During preparation for my inspection work on Pejabat Daerah Yan, I
	have encounter problem which is lack of equipment and tools. This is
	so complicating the data collection process. The only equipment used
	is a measuring tape, notebook, mobile phone and pencil. However,
	the data collection process can be implemented well.
2.	LIMITED INFO
	Info related to the Pejabat Daerah dan Tanah Yan is too limited,
	especially on the websites. This makes it difficult for me to gather more
	detailed information about Pejabat Daerah dan Tanah Yan especially
	about office background. Not only that, the information provided by the
	staff is also very limited.
3.	LIMITED ACCESS
	There are some rooms that are not accessible. As instance, I have
	limited access to inspect certain area such as room of higher rack
	officer and file room. This is because the file room is contained with
	confidential documents to public where I cannot enter the room. This
	limits to data collection process especially in the defect section.

Table 17: Problem Identify





CHAPTER FIVE: CONCLUSION AND RECOMMENDATION





5.1 Conclusion

As we have done the inspection, we had identified some of the defects occurred and that possibly may occur in this building. Generally, this building is safe to be occupied, but the maintenance aspect must make sure any possibilities of defect can lead to serious defect if left unattended. Eventually, there are a few major defects found in this building. The most defect that found in this building is mould growth and broken (19%) followed by a rust, dampness, peeling, loose, wear and tear, malfunction, and pest attack (1%). So, overall, this building is in good condition with resulted 11 ratings. However, a regular maintenance work must be done to make sure a good performance of buildings.

5.2 Recommendation

For recommendation, it is important for the parties like construction managers, consultants, project managers, engineers etc. that are involved in the construction of new buildings have a strict supervision to all the workers and inspect the buildings carefully to minimize the defects. Besides that, they can engage the third party or an expert to solve the defects when their own general workers cannot solve it. This is because the third party and the experts will have more knowledge and experience. They can identify the problem and rectify it immediately without delaying the whole project.

Other than that, the contractors need to ensure the materials are in good quality. This is because low quality of materials will cause many defects in new buildings. For example, poor quality of concrete will cause cracks to be happened and the buildings also might collapse. Therefore, the contractors need to compare the materials before purchasing it and get agreement from the architects as well as the clients.



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