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## Criteria of Facilities Provision in Construction Workers' Accommodation

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### Abstract

The contractor is responsible for providing and maintaining temporary accommodation for their workers for the construction project runs smoothly. Since the characteristics of the construction projects are temporary, generally the contractor is providing temporary accommodation for the workers inside or near the construction site. The introduction of MS2593:2015 (Code of Practice for Temporary Site Workers Amenities and Accommodation) in 2015 is one of the initiatives take by the Malaysian government to improve the quality of construction workers' accommodation. However, reality hits different as most of the foreign workers' accommodation does not comply with the suggested guidelines. Thus, this paper aimed to determine the criteria of facilities provision in construction workers' accommodation and to identify the level of implementation regarding facilities provision in construction workers' accommodation among employers. A questionnaire is derived from literature review and distributed online to 118 respondents who is Grade 7 contractor in Kinta District, Perak. . The responses were collected by using online questionnaires that consists of questions regarding respondents' profile and criteria of facilities provision in workers' accommodation under respondents' supervision. The information obtained from the questionnaire will be broken down by using descriptive analysis. Major findings of the results disclosed that most of the temporary accommodation were complying with the guideline, where there are some sections that achieve full compliance (100%) but there is also section with less compliance percentage especially when it comes to leisure and social facilities for the workers. As a conclusion, according to some gaps that appear in compliance based on MS2593:2015, a comprehensive solution needs to be taken for the guideline to be complied. A further study suggests to study on criteria of facilities provision in construction workers' accommodation in more depth that focusing on construction project in Malaysia.

**Keywords:** MS2593:2015, Criteria of Facilities of Construction Workers

### Introduction

The construction industry is one of the most important factors that contribute to the growth of the economy in Malaysia. With the development in the construction industry, a significant

number of construction workers especially foreign workers needed to overcome the shortage of construction workers. Thus, contractors are responsible for providing and maintaining temporary accommodation for their workers for the project. Since the characteristics of the construction project are temporary, generally the contractors or the employer are providing temporary accommodation for the workers inside or near the construction site.

According to JKR Standard Building Specification (2014), the location of accommodation quarters shall be approved by the Superintending Officer and should not be an obstruction to the Works, as well as the public. There are several guidelines provided by the Authority such as SIRIM, CIDB and even a law regarding the standard provision of workers' accommodation. For example, the accommodation also should not be in the buildings under construction and adequate ventilation and lighting shall be provided. However, reality hits differently. It was reported in The Sun Daily in December 2020, almost 91.1% of foreign workers' accommodation in this country does not comply with the Workers' Minimum Standards of Housing and Amenities Act 1990 or Act 446. In operations done by the Department of Labour Peninsular Malaysia (JTKSM), it was found that some of the accommodations were cramped with 15 people in a four-bedroom house with a filthy bathroom. There were also mattresses in the middle of the living hall with partitions separating it. It is important to do some research to know the criteria of facilities provision in construction workers' accommodation.

## Literature Review

### Facilities for Workers

Facilities in other words are amenities provided by the employer for the workers to carry out their daily life during working. According to the Health and Safety Executive of the United Kingdom, (2011), anyone that has been employed must be provided with appropriate welfare facilities. This also goes the same with Act 446 in Malaysia which highlights that the person who is responsible for the workers must ensure that the accommodation is suitable to be occupied. However, often these on-site accommodations or known as *Kongsi* are built by the workers themselves using building materials that have been provided by the main contractor but these *kongsi* tend to be constructed by the cheapest method and material of construction. It is often seen that these *kongsi* are in poor state with minimal sleeping spaces and sometimes with no electricity supplied (Abdul Rashid, 2000).

Up to September 2019, more than 100 operations have launched which saw some 23 employers taken to court. This shows that with proper enforcement of the law, these employers who are reluctant to abide by the rules will be facing fair punishments.

### Criteria of Facilities Provision in Construction Workers' Accommodation

The principle in providing workers accommodations is to ensure the welfare of the workers and acceptable conditions for the living environment (Departments of Standard Malaysia, 2015) as cited in (Khalijah et al., 2019). To support this, Lembaga Penyelidikan Undang-undang, 1990 as cited in Norasyikin Khamis et al. stated that In Workers Act 446, those who are responsible for the employees must provide comfortable and adequate accommodations and facilities even if they are foreign workers. It can be concluded that providing proper accommodation with adequate amenities such as basic facilities is solely employers' responsibility.

In addition, the Department of Public Works (JKR) in their Standard Specifications for Building Works (2014) briefly describes the need for workers' necessities. To support the JKR's guideline, Institute for Industrial Research and Standards Malaysia (SIRIM),(2015) has

published the Malaysia Standard of Temporary Construction Site Workers' Amenities and Accommodation (MS 2593:2015) has further strengthened existing measures on a national scale.

### Summary of Criteria

Summary of criteria from Standard Specifications for Building Works (2014) from JKR and Malaysia Standard of Temporary Construction Site Workers' Amenities and Accommodation from SIRIM.

Table 1.0

#### Summary of Criteria

No.	Aspects	Standard Specification for Building Works JKR (2014)	Malaysia Standard of Temporary Construction Site Workers' Amenities and Accommodation (MS 2593:2015) – SIRIM
1.	Location of accommodation	<ul style="list-style-type: none"> <li>The location of the accommodation quarters shall be to approval of the S.O before the erection and shall be such as to avoid obstruction and nuisance to the Works and public and shall be laid out in an approved and orderly manner.</li> <li>Under no circumstances shall be accommodation be provided in buildings under construction.</li> </ul>	<ul style="list-style-type: none"> <li>n.a</li> </ul>
2.	Specification for accommodation building	<ul style="list-style-type: none"> <li>The accommodation quarters shall not be more than two stories high.</li> <li>Plywood used shall be new and of a minimum thickness of 12mm. The external walls shall be painted.</li> </ul>	<ul style="list-style-type: none"> <li>n.a</li> </ul>
3.	Room/dormitory	<ul style="list-style-type: none"> <li>The temporary accommodation shall be provided with adequate ventilation and lighting.</li> <li>The sleeping area or resting areas shall not be less than 5m<sup>2</sup> per person.</li> <li>Each accommodation unit shall be maintained, kept tidy and clean at all times.</li> </ul>	<ul style="list-style-type: none"> <li>Single- gender</li> <li>Good condition, aired and cleaned at regular intervals.</li> <li>Lockable doors and windows</li> <li>Mosquito screens, where necessary</li> <li>Adequate furniture</li> </ul>

			<ul style="list-style-type: none"> <li>• Sleeping area or resting area shall not be less than 3m<sup>2</sup> per worker</li> <li>• The height of room shall not be less than 2.4 m.</li> <li>• Bed arrangement- where double-deck bunks are used, there shall be enough clear space between the lower and upper bunk of the bed. The minimum space range is from 0.70 m to 1.10 m.</li> <li>• Bed arrangement- each worker is provided with a mattress and pillow.</li> <li>• Natural lighting and ventilation – windows or openings having an aggregate area of not less than 5% of floor area of the room.</li> <li>• Natural lighting and ventilation – using mechanical ventilation (e.g exhaust fan)</li> </ul>
4.	Sanitary facilities	<ul style="list-style-type: none"> <li>• The contractor shall provide adequate temporary toilets (not less than one (1) no. for every twenty-five (25) workmen) and bathing place with necessary water, septic tank and drainage in accordance with DOE and/or Local Authority requirements.</li> <li>• It shall be always maintained in a clean and sanitary condition to the satisfaction of the S.O/ Ministry of Health (MOH)/ Local Authority</li> </ul>	<ul style="list-style-type: none"> <li>• Hand washbasins (sufficiently provided)</li> <li>• Water baths (kolah)</li> <li>• Washing area</li> <li>• Drying area</li> <li>• Toilet – shall be installed so as to provide adequate privacy and lockable door</li> <li>• Toilet – shall be connected to the sewer, where practicable</li> <li>• Toilet – If connection to a sewer is not practicable, (1) adopting fixed type of portable toilets with on-site holding tank for scheduled dislodging or</li> </ul>

			<p>adopting fixed type toilet with on- site sewerage treatment facilities, adequately provided to comply with regulated discharged quality</p> <ul style="list-style-type: none"><li>• Toilet – (connected or not to a sewer) shall be serviced as required</li><li>• Toilet – shall be installed in such manner as to prevent any odours reaching dining facilities.</li><li>• Bathrooms and others – flooring is made of anti-slip hard washable materials</li><li>• Bathrooms and others- conveniently located and easy access</li><li>• Bathrooms and others – adequate water supply</li><li>• Bathrooms and others – separate bathroom facilities shall be provided with adequate privacy for the exclusive use of males or females, where both males and females are employed</li><li>• Bathrooms and others – (1) bathrooms only &gt; 1.5 m x 0.75 m (minimum width), or</li><li>• Bathrooms and others – (2) bathroom with closet fitting &gt; 2 m x 0.75 m (minimum width)</li><li>• Lighting and ventilation – well lit</li><li>• Every water-closet, latrine, urinal or bathroom shall be provided with (1) natural lighting and natural ventilation by means of &gt;1 openings (2) providing</li></ul>
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			<p>a total opening area of &gt;0.2 m<sup>2</sup> per water-closet, latrine, urinal or bathroom.</p> <ul style="list-style-type: none"> <li>• Such openings shall be capable of allowing a free, uninterrupted passage of air</li> </ul>
5.	Cooking and dining area	<ul style="list-style-type: none"> <li>• A separate area shall be provided for cooking</li> </ul>	<ul style="list-style-type: none"> <li>• Built in adequate and easy to clean materials</li> <li>• Kept in a clean and sanitary condition</li> <li>• Separated from sleeping areas</li> <li>• The minimum area of kitchen shall be not less than 4.5 m<sup>2</sup> and the minimum width shall be more than 1.5 m</li> <li>• Adequate height of kitchen shall be not less than 2.25 m and average height of rooms with sloping ceiling shall not be less than 2.25 m.</li> <li>• Adequate number of suitable tables and seating shall be provided for eating meals</li> <li>• Dining area shall be conducive to the conditions such as fan, flow-through ventilations or other alternate methods</li> <li>• A sink unit of adequate size, with clean water supply</li> <li>• A suitable space or shelves for storage of workers' provisions shall be provided such as for utensils and food</li> <li>• Garbage bins, with removable liners and</li> </ul>

			secure lids shall be provided
6.	Water	<ul style="list-style-type: none"> <li>Water used for consumption shall be obtained directly from water authority mains.</li> <li>Where such water supply is not available, potable water shall be provided from sources approved by the S.O. Potable water shall comply with the requirements of the guidelines issued by the MOH</li> </ul>	<ul style="list-style-type: none"> <li>Water used for consumption shall be obtained directly from the authority that provides the main supply</li> <li>Where such water supply is not available, potable water shall be provided from sources approved by the local authorities</li> </ul>
7.	Drainage	<ul style="list-style-type: none"> <li>N.a</li> </ul>	<ul style="list-style-type: none"> <li>The presence of stagnant water shall be avoided to address the proliferation of disease vectors such as mosquitoes, flies and others, as stipulated in Drainage Works Act 1954 (Act 354)</li> </ul>
8.	Electricity	<ul style="list-style-type: none"> <li>N.a</li> </ul>	<ul style="list-style-type: none"> <li>To provide adequate electricity supply</li> </ul>
9.	First aid and medical facilities	<ul style="list-style-type: none"> <li>N.a</li> </ul>	<ul style="list-style-type: none"> <li>Adequate or necessary facilities, as stipulated in Factories and Machinery (Safety, Health and Welfare) Regulations 1970 shall be provided</li> </ul>
10.	Leisure and social facilities	<ul style="list-style-type: none"> <li>Common areas for dining, recreation and praying purposes shall be provided</li> </ul>	<ul style="list-style-type: none"> <li>For workers not less than 100 workers residing at the place of employment shall construct a community hall capable of accommodating such number of persons as maybe specified</li> <li>Provide facilities for sports and other recreational activities as may be specified</li> </ul>

### Methodology

Literature review is done to identify the criteria of facilities provision in construction workers' accommodation. Then, a questionnaire is prepared and distributed online to 118 numbers of G7 contractors that have been registered with CIDB in Kinta District, Perak, Malaysia. However, only 83 contractors participated in the survey. The questionnaire was split into two



sections (Section A and B). Section A about the demographic profile while Section B to see the level of implementation regarding facilities provision in construction workers' accommodation among employers (Comply/ Non -Comply).

The data are collected and analysed using descriptive analysis via SPSS. The feedback received will be examined one by one and thoroughly summarized until the objectives of the research are accomplished.

### Analysis

Table 2.0

#### Summary of compliance

Bil	Specification	Comply	Non- Comply	Compliance (%)
	<b>Room/Dormitory</b>			
1.	Single- gender	76	7	91.6
2.	Good condition, aired and cleaned at regular intervals.	76	7	91.6
3.	Lockable doors and windows	76	7	91.6
4.	Mosquito screens, where necessary	46	37	55.4
5.	Adequate furniture	32	51	38.5
6.	Sleeping area or resting area shall not be less than 3m <sup>2</sup> per worker	73	10	88.0
7.	The height of room shall not be less than 2.4 m.	58	25	69.9
8.	Bed arrangement – separated for each worker	69	14	83.1
9.	Bed arrangement- where double-deck bunks are used, there shall be enough clear space between the lower and upper bunk of the bed. The minimum space range is from 0.70 m to 1.10 m.	49	34	59.0
10.	Bed arrangement- each worker is provided with a mattress and pillow.	75	8	90.4
11.	Personal locker of adequate size shall be provided for storage of personal belongings	51	32	61.4
12.	Natural lighting and ventilation – windows or openings having an aggregate area of not less than 5% of floor area of the room.	76	7	91.6
13.	Natural lighting and ventilation – using mechanical ventilation (e.g exhaust fan)	52	32	62.7
	<b>Sanitary Facilities</b>			
1.	Hand washbasins (sufficiently provided)	38	45	45.8
2.	Water baths (kolah)	57	26	68.7
3.	Washing area	76	7	91.6
4.	Drying area	76	7	91.6

5.	Toilet – shall be installed so as to provide adequate privacy and lockable door	72	11	86.7
6.	Toilet – shall be connected to the sewer, where practicable	38	45	54.2
7.	Toilet – If connection to a sewer is not practicable, (1) adopting fixed type of portable toilets with on-site holding tank for scheduled dislodging or adopting fixed type toilet with on- site sewerage treatment facilities, adequately provided to comply with regulated discharged quality	70	13	84.3
8.	Toilet – (connected or not to a sewer) shall be serviced as required	70	13	84.3
9.	Toilet – shall be installed in such manner as to prevent any odours reaching dining facilities	72	11	86.7
10.	Bathrooms and others – flooring is made of anti-slip hard washable materials	43	40	51.8
11.	Bathrooms and others – adequate water supply	63	20	75.9
12.	Bathrooms and others – separate bathroom facilities shall be provided with adequate privacy for the exclusive use of males or females, where both males and females are employed	71	12	85.5
13.	Lighting and ventilation – well lit. Every water-closet, latrine, urinal or bathroom shall be provided with (1) natural lighting and natural ventilation by means of >1 openings (2) providing a total opening area of >0.2 m <sup>2</sup> per water-closet, latrine, urinal or bathroom.	49	34	59.0
	<b>Cooking and Dining Area</b>			
1.	Built in adequate and easy to clean materials	29	54	34.9
2.	Kept in a clean and sanitary condition	72	11	86.7
3.	Separated from sleeping areas	72	11	86.7
4.	The minimum area of kitchen shall be not less than 4.5 m <sup>2</sup> and the minimum width shall be more than 1.5 m	46	37	55.4
5.	Adequate height of kitchen shall be not less than 2.25 m and average height of rooms with sloping ceiling shall not be less than 2.25 m.	64	19	77.1
6.	Adequate number of suitable tables and seating shall be provided for eating meals	30	53	36.1

7.	Dining area shall be conducive to the conditions such as fan, flow-through ventilations or other alternate methods	42	41	50.6
8.	A sink unit of adequate size, with clean water supply	35	48	42.2
9.	A suitable space or shelves for storage of workers' provisions shall be provided such as for utensils and food	38	45	45.8
10.	Garbage bins, with removable liners and secure lids shall be provided	72	11	86.7
<b>Water</b>				
1.	Water used for consumption shall be obtained directly from the authority that provides the main supply	83	0	100
2.	Where such water supply is not available, potable water shall be provided from sources approved by the local authorities	83	0	100
<b>Drainage</b>				
1.	The presence of stagnant water shall be avoided to address the proliferation of disease vectors such as mosquitoes, flies and others, as stipulated in Drainage Works Act 1954 (Act 354)	83	0	100
<b>Electricity</b>				
1.	To provide adequate electricity supply	83	0	100
<b>First aid and medical facilities</b>				
1.	Adequate or necessary facilities, as stipulated in Factories and Machinery (Safety, Health and Welfare) Regulations 1970 shall be provided	83	0	100
<b>Leisure and social facilities</b>				
1.	For workers not less than 100 workers residing at the place of employment shall construct a community hall capable of accommodating such number of persons as maybe specified	29	54	34.9

Based on Table 2.0, majority of these rooms/dormitories comply with single-gender rules (91.6%), being in good condition (91.6%) and has lockable doors and windows (91.6%). The smallest percentage of compliance is the provision of adequate furniture for the workers (38.5%). Most of the accommodations does not comply with the regulations on the number of water closets for more than 50 and above the number of workers with only 36% to 38% compliance. Apart from that, for the cooking and dining area, only 3 items were successfully complied by the respondents with 86.7% respectively. The item with the lowest compliance is the built-in cooking and dining area with only 34.9% compliance. From the sample, compliance of furniture for the dining area is low with 36.1% for tables and seating, 50.6% for

ventilation, 42.2% for sink with a clean water supply and 45.8% for shelves for utensils and food. On the other hand, all the accommodations were complying with all requirements for water consumption and water supply. For drainage, all the respondents comply with the specification on avoiding the presence of stagnant water.

As for the electricity and first aid and medical facilities, the table above recorded 100% compliance. In addition, out of 83 respondents, only 29 (34.9%) complied to the specifications on providing leisure and social facilities.

### **Discussion**

The main reason why most of the accommodation abiding the specification with single gender is because majority of foreign workers in Malaysia are from Indonesia (50.9%) and Bangladesh (17.4%) as reported by Ministry of Human Resources in a parliamentary written reply (Chester,2019). By that, it indirectly implied most of them are Muslim.

The full compliance for water supply is because the specification for water supply is one of a specification that has been emphasized in Standard Specifications for Building Works (2014) from JKR, Malaysia Standard of Temporary Construction Site Workers' Amenities and Accommodation from SIRIM and Factories and Machinery (Safety, Health and Welfare) Regulations from DOSH.

### **Conclusion**

There are three research questions elevated in this study. The first one is on the criteria of facilities provision in construction workers' accommodation. This research question has been answered by referring to the Malaysia Standard of Temporary Construction Site Workers' Amenities and Accommodation (MS 2593:2015). This module is the most complete version of the criteria available, and it can be a holistic reference to refer to before providing facilities in construction workers' accommodation.

The second research question of this study asked about ways to identify the level of implementation regarding facilities provision in construction workers' accommodation among employers. The result of descriptive analysis shows the overall percentage of compliance towards the suggested criteria as explained comprehensively in the Malaysia Standard of Temporary Construction Site Workers' Amenities and Accommodation (MS 2593:2015) hence by a direct route answered the second research question. In a nutshell, several steps can be taken to make sure that the criteria suggested by the government is being abided by. Good communications with the employers will bring good results in the compliance level for instance having a good campaign that encourages employers to follow the suggested standard specification

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