November 2015

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) DETAILED STUDY REPORT

PULLMAN MANDALAY HOTEL

pullman
MANDALAY

Between Thazin Street & Nguwar Street, Back of 73rd Street, Myothit Ward No.(1), Chanmyathazi Township, Mandalay, Mandalay Region.

PREPARED BY:

Green Myanmar Environmental Services Co., Ltd. (GMES)
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Industrial City, Yangon, Myanmar
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Email: gmescompany@gmail.com

PREPARE FOR:

REGAL HOSPITALITY

REGAL HOSPITALITY Co., Ltd.
No. 33/A, Corner of 29th & 73rd Street, Seiktayamahi Quarter, Chanmyathazi Township, Mandalay Region, Mandalay.

DOCUMENT CERTIFICATION

This Environmental Impact Assessment Report has been prepared by Green Myanmar Environmental Services Co., Ltd.

I, (U Htay Myint, Director of Regal Hospitality Co., Ltd.) as proponent for Pullman Mandalay Hotel Project, do hereby solemnly affirm and declare that I fully understand and undertake to operate the project strictly in accordance with the said conditions, Environmental Impact Assessment and revised Environmental Management Plan.

I, the undersigned, certify that the particulars in this report are correct and true to the best of my knowledge.

The Proponent **REGAL HOSPITALITY CO., LTD.**
No. 33/A, Corner of 29th & 73rd Street,
Seiktayamahi Quarter, Chanayethazan Township,
Mandalay, Mandalay Region.

Signature : .....

Name : U Htay Myint .....

Designation : Director .....

Date : .....

COMMITMENT AND ACKNOWLEDGEMENT

An Environmental and Social Impact Assessment (ESIA) is a procedure that identifies, describes, evaluates and develops means of mitigating potential impacts of a proposed activity on the environment.

This ESIA report was prepared using information from the following sources:

- review of selected literature, reports, and advisories;
- meetings with several interested parties;
- personal visitation with several persons;
- the experience of the ESIA Team; and
- Other information solicited from baseline data and stakeholders.

And we strongly commit that this report was prepared in compliance with Myanmar Environmental Laws and Regulations.

Green Myanmar Environmental Services Company Limited (GMES) is grateful to the project proponent – Regal Hospitality Co., Ltd. – for commissioning us to conduct this Environmental and Social Impact Assessment in respect of the proposed project. GMES wishes to acknowledge with thanks the contribution of Myanmar Civil Aviation, Mandalay Region during the different stages of preparation of this document.

Sincere thanks should go to the Director of Regal Hospitality Co., Ltd. U Htay Myint for availing the necessary documentation and facilitating the site visits to enable the ESIA team of Green Myanmar Environmental Services Company Limited to effectively carry out the report and to complete in the required timeframe.

We would like to further acknowledge with great appreciation all those neighbors who participated in the public consultation process for their commitment and cooperation during the study.

The support, either direct or indirect, from the various parties who assisted the ESIA team towards the successful completion of this report is also acknowledged.

Green Myanmar Environmental Services Co., Ltd.

Signature : ----------

Name : U Kyaw Soe Win

Date : 17/02/2024

Green Myanmar Environmental Services Co., Ltd. GMES

EXECUTIVE SUMMARY

Tourism is known all over the world to have significant positive and negative environmental, social and economic impacts to a host community. The ESIA is a way of promoting benign environmental management for sustainable development. Thus, the Environmental and Social Impact Assessment (ESIA) for the proposed Pullman Mandalay Hotel project was conducted to analyze the potential negative impact of the proposed development activities to both villages as well as the impact of the project to the society.

Green Myanmar Environmental Services Company Limited was contracted by the proponent to undertake the study with the objective of identifying both the negative and the positive impacts of the proposed project and identify areas that are likely to be impacted on by the project in accordance with the laid down environmental legislation and guidelines, carry out a systematic ESIA report that should contain among other issues, identification of key environmental aspects, recommendations on appropriate mitigation measures to minimize or prevent adverse impacts and develop an environmental management plan outline.

The proponent aims to construct Pullman Mandalay Hotel Project in Chanmyathazi Township, Mandalay, Myanmar. The construction works will include a high-class (Five Star), 11-storey hotel which will comprise of 358 rooms. Many facilities will include such as function room, specialty restaurant, kids' club, swimming pool, pool bar, lobby bar, spa, bakery, meeting room, etc. The project is well presented in drawings and has been approved by the Mandalay Local Authorities. The proponents are required to present this report in order to comply with the Environmental Law and Regulations. The report has provided a summary statement of the likely environmental effects of the proposed project.

The potential impact of the project on the immediate surroundings is examined with due regard to all the phases from construction through completion and operation phase. It encompassed all aspects pertaining to the physical, ecological, socio-cultural, health and safety conditions at the site and its environs during and after construction. The study was based on laid down scientific qualitative procedures with the most recent methodologies and analysis required in ESIA and, strictly adheres to the relevant legislative framework governing the construction industry. Reference was also made to EIA reports dealing with similar projects from other parts of the world.

This report is composed of ten sections. Sections I and II give general introduction, approach and methodology used, review of relevant polices and legislations and baseline information, respectively. The section III also gives detail description on the analysis for the collected environmental data. Water, garbage and sewage management, oil and noise pollution, management of pools water and so on are analyzed critically.

Section IV discussed various potential environmental impacts and the mitigation measures to minimize for the identified problems. The project is planning to get its own water sources from the underground, but this report also recommended other possible options such as rainwater harvesting.

Sections V and VI highlighted on how management and monitoring exercise should be conducted throughout the life of the project. Finally, Fire Safety and Emergency Response Plan, Social Acceptability and Public Participation are also mentioned in the sections VII, VIII and IX.

Where possible, the ESIA team has provided site maps, plans and applications to local authorities to support our findings or show the depth of our investigations. The ESIA team has also provided photos of the proposed site.

The ESIA team found out that the proponent of the Pullman Mandalay Hotel Project has proposed to follow the laid down regulations, standards, laws and structural drawings as put out and proposed by the relevant authorities and professionals respectively.

It can be concluded that the project is important for economic development of Myanmar and has balanced environmental considerations and benefits. The ESIA team has given adequate measures to mitigate the negative impacts and a management plan proposed which the proponent should adhere to. The notable potential negative environmental impacts have to be mitigated sufficiently for the project to progress. The mitigation measures to manage these impacts are as identified in the Environmental Management and Monitoring Plan (EMMP) in the report. Moreover, this project's potential benefits and positive impacts far outweigh the negative impacts.

Scope of environmental assessment

This Environmental Impact Assessment (EIA) Report considers the following aspects and others that may approve of significance during the study.

1. Assess the project's impacts on surface run-off water
2. Assess social implications of the development within the locality, region and nationally:
    a) Economic implications of the development.
    b) Employment.
    c) Livelihoods.
    d) Demand and development of infrastructure and social amenities.
3. Develop an Environmental Management and Monitoring Plan (EMMP) that would mitigate the possible impacts on the environment.

Legend

1. **Public Facilities**
2. **Ngu Shwe Wah Condominium**
3. **Three Star Hotel**
4. **Food Court & Car Park Building**
5. **Ocean Super Center**
6. **Shop House**
7. **Pullman Mandalay Hotel**
8. **Mingalar Condominium**
9. **Villa**

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1.1 Project Name

- Pullman Mandalay Hotel Project

1.2 Project Location

Between Thazin Street & Nguwar Street, Back of 73rd Street, Myothit Ward No.(1), Chanmyatharzi Township, Mandalay, Mandalay Region. (See Figure 1.1)

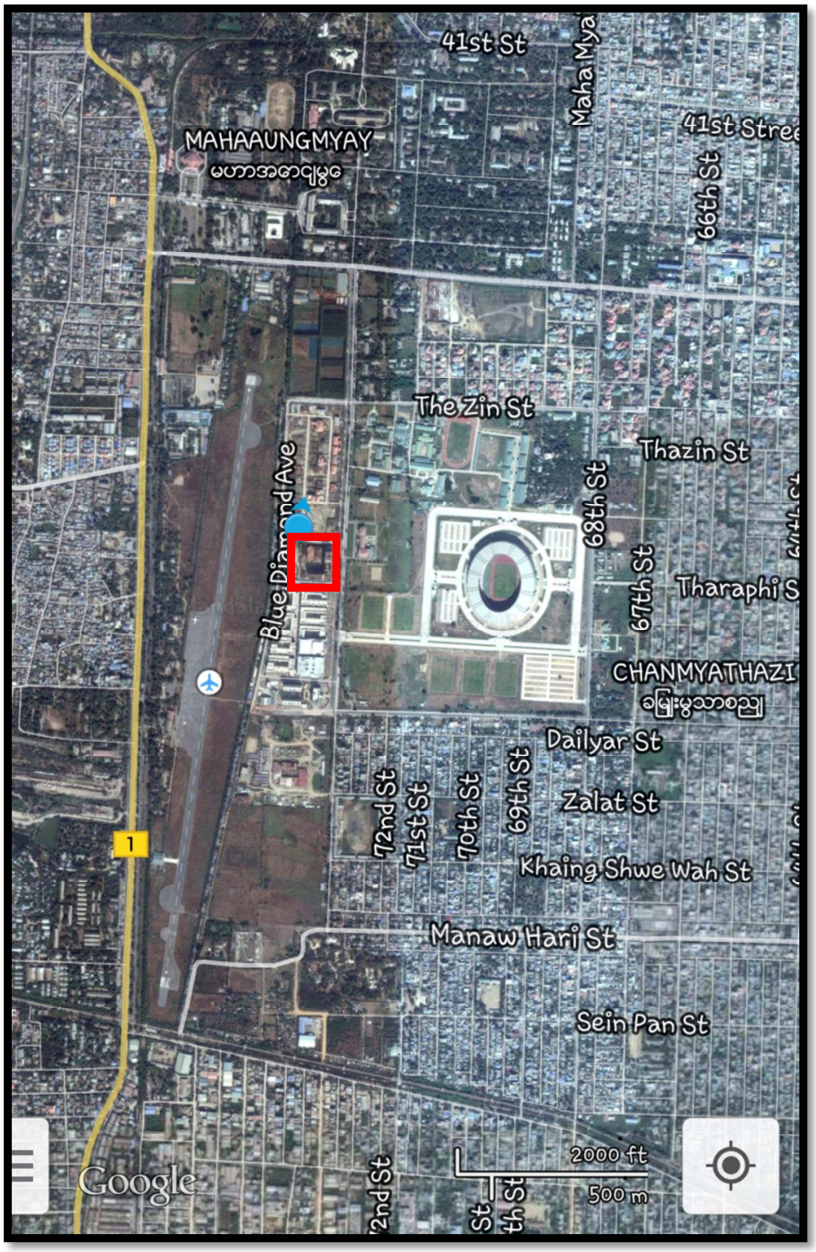


Figure 1.1 Google Image for Location of Pullman Mandalay Hotel

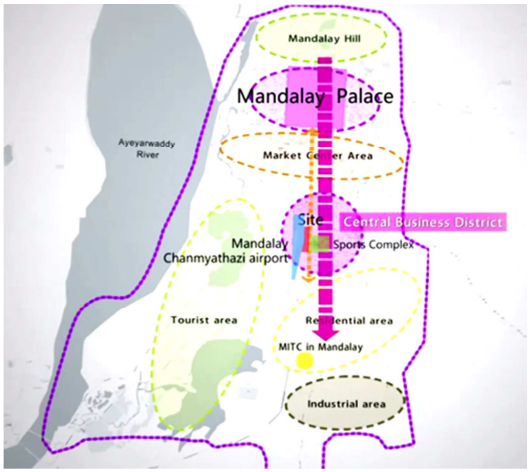


Figure 1.2 Location of Mingalar Mandalay Project

1.3 Objectives of the Project

The main objectives and benefits of the proposed project will be the following:-

- To construct a five star, 11-storey hotel in Mingalar Mandalay Complex. The project seeks to promote and improve the hospitality industry whilst meeting an international standard of accommodation in Mandalay, the most famous heritage city in Myanmar.
- To develop an environmentally sustainable project that will meet the surrounding developments, improve the economy and the livelihood of the people in the area;
- Contribute to national Growth Domestic Product (GDP) by enhancing infrastructural development in Mandalay;
- Provide employment opportunities for the skilled, semi-skilled and casual workers through direct and indirect job opportunities;
- Contribute revenue to the Government and the Local Authority through payment of corporate taxes, rates and personal levy; and
- Contribute to reduction of poverty levels in Chanmyatharzi Township through people employment.

1.4 Project Rationale and Justification

Hotel demand has continued to rise in hospitality industry and Myanmar as a whole due to rise in population and tourists entering the beautiful and picturesque country.

1.5 Details of Developer

The project is being proposed by Regal Hospitality Company Limited, a privately owned Myanmar company. The details of the proponent are presented below:

Proponent / Company:	Regal Hospitality Co., Ltd.
	No. 33/A, Corner of 29th Street & 73rd Street Seiktayamahi Quarter, Chanayetharzan Township, Mandalay,
	Myanmar
Contact Persons:	U Htay Myint
Designation:	Director
Postal Address:	No.33/A, Corner of 29th Street & 73rd Street, Seiktayamahi Quarter, Chan Aye Thar Zan Township, Mandalay.
	Tel 02-24562, 02-74519, 02-24873, 02-24874
	E-mail: regalhospitalitymdy@gmail.com

1.5.1 Particulars of Shareholders/Directors

Table 1.1 Regal Hospitality Company Limited; Shareholders/Directors

Regal Hospitality Company Limited No..... Date.....

014992

FORM XXVI

PARTICULARS OF DIRECTORS, MANAGERS AND MANAGING AGENTS AND OF ANY CHANGES THEREIN

(Myanmar Companies Act, See Section 87)

Name of Company : REGAL HOSPITALITY CO.,LTD

Presented by : U Kyaw Kyaw Win @ U Yan Kywe Yon (Chairman)

★The Present Christian name or names of surnames	Nationality, National Registration Card No.	Usual Residential Address	Other Business Occupation	Changes
(1) U Kyaw Kyaw Win @ U Yan Kywe Yon	**Myanmar** 13/Ta Ya Na (Naing)000305	No.Kha-273/274, Yin Pyan Butar Street, Between 34th x 35th Street & 59th x 60th Street, Kan Kauk Quarter, Shwe Yin Mon Yat, Chan Aye Thar San Township, Mandalay Region.	**Merchant**	Chairman
(2) Daw May Yin @ Daw Than Than Aye	**Myanmar** 1/ Ma Ka Na (Naing) 083216	No.Kha-273/274, Yin Pyan Butar Street, Between 34th x 35th Street & 59th x 60th Street, Kan Kauk Quarter, Shwe Yin Mon Yat, Chan Aye Thar San Township, Mandalay Region.	**Merchant**	Managing Director
(3) Daw Law Sone	**Myanmar** 9/Ma Ya Ta (Pyu) 000001	Block No.648, 78th Street, Between 36th & 37th Street, Haymamarlar North Quarter, Mahar Aung Myay Township, Mandalay Region.	**Merchant**	Director
(4) Daw Shwe Shan	**Myanmar** 9/Ma Ya Ta (Naing)106727	No.Ta-3/82, Myothit (1st) Quarter, Chan Mya Tharsi Township, Mandalay Region.	**Merchant**	Director
(5) U Aung Kyaw Oo	**Myanmar** 9/Ma Na Ma (Pyu) 000006	No.52/13, 14th Street, Between 87th Street & 88th Street, Block No. 76, Pyi Gyi Yan Lon Quarter, Aung Myay Thar San Township, Mandalay Region..	**Merchant**	Director

NOTE : (1) A Complete list of the Directors or Managers or Managing Agents shown as existing in the last particulars.
(2) A note of the changes since the last list should be made in the column for "Changes" by placing against the new Director's name the word "in place of ..... and by writing against any former Director's name the the word "dead" "resigned" or as the case may be giving the date of change against the entry.

Signature .....

Dated this 27-10-2014

Designation KYAW KYAW WIN
Chairman
Regal Hospitality Company Limited.

Form (26)

1.5.2 Total Investment Cost

Total investment cost of the project is estimated at Kyats 50,000,000,000.

1.5.3 Implementation Date

Regal Hospitality Company Limited's management are ready to implement the proposed project as soon as all the approval requirements are met and done through the various relevant line organizations and institutions which include the EIA approval process by MIC.

1.6 Approach and Methodology

1.6.1 Terms of Reference for the ESIA Study

Mingalar Mandalay Complex, situated between Thazin Street & Ngu War Street, Back of 73rd Street, Myothit Ward No.(1), Chanmyatharzi Township, Mandalay, Mandalay Region.

The Terms of References (TORs) for undertaking this Environmental and Social Impact Assessments (ESIA) have been prepared to pave way a road mark for consulting company in carrying out a full Environmental and Social Impact Assessment (ESIA) for Pullman Mandalay Hotel Project.

According the set TOR, the study area outlined to be the project area and other areas that could be affected by the proposed project in one way or another.

The ESIA documents the existing environmental conditions at the proposed site and its environs, including physical, biological and socio-economic aspects. The TORs are based on the generic guidelines by Ministry of Environmental Conservation and Forestry MOECAF, and are given below.

The environmental assessment report will be concise and limited to significant environmental issues. The main text will focus on findings, conclusions and recommended actions supported by summaries of the data collected. The environmental assessment report will be organized according to the outline below.

- Executive Summary
- Policy, Legal and Administrative Framework
- Description of Proposed Project
- Description of the Environment
- Significant Environmental Impacts
- Impact Mitigation and Management Plan
- Environmental Monitoring Plan

1.6.2 Objectives of ESIA

The main objective of this ESIA is to carry out a detailed environmental impact assessment.

Specific areas to be addressed include:

- Impacts addressing socio-economic and socio-cultural aspects
- Impacts related to ecological aspects of the project area and its surroundings
- Environmental and social problems as a result of project development and implementation
- Issues of health risks and safety
- Public participation
- Proposed mitigation measures for identified negative impacts
- Development of an environmental and social management plan for construction, operation and management of the project

1.7 ESIA Working Group

The planning and conduct of the ESIA report for Pullman Mandalay Hotel Project was carried out by a team of GMES together with the support of relevant personnel such as Human Resources Manager and Managing Director from Regal Hospitality Co., Ltd.

1.8 Timeframe of the ESIA

The ESIA started from March, 2015 and ended in September, 2015.

1.9 Applicable Environmental Regulations and Standards

Myanmar laws and regulations having environmental provisions are as follows:

Table 1.2 Myanmar Environmental Laws and Regulations

Sr. No.	Laws	Year	Related to Environmental Impact Assessment
1	Environmental Conservation Law	2012	Implementation of National policy by setting up of principles and guidelines for sustainable development and conservation of clean environment, natural and cultural heritage for present and future generation.

2	Conservation of Water Resources and Rivers Law	2006	Conservation and protection of water resources and river system for proper utilization of the public by preventing environmental impact.
3	Protection and Preservation of Cultural Heritage Regions Law	1998	Protection and preservation of cultural heritage regions and the cultural heritage by implementing the protection and preservation policy with respect to the perpetuation of cultural heritage that has existed for many years.
4	National Environmental Policy	1994	Establishing sound environmental policies in utilization of water, land, forest, mineral resources and other natural resources in order to conserve the environment and prevent its degradation.
5	Myanmar Insurance Law	1993	Operation of an enterprise by an entrepreneur or organization, which may cause pollution to the environment, shall affect compulsory General Liability Insurance.
6	Forest Law	1992	Implementation of forest policy and environmental conservation policy to prevent destruction of forest and biodiversity, to carry out conservation of natural forests and establishment of forest plantations.
7	Private Industrial Enterprises Law	1990	Consideration to refrain or reduce from applying technologies, which cause environmental pollution and also in issuing certificate for registration of the private industries, the fact of not affecting the environment and not causing pollution.
8	Public Health Law	1972	Promoting and safeguarding public health by taking necessary measures in respect of environmental health.
9	Factories Act	1951	Requirements in making effective arrangements for the disposal and cleansing of wastes generated by a factory or provision of its own treatment plant to remove or reduce potential pollutants from its wastewater before disposing its effluent.

2. OVERVIEW AND GENERAL INFORMATION

2.1 General Introduction of the Proposal

The proposed project is the development of a Kyats 50,000,000,000 , five star, 358-room hotel located at the back of the 73rd. Street, between Thazin Road and Nguwah Road in Plot No. 1A/5, Ward No.(1) Myo Thit, Chanmyathazi Township, Mandalay, Mandalay Region. The project sponsor is Regal Hospitality Company Limited. The development is one of the Mingalar Mandalay Project activities. (See Figures 2.1 & 2.2)

Overall construction completion is estimated at 75%. With other activities nearly complete, the outstanding work is mainly on the construction of Pullman Mandalay Hotel together with electrical and water services; installation of furniture, fittings and equipment; landscaping and other external works. The hotel is expected to open in March, 2017.

Regal Hospitality Co., Ltd. has conceived a development to be implemented on approximately 4.8209 acres of land in the city of Mandalay. The construction of the hotel involves the construction of a multi-level building of Construction Floor Area 46,126 m^2 and Gross Floor Area 31,368 m^2.

The site is bordered by Mingalar Street (2) to the north, 73rd Street to the east Chanmyatharzi Airport to the west, Mingalar Mandalay Shophouse to the south and Mingalar Condominium to the north.

The maximum proposed building is 11 multi-storey, and is designed to meet the needs of the business and tourist traveller.

2.2 Salient Features of the Project

Table 2.1 Salient Features of the Project

1	Name of the Project	Pullman Mandalay Hotel Project	
2	Project proponent	Regal Hospitality Co., Ltd.	
3	Company Registration No.	5218/2012 -2013 (7-3-2013)	
4	Location	Between Thazin Street & Ngu War Street, Back of 73rd Street, Myothit Ward No.(1), Chanmyatharzi Township, Mandalay District, Mandalay Region.	
5	Site Boundaries	East direction South direction West direction North direction	73rd Street (Mingalar St.) Mingalar Mandalay Shophouses Chanmyatharzi Airport Mingalar Street (2)

6	Total Land Area	19,509 m^2
7	Type of Hotel	Five star hotel, 10-Storey with 1 basement and 1 mezzanine
8	Total Number of rooms	358
9	Size of the Project	Total Land Area 19,509 m^2 Construction Floor Area 46,126 m^2 Gross Floor Area 31,368 m^2
10	Office address	No. 33/A, Corner of 29th & 73rd Street, Seiktayamahi Quarter, Chanayetharzan Township, Mandalay, Mandalay Region.
11	Construction Period	3 years
12	Contact person Designation Contact Numbers	U Htay Myint Director 02-24562, 02-74519, 02-24873, 02-24874 Email: regalhospitalitymdy@gmail.com

2.3 Location of the Hotel and its Surroundings

The hotel is located at the center of the Mingalar Mandalay Complex, which is situated in Chanmyatharzi Township, Mandalay, Mandalay Region. (See Figure 2.1) The hotel is surrounded by other hotels, multi-storey air-conditioned office buildings with shopping arcades, and apartments.

There are a lot of passer-by and vehicles passing through 73rd Street every day.

The proposed project will be situated in Chanmyatharzi Township, Mandalay, Mandalay Region and comprises of 4.8209 acres (19,509 sq.m). The approximate geographical coordinates of the plant site is:

Latitude 20 ° 42' 07.91" N

Longitude 97° 08' 33.42" E

2.4 Site Accessibility and Siting of Project

The site is well connected with the surrounding areas. It is located on the west side of the 73rd Street. (See Figures 2.1 & 2.2)

The global best practice is to assess alternative locations to identify the most appropriate site. In Myanmar however, in most cases, the land is already allotted to the developer without site screening and environmental appraisal. As the chosen site is located in Mingalar Mandalay

Complex, which is a well-organized project, it is expected the proposed activities will hardly have any major impacts on the surrounding region.

2.5 Layout Plan

The Layout plan of Pullman Mandalay Hotel is shown in Figure 2.3

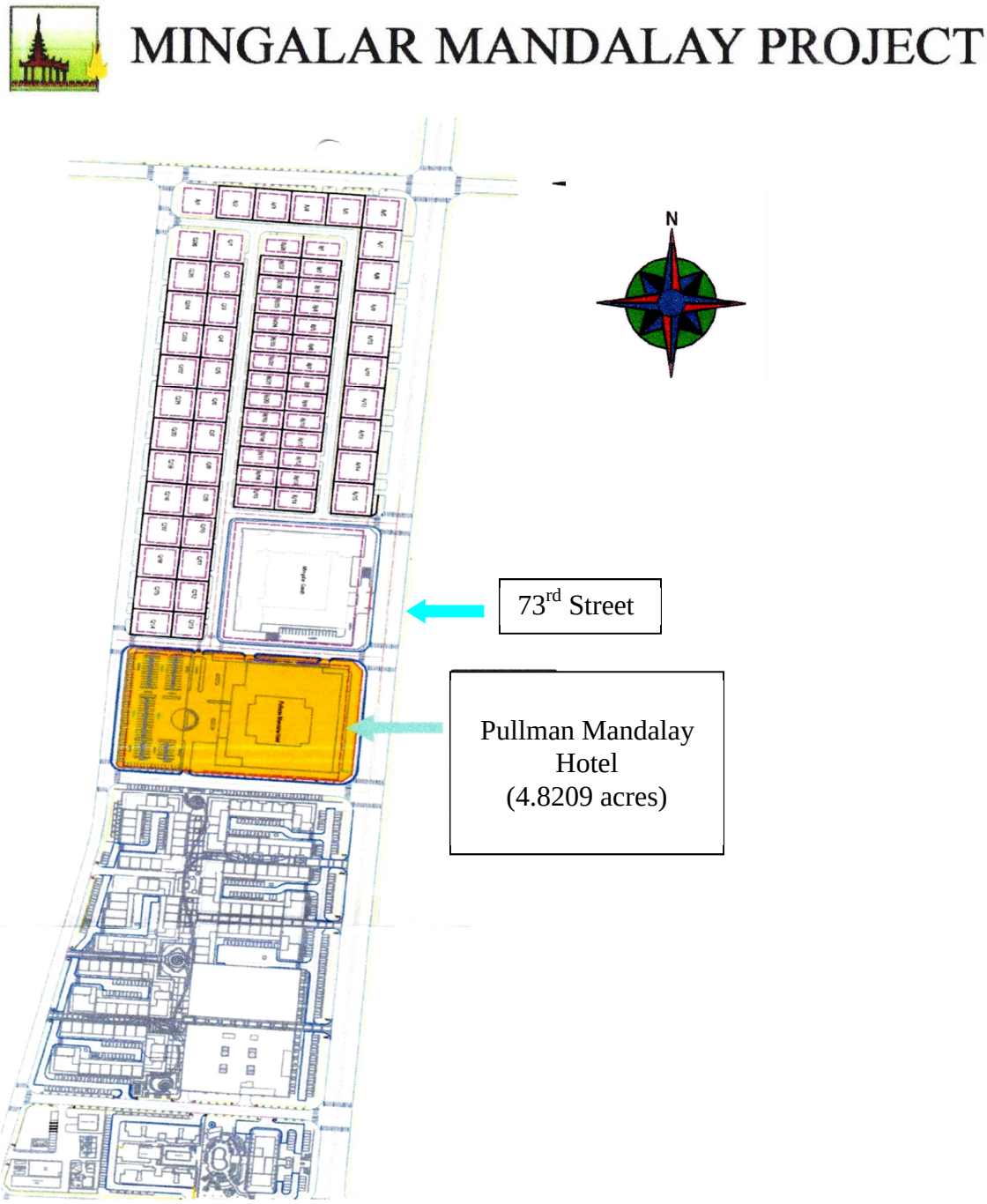


Figure 2.1 Location of Pullman Mandalay Hotel in Mingalar Mandalay Complex

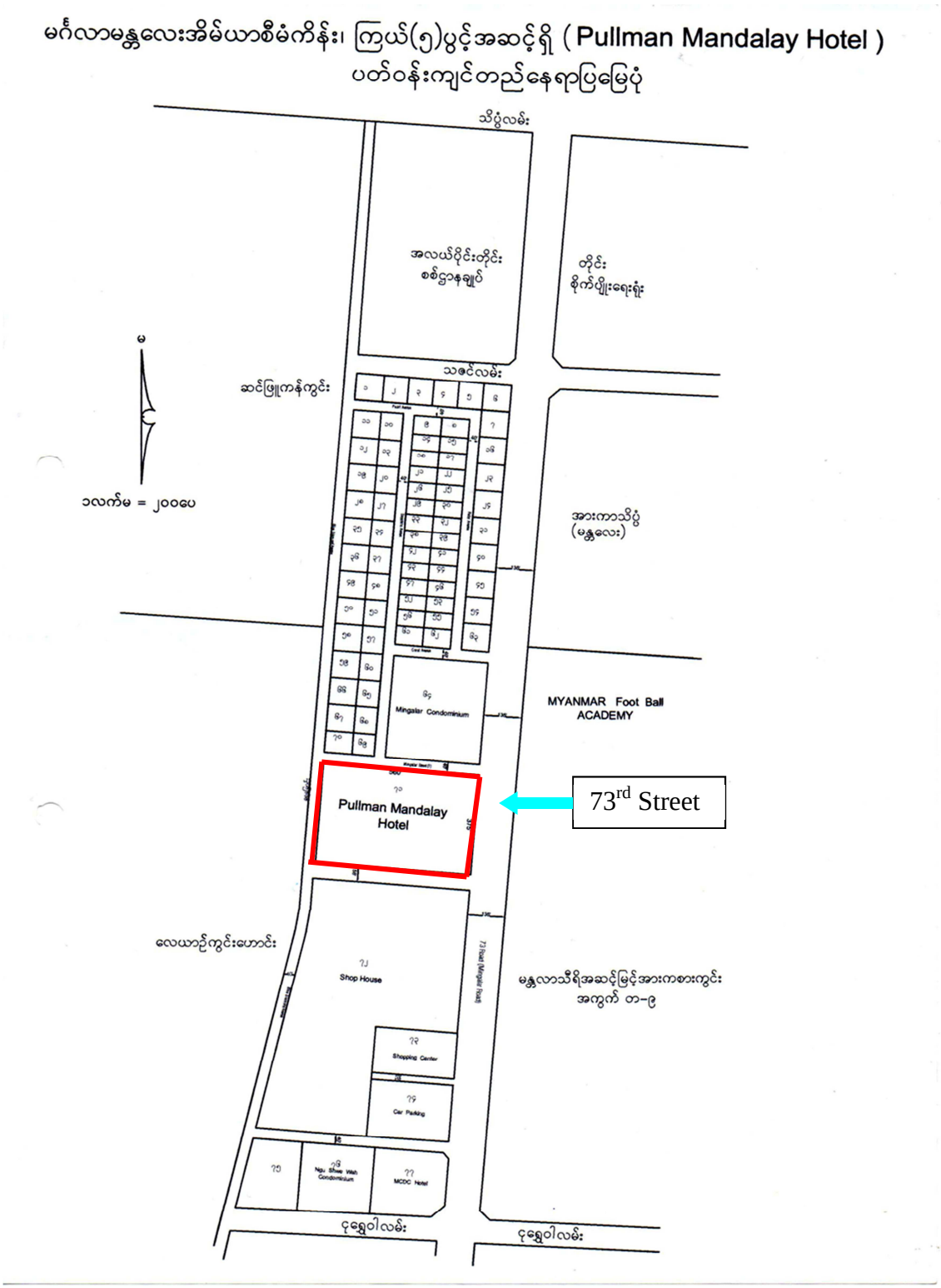


Figure 2.2 Pullman Mandalay Hotel and its Vicinities

Legend

1. Lobby Reception
2. Staff Office
3. Preparation Area
4. Changing Area (Female)
5. Changing Area (Male)
6. Treatment Room 1
7. Treatment Room 2
8. Treatment Room 3
9. Treatment Room 4
10. Treatment Room 5
11. Treatment Room 6
12. Treatment Room 7
13. Treatment Room 8
14. Treatment Room 9
15. Treatment Room 10
16. Suite Treatment1
17. Reflection Pool
18. Relaxation Area
19. Changing Area (Male)
20. Changing Area (Female)
21. Fitness Lobby
22. Fitness

Figure 2.3 Layout of Pullman Mandalay Hotel

2.6 Project Investment

Table 2.2 Capital Investment in Thousand

Sr. No.	Description	Kyats	US$	Total (Kyats)
1	Capital Investment	792,870		792,870
2	Equipment & Machinery		1,350	1,309,500
3	Buildings: Hotel units	23,124,900		23,124,900
4	Land	13,900,000		13,900,000
5	Materials & Equipment		11,209	10,872,730
	Total	37,817,770	12,559	50,000,000

US$ 1 = 970 Kyats

2.7 Implementation Schedule

Table 2.3 Pullman Mandalay Hotel Construction Program

Sr. No.	Task Name	Duration	Start	Finish
1	Pullman Mandalay	823 days	6 May 2013	29 Jun 2016
2	Substructure	215 days	6 May 2013	28 Feb 2014
3	Superstructure	510 days	11 Nov 2013	23 Oct 2015
4	Portion 1	432 days	11 Nov 2013	7 Jul 2015
5	Portion 2	330 days	3 Feb 2014	8 May 2015
6	Portion 3	432 days	16 Dec 2013	11 Aug 2015
7	Courtyard	90 days	5 Jan 2015	8 May 2015
8	Portion 4	450 days	3 Feb 2014	23 Oct 2015
9	Architecture Works	490 days	14 Apr 2014	26 Feb 2016
10	Brick Works	435 days	14 Apr 2014	11 Dec 2015
11	Facade Works	204 days	9 Feb 2015	19 Nov 2015
12	External Wall Works	295 days	12 Jan 2015	26 Feb 2016
13	GRC Works	180 days	11 May 2015	15 Jan 2016

14	Interior Fit-out Works	415 days	22 Sep 2014	22 Apr 2016
15	Guestroom	415 days	22 Sep 2014	22 Apr 2016
16	Public Areas	205 days	29 Jun 2015	8 Apr 2016
17	Back-of-House Areas	220 days	8 Jun 2015	8 Apr 2016
18	M&E Works	545 days	5 May 2014	3 Jun 2016
19	M&E 1st Fix	445 days	5 May 2014	15 Jan 2016
20	M&E 2nd Fix	405 days	6 Oct 2014	22 Apr 2016
21	M&E 3rd Fix	130 days	9 Nov 2015	6 May 2016
22	Testing & Commissioning	90 days	1 Feb 2016	3 Jun 2016
23	External Works	160 days	12 Oct 2015	20 May 2016
24	Drainage	115 days	30 Nov 2015	6 May 2016
25	Road Works	85 days	11 Jan 2016	6 May 2016
26	Signages	90 days	28 Dec 2015	29 Apr 2016
27	Landscape	160 days	12 Oct 2015	20 May 2016
28	Inspection	110 days	18 Jan 2016	17 Jun 2016
29	1st Inspection	30 days	18 Jan 2016	26 Feb 2016
30	2nd Inspection	30 days	28 Mar 2016	6 May 2016
31	3rd Inspection	30 days	9 May 2016	17 Jun 2016
32	Training	40 days	2 May 2016	24 Jun 2016
33	Handover	3 days	27 Jun 2016	29 Jun 2016

2.8 Machinery and Equipment Requirement

Table 2.4 List of Machinery & Equipment

Sr.No.	Particulars	Quantity
1. Machinery &Equipment		
1	1000kVA Generator	2
2	1250 kVA Generator	2
3	Elevators	6

2. Vehicle		
1	Dump Truck (1) 20 Ton Truck 9 Nos (2) Garbage Truck 1 No.	10
2	Mini-bus (12 Seater) for Hotel use	3
3	Mini-bus (24 Seater) for Hotel use	2
4	Saloon (4 Seater) for Hotel use	5
5	Land Cruiser for Hotel use	2
6	Buggy	3

Table 2.5 Materials and Equipment

Sr. No.	Particulars	Quantity
1. Materials		
1	Pipes and Pipe fittings (Assorted)	1Lot
2	Glasses (Assorted) 6 mm to 30 mm	26000 sq.m
3	Stain Steel (Assorted) 25 mm to 40 mm	100 MTs
4	Aluminum Multi-structure Materials (1mm to 2 mm)	200 MTs
5	Electrical Material (Air Conditioning & Mechanical Ventilation 1. Chiller 2. Chilled Water Pump 3. Condenser Water Pump 4. Cooling Tower 5. Fan Coil Unit (FCU) 6. Air Handling Unit (AHU) 7. Pre-cooled Fresh Air Unit (PFU) 8. Precool Outdoor Unit (POU)	 3 3 3 3 486 11 3 6

	9. Mechanical Ventilation Fans/Silencer 10. Pipe Materials 11. Duct Materials	63 1 Lot 1 Lot
6	Interior Decoration Materials (Including Gypsum Board, Furniture & etc.)	1Lot
7	Floor Tile (24 " x 24")	103000 Pcs
8	Wall Tile (12 " x 18")	34000 Pcs
2. Equipment		
(A) Kitchen and Bar Equipment		
1	Stove	5 Set
2	Oven	2 Set
3	Chinese Stove	5 Set
4	Refrigerator	4 Set
5	Freezer	4 Set
6	Coffee Machine	20 Set
7	Chinaware	1 Lot
8	Glasses	1 Lot
9	Table Cloth & Napkin	1 Lot
10	Spirits & Liquors	1 Lot
11	Pots and Pans	1 Lot
12	Other Kitchen Accessories	1 Lot
(B) Laundry Room equipment		
1	Laundry Machine & Accessories	5 Nos
2	Dryer	5 Set
3	Roller Iron	5 Set
4	Washing Machine	5 Nos
5	Linen, Blanket & Pillow	1 Lot
(C) Security Equipment		
1	CCTV Camera, Fire Alarm System & etc.	15 Set

2	PABX Base Station	50 Set
3	Security Accessories	20 Set
4	Fire Fighting Pump	10 Set

Table 2.6 Other Kitchen Accessories

Sr. No.	Particulars	A/U	Quantity
1	Butter Knife, Safico	Nos	3,000
2	Dessert knife, Safico	Nos	3,000
3	Table Knife, Safico	Nos	3,000
4	Dessert Fork, Safico	Nos	3,000
5	Table Fork, Safico	Nos	3,000
6	Serving Fork, Safico	Nos	300
7	Demitasse Spoon, Safico	Nos	200
8	Tea Spoon, Safico	Nos	5000
9	Soup Spoon, Safico	Nos	3000
10	Dessert Spoon, Safico	Nos	3000
11	Serving Spoon, Safico	Nos	300
12	Soup Laddle, Safico	Nos	350
13	Scissor Salad Tong, Safico	Nos	350
14	Cake Server, Safico	Nos	200
15	Table Spoon, Safico	Nos	3000
16	Round Rim Plate, 311 mm	Nos	3000
17	Round Rim Plate, 267 mm	Nos	3000
18	Round Rim Plate, 203 mm	Nos	3000
19	Round Rim Plate, 165 mm	Nos	3000
20	Soup (Bouillon) Cup with Handle, 300 m^3	Nos	2000

21	Common Saucer, 147 mm x 23 mm	Nos	2000
22	Soup Bowl, 700 cm^3	Nos	1500
23	Tea / Coffee Cup 190cc	Nos	3000
24	Tea / Coffee Saucer 162 mm x 22 mm	Nos	5000
25	Conical Demitasse (Espresso) Cup	Nos	200
26	Conical Demitasse (Espresso) Saucer	Nos	200
27	Creamer Jar, 300 cm^3	Nos	250
28	Creamer Jar 90 cm^3	Nos	300
29	Salt Shaker	Nos	300
30	Pepper Shaker	Nos	300

2.9 Man Power Requirement

Construction Phase	Local	130 Nos.
Operation Phase	Local	158 Nos.
	Foreign	13 Nos.

2.10 Power Supply and Energy Requirement

The electrical substation was designed to provide stable and reliable electrical power supply to the Mingalar Mandalay project.

Pullman Mandalay Hotel will be supplied with an electricity service from Mingalar Mandalay Sub-station adequate to supply all buildings, lighting and other services.

Generators will be able to cater for adequate electrical backup power for the Mingalar Mandalay during power disruptions.

Figure 2.4 Electrical Substation for Mingalar Mandalay Complex

Figure 2.5 Standby Generator

2.11 Annual Fuel Requirement

Diesel oil	20,000 gallons
Engine/lubricating oil	500 gallons

2.12 Water Requirement and Type of Water Treatment

The plant nursery, construction camp and site works will require a supply of water. This implies that the provision of water to the construction area from the tube well will be an initial construction activity. This will involve vegetation clearance along the route of the water mains and possibly burying of the pipe in a trench.

2.12.1 Water Supply

There are two 8" bore tube wells to fulfill the need of water demand, which is:

Daily consumption 100,000 gallons

Annual consumption 3×10^7 gallons

Quality of the water supply from the tube well had been tested and was deemed acceptable.

Water will be treated before delivery to water storage tank. The treatment plant will include:

- Sand filtration,
- Activated carbon filtration,
- Chlorine injection, and
- Ion exchange.

Treated water is stored in two separate tanks; each tank capacity is 140 m^3. The water storage is designed for one day's consumption.

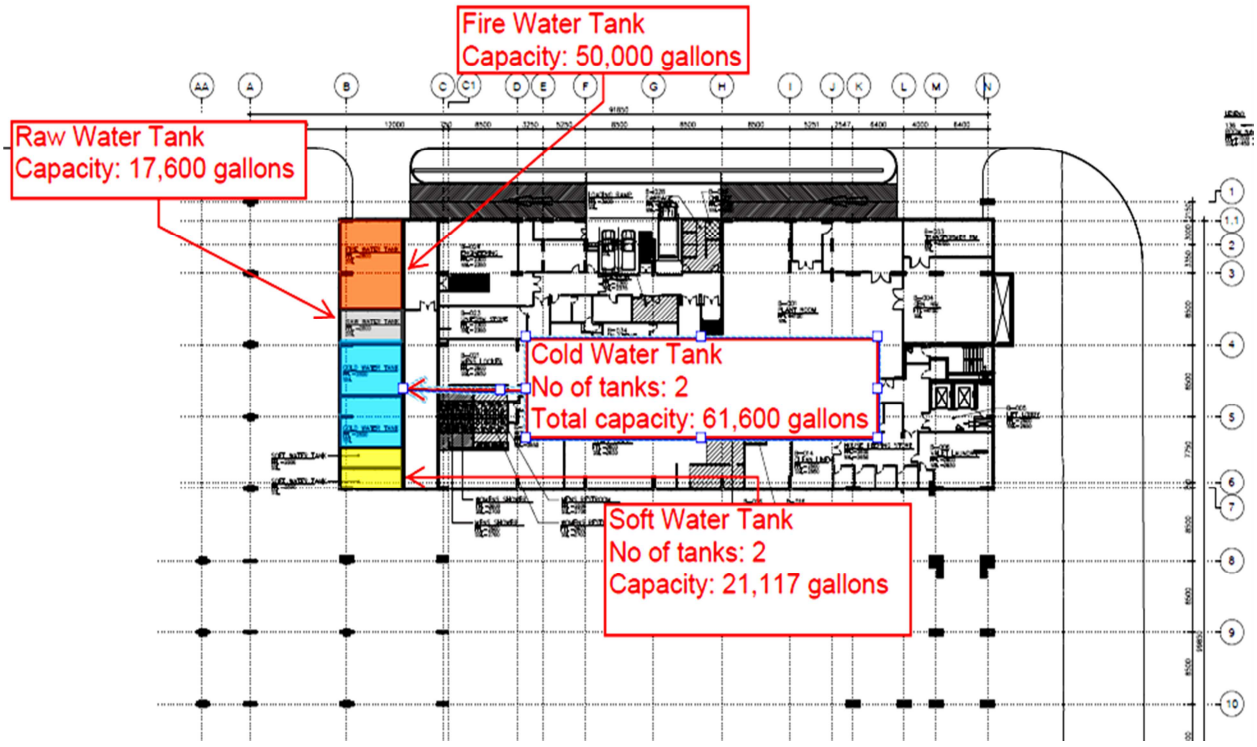


Figure 2.6 Water Storage Tanks

2.12.2 Swimming Pool

Each swimming pool treatment system will comprise the following:

- Surge tank and water circulation system

- Filtering system
- pH adjusting system
- Disinfecting system

Overflow water from the swimming pool will be treated via a filtering system, pH adjusting system and disinfecting system respectively before being pumped back to the pool.

Sand filter will be used for the filtering system. Disinfecting system will be salt chlorination system.

Total volume of water in pool is 305m^3.

2.13 Wastewater Generation and Drainage System

For hotels, wastewater treatment and water management are the two most important operational criteria. This translates to controlling discharge into the environment.

With an objective to fulfill the requirement of the environmental pollution control, sewage treatment plants for hotels are extensively designed for recycling wastewater generated from kitchen (which contains higher oil), laundry or toilet.

Central Wastewater Treatment Plant in Mingalar Mandalay project is based on aerobic sewage treatment system which involves secondary treatment process to counter effect foul smell.

Biological wastewater treatment provides space saving and ecological solutions for wastewater treatment and water recycling. The process enables the cleaning of wastewaters from the sanitary area, pools and swimming ponds sustainably in an environmentally friendly way and without chemicals. The process is cost-efficient for arid regions in particular, since the discharged water can be used for irrigation of parks and lawns.

2.13.1 Hotel Wastewater System

Wastewater system comprises the following:

- Soil system for wastewater from water closets
- Waste system for wastewater from showers and basins
- Kitchen wastewater from kitchens
- Central grease traps from kitchens

Soil and kitchen wastewater will be collected in two septic tanks. The collected wastewater and sewage from the hotel will be discharged into the wastewater treatment plant in Mingalar Mandalay Complex through the internal sewer network.

Discharge is approximately at 125 m^3 per day or 27,500 gallons per day.

Wastewater from showers and basins will be treated onsite and treated water can be used for irrigation. The system comprises of sand filter and chlorine injection.

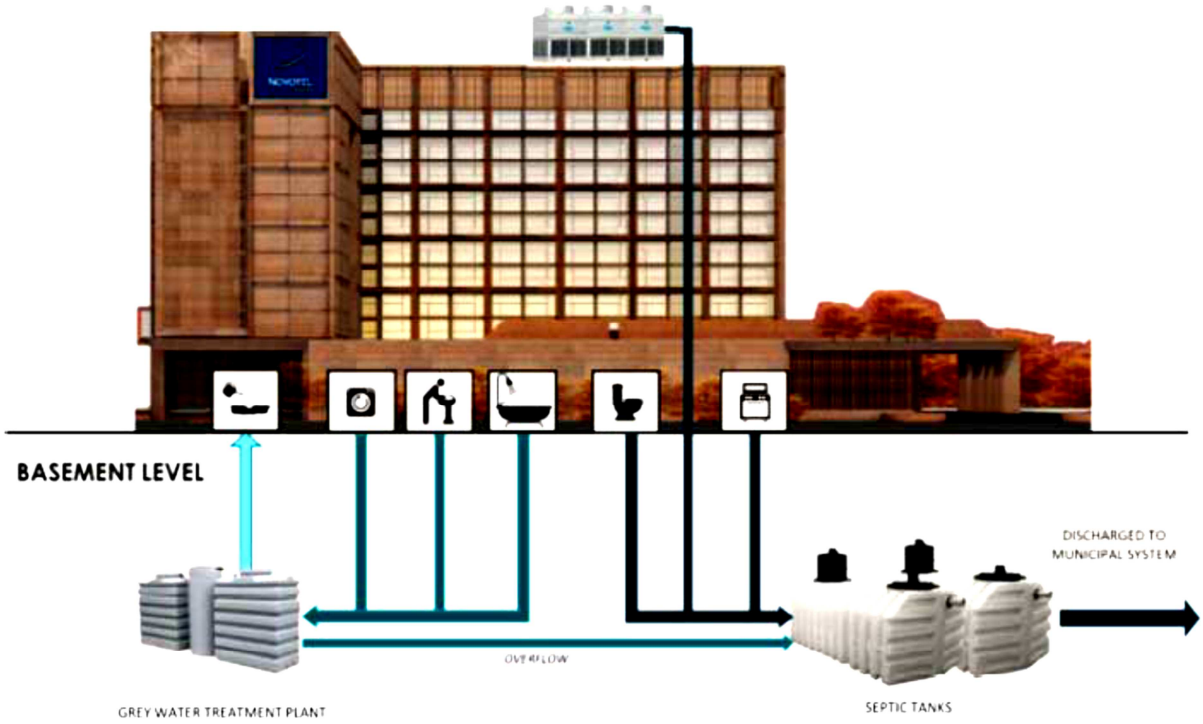


Figure 2.7 Sewage and Drainage System for Pullman Mandalay Hotel

The sewage treatment plant manages and treats the sewage from Mingalar Mandalay project.

Quality of the discharged water from the treatment plant is constantly monitored and tested.

Figure 2.8 Wastewater and Sewage Discharge System

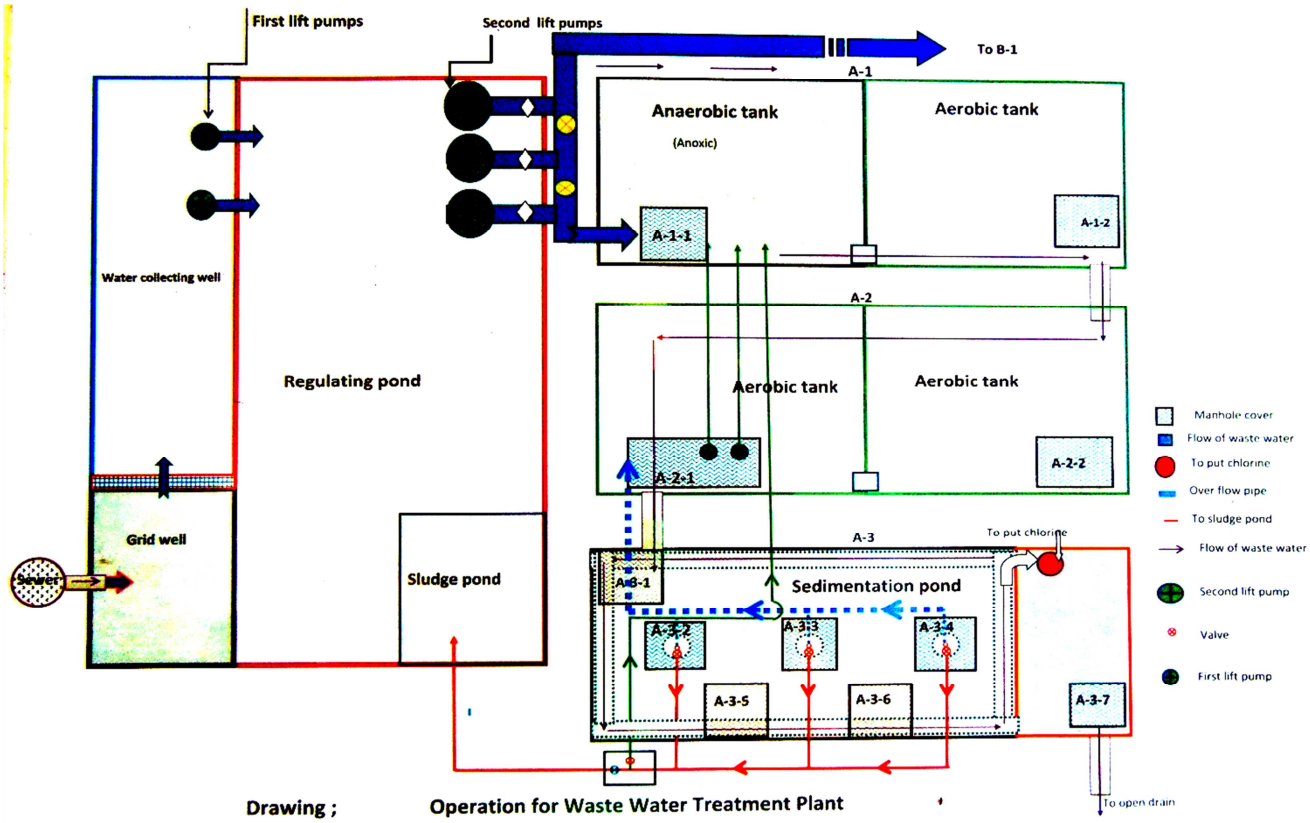


Figure 2.9 Flow Diagram of Wastewater Treatment Plant for Mingalar Mandalay Project

2.13.2 Operation Steps for Wastewater Treatment Plant

1. First-lift pump have two sets, and one is used, another is prepared. Each pump automatically switches running from one to another every six hours through the float level instrument control. Pump will run when the float level instrument control reach at the high level. And the pump stops when it is low level. When the float level instrument control reaching at the over high level, two pumps simultaneously open and the alarm works.

2. Second-lift pump have three sets, and two of them are used, another is prepared. Each pump automatically switches running from one to another every six hours through the float level instrument control. Pump will run when the float level instrument control reach at the high level. And the pump stops when it is low level. When the float level instrument control reaching at the over high level, two pumps simultaneously open and the alarm works.

3. Nitrification reflux pump have four sets. Two of them are used; two are prepared with the second-lift pump linkage operation.

4. Blowers have three sets. Two of them are used; one is prepared with the second-lift pump linkage operation. Each pump automatically switches running from one to another

every six hours through the float level instrument control. And one will run one hour automatically when the system not work for two hours. (This operation is adjustable).

Figure 2.10 Wastewater Treatment Plant for Mingalar Mandalay Project

Figure 2.11 Drainage System of Mingalar Mandalay Project

2.14 Solid Waste Management

A considerable amount of organic refuse (vegetation) would be generated during site clearance activities. To the greatest extent possible the soft material (leaves, shoots, etc.) would be separated and composted on site for later reuse during the landscaping phase. Harder and woody material (tree trunks, branches) would be stockpiled and removed from the site by selling as fire wood.

Solid waste generated at the site will primarily be domestic in nature (paper, plastics, packaging, waste food, etc.). This will be collected on a regular basis.

The hotel operators are willing to institute waste separation and recycling procedures and the extent to which these can be effectively executed will be examined.

2.15 Hotel Services and Facilities

Pre-Function	All Day Dining Fitness	VIP Reception
Function Room	Specialty Restaurant	Kids' Club
Meeting Room	Whiskey Bar	Swimming Pool
Meeting Pre-Function	Lobby Bar	Spa
	Pool bar	VIP Lounge
	Bakery	
	Private Dining	
	Premier Lounge	

3. DESCRIPTION OF THE PHYSICAL ENVIRONMENT

Before impact assessment of different environmental components is undertaken, it is pertinent to highlight the existing physical parameters of climatology, hydrological, air quality and acoustic conditions of the project site as follows:

3.1 Meteorology and Climatology

Mandalay, Myanmar, at Latitude 21.98° North and Longitude 96.08° East, has a tropical wet and dry/ savanna climate. Tropical savanna climates have monthly mean temperatures above 18°C (64°F) in every month of the year and typically a pronounced dry season, with the driest month having precipitation less than 60 mm and also less than (100 – [total annual precipitation {mm}/25] mm). According to the Holdridge life zones system of bioclimatic classification Mandalay is situated in or near the tropical very dry forest biome.

3.1.1 Temperature

Mandalay features a tropical wet and dry climate. Mandalay features noticeably warmer and cooler periods of the year. Average temperatures in January, the coolest month, hovers around 21°C while the warmest month, April, averages 31°C. Mandalay is very hot in the months of April and May, with average high temperatures easily exceeding 35°C. It is not uncommon to see high temperatures surpass 40°C during these two months in the city. Mandalay also features wet and dry seasons of nearly equal length, with the wet season running from May through October and the dry season covering the remaining six months. The highest reliably recorded temperature in Mandalay is 45.6°C (114.1°F) and the lowest is 5.6°C (42.1°F).

Table 3.1 Average Temperature Table for Mandalay

Climate data for Mandalay (1961–1990)													
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Average high °C (°F)	28.6 (83.5)	32.1 (89.8)	35.8 (96.4)	38.4 (101.1)	36.8 (98.2)	34.2 (93.6)	34.3 (93.7)	32.3 (90.1)	33.1 (91.6)	32.2 (90)	30.2 (86.4)	28.2 (82.8)	33.0 (91.4)
Daily mean °C (°F)	21.0 (69.8)	23.5 (74.3)	27.8 (82)	31.4 (88.5)	31.3 (88.3)	30.0 (86)	30.1 (86.2)	28.8 (83.8)	29.0 (84.2)	27.9 (82.2)	24.8 (76.6)	21.5 (70.7)	27.26 (81.05)
Average low °C (°F)	13.3 (55.9)	14.9 (58.8)	19.7 (67.5)	24.4 (75.9)	25.8 (78.4)	25.8 (78.4)	25.8 (78.4)	25.2 (77.4)	24.9 (76.8)	23.5 (74.3)	19.4 (66.9)	14.8 (58.6)	21.5 (70.6)
Average rainfall mm (inches)	4 (0.16)	2 (0.08)	1 (0.04)	40 (1.57)	138 (5.43)	116 (4.57)	83 (3.27)	136 (5.35)	150 (5.91)	125 (4.92)	38 (1.5)	6 (0.24)	839 (33.03)
Avg. rainy days	0.4	0.4	0.4	3.3	8.3	7.2	5.9	8.7	8.1	6.8	2.8	0.7	53.0
Avg. relative humidity (%)	68	58	49	50	66	73	71	76	76	77	74	72	67.5
Mean monthly sunshine hours	309	280	301	291	267	208	182	168	215	223	269	278	2,991
Source #1: World Meteoroglogical Organization,[31] Weatherbase (record highs and lows).[32]													
Source #2: Danish Meteorological Institute (sun and relative humidity)[33]													

3.1.2 Precipitation

- Mandalay is bestowed with on balance 915 mm (36 in) of rainfall per year, or 76.3 mm (3 in) per month.
- On average there are 53 days per year with more than 0.1 mm (0.004 in) of rainfall (precipitation) or 4.4 days with a quantity of rain, sleet, snow etc. per month.

- The driest weather is in March when an average of 1 mm (0 in) of rainfall (precipitation) occurs.
- The wettest weather is in October when an average of 185 mm (7.3 in) of rainfall (precipitation) occurs.

Table 3.2 Average Precipitation Table for Mandalay

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Precipitation mm (in)	4 (0.16)	2 (0.1)	1 (0)	38 (1.5)	144 (5.7)	129 (5.1)	78 (3.1)	133 (5.2)	156 (6.1)	185 (7.3)	38 (1.5)	7 (0.3)	915 (36)
Precipitation Litres/m² (Gallons/ft²)	4 (0.1)	2 (0.05)	1 (0.02)	38 (0.93)	144 (3.53)	129 (3.16)	78 (1.91)	133 (3.26)	156 (3.83)	185 (4.54)	38 (0.93)	7 (0.17)	915 (22.44)
Number of Wet Days (probability of rain on a day)	0 (0%)	0 (0%)	1 (3%)	3 (10%)	8 (26%)	7 (23%)	6 (19%)	8 (26%)	9 (30%)	7 (23%)	3 (10%)	1 (3%)	53 (15%)
Percentage of Sunny (Cloudy) Daylight Hours	92 (8)	80 (20)	82 (18)	75 (25)	66 (34)	50 (50)	44 (56)	43 (57)	57 (43)	63 (37)	79 (21)	84 (16)	68 (32)

Source: www.climatemps.com

3.1.3 Sunshine and Daylight Hours

- On balance sunlight hours in Mandalay range between 5:25 (hr:min) for each day in August and 9:58 per day in January.
- The longest day of the year is 13:20 (hr:min) long and the shortest day is 10:39 long.
- The longest day is 2:41(hr:min) longer than the shortest day.
- There is an average of 2991 hours of sunlight per year (of a possible 4383) with an average of 8:11 (hr:min) of sunlight per day.
- It is sunny 68.2% of daylight hours. The remaining 31.8% of daylight hours are likely cloudy or with shade, haze or low sun intensity.
- At midday the sun is on average 68.1° above the horizon at Mandalay.

Table 3.3 Average Sunshine and Daylight Hours for Mandalay

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Sunlight Hours/ Day	09:58	09:54	09:42	09:42	08:36	06:56	05:52	05:25	07:10	07:11	08:58	08:58	08:11
Average Daylight Hours & Minutes/ Day	10:56	11:23	11:59	12:38	13:10	13:26	13:19	12:51	12:14	11:35	11:03	10:48	12:00
Sunny & (Cloudy) Daylight Hours (%)	92 (8)	88 (12)	82 (18)	78 (22)	66 (34)	52 (48)	44 (56)	43 (57)	59 (41)	63 (37)	82 (18)	84 (16)	68 (32)
Sun altitude at solar noon on the 21st day (°).	48	57.3	68.2	79.9	88	88.5	87.9	80.1	68.7	57.1	48	44.6	68.1

Source: www.climatemps.com

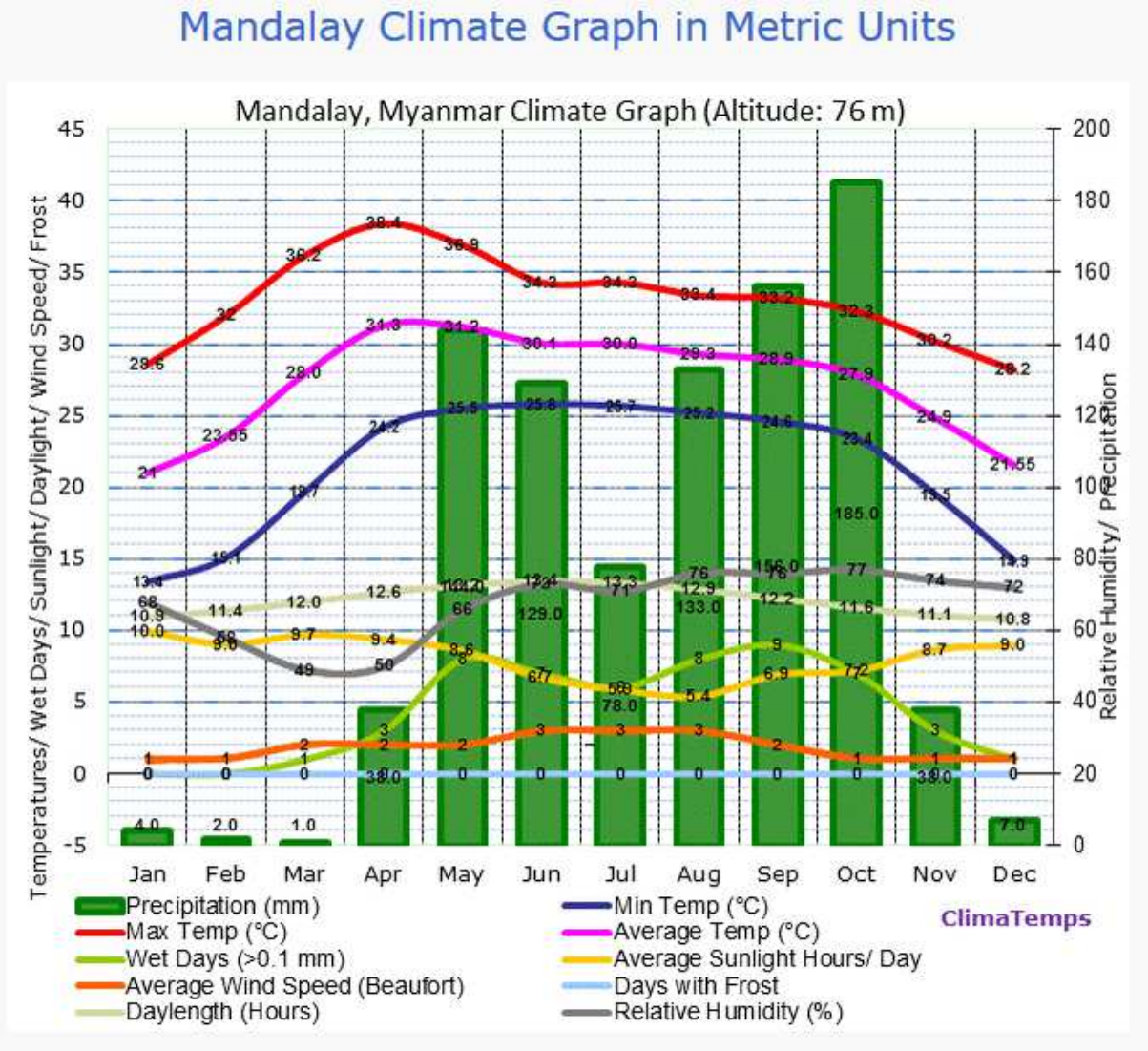


Figure 3.1 Mandalay Climate Graph

3.2 Topography and Geology

Mandalay division is a large lowland area between the Ayeyarwaddy River on the west and the Shan hills on the east. The general elevation is around 150 meters above the sea; however the places on the east on the foot hills of Shan plateau and the southern part situated on the northern Bago range are much higher. Ayeyarwaddy River is the regional border between Sagaing and Mandalay, as well as between Magwe and Mandalay. Mandalay and Magwe regions, together with lower Sagaing region form the central low land dry zone of the country.

Mandalay is located in the central dry zone of Myanmar at Latitude 21.98° North, Longitude 96.08° East. Mandalay lies along the Sagaing Fault, a tectonic plate boundary between the India and Sunda plates.

Figure 3.2 Mandalay Metropolitan Area seen from Satellite

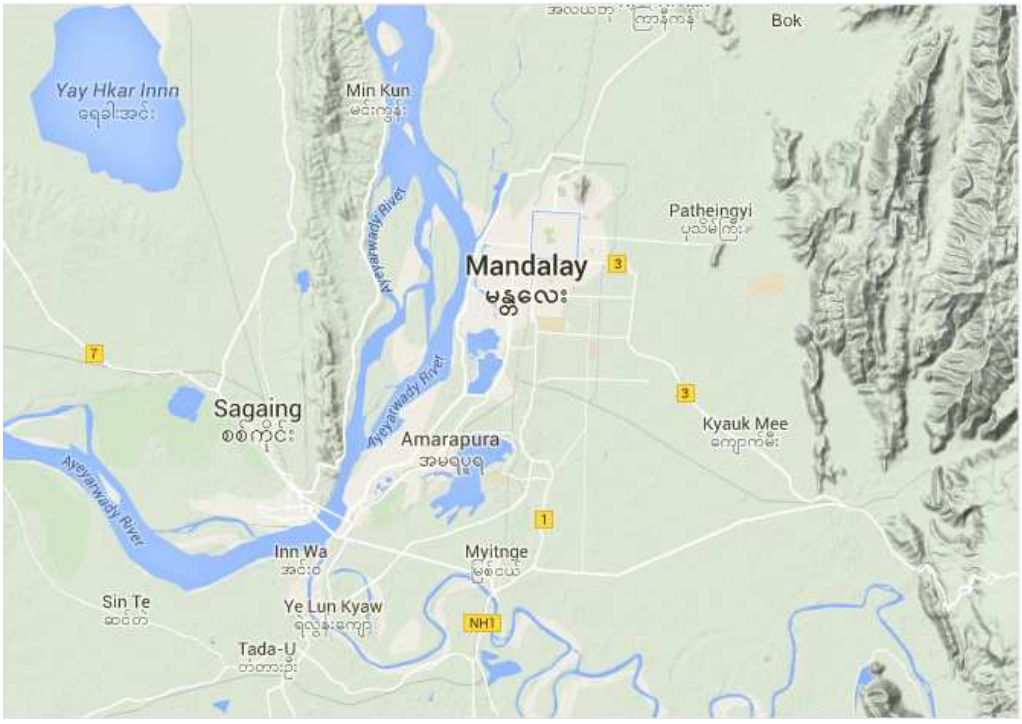


Figure 3.3 Topographic Map of Mandalay

3.3 Hydrology

3.3.1 Ground Water Quality

Ground water quality has been monitored at tube well (500 ft depth) and the sample was analyzed at GMES laboratory. The results of the physico-chemical analysis are presented in Table 3.4. The results were compared with Drinking Water standards, WHO (1996) and Indian Specifications (IS: 10000, 2012). pH value slightly exceeded the desirable limits of Drinking Water Standard. Total Dissolved Solid (TDS) and total alkalinity values also exceeded the Indian specification limits. All other parameters were within the desirable limits as per Drinking Water Standards. Water requirement during the construction phase will be met with through the existing tube well. The average water requirement for the proposed project will be 1000 gal/day during the construction phase and 100000 gal per day during the operation phase.

Table 3.4 Results of Ground Water Quality

Sr. No.	Parameter and Unit	Analysis Value	Drinking Water Standards	
		Tube Well Water Appendix (IV)	WHO (1996)	Indian Specifications (IS: 10500, 2012)
1	pH	8.69	6.5 – 8.5	6.5 - 8.5
2	Chloride (Cl^-), ppm	30	250	250
3	Total Hardness as $CaCO_3$, ppm	21	500	200
4	Total Iron (Fe), ppm	< 0.3	0.3	0.3
5	Sulphate (SO_4), ppm	36	250	200
6	Total Alkalinity as $CaCO_3$, ppm	405	-	200
7	Turbidity, NTU	< 0.01	5	1
8	Manganese, (Mn), ppm	ND	0.5	0.1
9	Copper (Cu), ppm	ND	1	0.05
10	Arsenic (As), µg/L	1.8	10	10

11	Aluminum (Al), ppm	ND	0.2	0.03
12	Cyanide (CN), ppm	ND	0.07	0.05
13	Total Dissolved Solids (TDS), ppm	520	1000	500

Note: ND – Not Detected.

Figure 3.4 Sampling of Ground Water from Pullman Mandalay Hotel Project

3.3.2 Wastewater Quality

The municipal sewage samples were collected from the sewage discharges, drainage system and analyzed at GMES Laboratory. The obtained results are presented in Table 3.5 and Appendix V. The baseline wastewater quality results were compared with Thai-Pollution Control Department (PCD) industrial effluent standards and National Emission Guidelines (Draft, 2014).

Table 3.5 Results of Wastewater Quality

Sr. No.	Parameter and Unit	Analysis Value		Industrial Effluent Standards	
		Municipal Sewage (1)	Municipal Sewage (2)	Thai (PCD)	National Emission Guidelines (Draft, 2014)
1	pH	7.62	7.92	5.5 – 9.0	6.0 – 9.0
2	Chemical Oxygen Demand (COD), ppm	80	80	120	125

3	Total Nitrogen (TN), ppm	-	-	100	10
4	Fat, Oil and Grease (FOG), ppm	22	29	5	10 (oil and grease)
5	Total Suspended Solids (TSS), ppm	260	200	50	50
6	Total Dissolved Solids (TDS), ppm	700	600	3000	-
7	Iron (Fe), ppm	ND	ND	-	-

Note: ND – Not Detected

Figure 3.5 Sampling of Wastewater (municipal sewage)

The Fat, Oil and Grease (FOG) and Total Suspended Solids (TSS) values of both samples exceeded the effluent standards. All other parameters of wastewater/ drain water were within the industrial effluent standards.

3.4 Ambient Air Quality

The air quality parameters are Oxygen (O_2), Carbon monoxide (CO), Carbon dioxide (CO_2), Sulfur Dioxide (SO_2), Nitrogen Dioxide (NO_2), Particulate Matter (PM) and Total Volatile Organic Compound (TVOC). These parameters were determined and referred to the environmental quality standards for air in Thailand, Vietnam, Japan and International Finance Corporation (IFC) and are shown in Appendix II.

KANE900 PLUS Combustion Analyzer, PHOTOVAC 2020ComboPro™ Photoionization Detector, DUSTTRAK™ 8532 AEROSOL MONITOR and WeatherText™ ULTIMETER 100 were used to measure ambient air quality. (See Figure 3.4)

Figure 3.6 Equipment used for surveying the Air Quality and Noise Level Baseline Data

Figure 3.7 Locations of Air Quality Monitoring

Figure 3.8 Photos of Air Quality and Noise Level Monitoring

Table 3.6 Results of Air Quality

Sampling Point / Pollutant	SP-1	SP-2	SP-3	SP-4
O_2 (ppm)	20.9	20.9	20.9	21
CO (ppm)	< 1	< 1	< 1	< 1
CO_2 (ppm)	< 1	< 1	< 1	< 1

NO_2 (ppm)	< 1	< 1	< 1	< 1
SO_2 (ppm)	< 1	< 1	< 1	< 1
TVOC-peak (ppm)	< 1	< 1	< 1	< 1
$PM_{2.5}$ (mg/m^3)	0.210	0.197	0.908	0.109
PM_{10} (mg/m^3)	1.51	1.50	0.103	0.095

During construction phase, the major air pollutant of prime concern is Particulate Matter (PM) as impacts of other emissions such as SO_2, NO_2, and CO will not be significant because the nature of sources is such that the emissions are distributed spatially as well as temporal.

The main source of air pollution would be vehicular traffic generated due to proposed project and traffic inside the factory compound. Water sprinklers will be used to suppress dust during construction.

3.5 Existing Noise Levels

Parameter for noise level survey was determined according to Myanmar National Environmental Quality (Emission) Guidelines (Draft, Dec-2014), and also referred to the environmental standards and request limits of India. (See Appendix III)

Noise surveys have been conducted at the project site in order to establish an acoustic baseline onto which potential impacts from the proposed project may be superimposed. Noise level monitoring were also done at the same sampling points used for air quality monitoring.

According to the monitoring results described in Table 3.7, noise levels at SP-02, SP-03 and SP-04 are present conditions near residential area, and noise levels at SP-01 are present conditions near public transportation.

Table 3.7 Survey Results for Noise Level

Sampling Point		**SP-1**	**SP-2**	**SP-3**	**SP-4**
Noise Level, dB(A)	Max	76.3	77.9	79.6	81.0
	Min	72.5	66.8	58.6	65.4

The noise emitted from heavy-duty construction equipment during construction period being high shall require occupational preventive measures and temporary noise barriers for noise

attenuation. The construction period being about 15 months, mitigation requirement becomes significant.

During operation period the major noise pollution source will be traffic activity inside as well as on the access roads and industrial operational activities.

In order to prevent adverse noise exposure to the people and also the sensitive receptors within the study area, optimal mix of mitigation measures such as low noise generation units, and noise barriers will be essential.

3.6 Biological Environment

There is no major conservation of wildlife in the area. No rare species of trees, plants and wild animals including birds are present in the area. The former land usage of the project site was farm land.

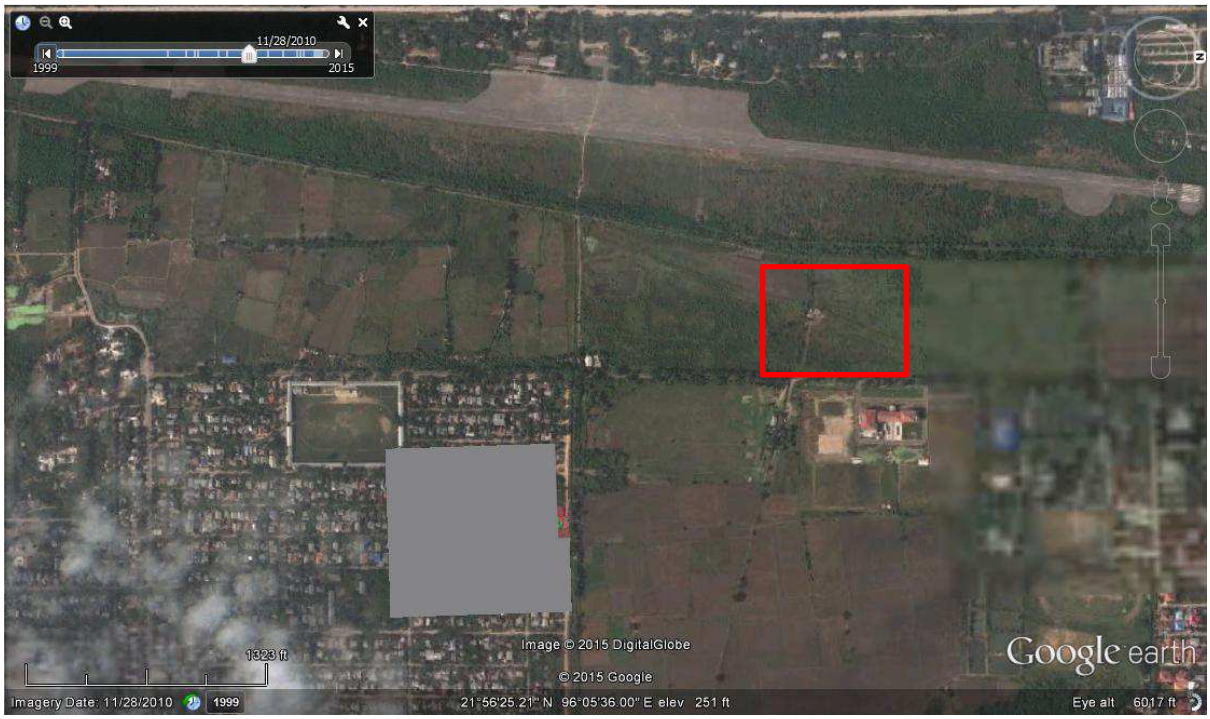


Figure 3.9 Former Land Usage of Project Site

3.7 Waste Management

Solid waste must be disposed of in accordance with laws and good environmental practice. The anticipated waste management related activities of the project include categorization of solid waste into recyclables, biodegradable and non-biodegradable. The recyclable solid waste consisting of paper, glass, plastics, tins, aluminum and steel cans, etc. is collected in receptacles and later collected by solid waste handlers for recycling purpose, while wastewater is channeled in Municipal sewer line.

The wet garbage is mostly disposed of in municipal bins or is directly taken away by municipality trucks. Composting or vermiculture facility for wet garbage can be employed. Sludge generated from wastewater treatment plant is dewatered in filter press and either disposed of on land or disposed of as municipal solid waste.

4. POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts

This section identifies the potential impacts, and suggested mitigation measures, as related to the proposed Pullman Mandalay Hotel Project. Findings of the assessment are presented according to construction and operation phases.

4.1 Construction Phase of the New Hotel

4.1.1 Solid Wastes

Generation of solid wastes will occur during the construction works for the new hotel, these wastes, basically inorganic wastes, may consist of:

- Timber and wood cuttings
- Paper and plastic wrappings
- Solidified concrete spills, block and masonry debris
- Electrical cables, pipes and ducts cuttings
- Floor and wall tiles, glass debris
- Metal or plastic paint tins or containers

It is also anticipated that the site workers will generate food leftovers of mainly organic origin as site staff mess.

Nature of the Impact
Most of these wastes will cause visual impacts and if not managed adequately may find themselves in the natural environment.
Mitigation Measures
Building wastes on-site will be managed by the main contractor who should provide enclosed areas/bins for the storage of the building wastes. Moreover the main contractor shall impose on his sub-contractors on-site the removal and safe disposal of their building wastes. With regard to leftovers, these will be stored in appropriate bins fitted with tight lids, which will be carted away to disposal regularly. The impacts will therefore be satisfactorily mitigated and eliminated.

4.1.2 Dust Emissions

During construction, the project will generate substantial quantities of dust at the construction site and its surrounding. The sources of dust emissions will include excavation and leveling works, and to a small extent, transport vehicles delivering building materials.

Nature of the Impact
Emission of large quantities of dust may lead to significant impacts on construction workers and the local residents, which will be accentuated during dry weather conditions
Mitigation Measures
• Provision of spraying water to reduce dust emission on roads. • The amount of exposed ground and stockpiles will be minimized so that re-suspension due to wind and subsequent dust fall is prevented.

4.1.3 Exhaust Emissions

The trucks used to transport various building materials from their sources to the project site will contribute to increases in emissions of CO_2, NO_2 and fine particulate along the way as a result of diesel combustion.

Nature of the Impact
Such emissions can lead to several environmental impacts including global warming and health impacts. Because large quantities of building materials are required, some of which are sourced outside Mandalay, such emissions can be enormous and may affect a wider geographical area. The impacts of such emissions can be greater in areas where the materials are sourced and at the construction site as a result of frequent running of vehicle engines, frequent vehicle turning and slow vehicle movement in the loading and offloading areas.
Mitigation Measures
• Ensuring all vehicles, generators and compressors are well maintained and regularly serviced. • Exhausts from vehicles will be minimized by use of fuel efficient vehicles.

4.1.4 Noise and Vibration

The construction works, delivery of construction materials by heavy trucks and the use of machinery/equipment including bulldozers, generators, tippers and concrete mixers will contribute high levels of noise and vibration within the construction site and the surrounding area.

Nature of the Impact
Elevated noise levels within the site can affect project workers and the residents, passers-by and other persons within the vicinity of the project site.
Mitigation Measures
• Construction activity will be limited to daytime hours only. • Use of well-maintained equipment fitted with silencers. • Providing noise shields near the heavy construction operations.

4.1.5 Risks of Accidents and Injuries to Workers

Because of the intensive engineering and construction activities including erection and fastening of structural steel sections for the bridge, metal grinding and cutting, concrete work, steel erection and welding among others, construction workers will be exposed to risks of accidents and injuries.

Nature of the Impact
Such injuries can result from accidental falls from high elevations, injuries from hand tools and construction equipment cuts from sharp edges of metal sheets and risk of vehicular accidents.
Mitigation Measures
• Generally good housekeeping – debris cleared away promptly, dust cleared regularly, etc. • Staff wear strong safety shoes that have a good grip. • Good lighting in all areas. • Remind staff to clear up spillages of wax or polish immediately, even very minor spillages. • Fork-lift truck maintained and inspected as per lease contract. • Heavy vehicles operated only by staff who have been trained to use it. • Pedestrian walkways marked. • Only authorized people allowed in yard for deliveries/dispatch. • Ensure drivers get out of their vehicle and stand in a safe area while it is being loaded/unloaded.

4.2 The Operation Phase: Negative Impacts

During the operation phase, impact generation will be of a permanent nature. Significant potential impacts could be associated with Services and Activities are tabulated below.

Service/Activity	Description	Main Environmental Impacts
Administration	Hotel management Reception of clients	Energy, water and materials (mainly paper) Generation of waste and hazardous waste (toner cartridges)
Technical Services	Equipment for producing hot water and heating	Energy and water consumption Consumption and generation of a wide range

Service/Activity	Description	Main Environmental Impacts
	Air conditioning Lighting Swimming pools Green areas Mice and insect extermination Repairs and maintenance	of hazardous products Air and soil emissions Generation of waste water Pesticides use
Restaurant/bar	Breakfast, lunch, dinner Beverages and snacks	Energy, water and raw materials consumption Packaging waste Organic waste
Kitchen	Food conservation Food preparation Dish washing	Consumption of energy and water Packaging waste Oil waste Organic waste Generation of odors
Room Use	Use by guests Products for guests' use Housekeeping	Energy, water and raw materials consumption Use of hazardous products Generation of waste packaging Generation of wastewater
Laundry	Washing and ironing of guest clothes Washing and ironing of hotel linens	Consumption of energy and water Use of hazardous cleaning products Generation of wastewater

It can be summarized as:

- the generation of organic and inorganic solid wastes;
- the generation of wastewater and its associated pollutant;
- risks of hydrocarbon spillage from diesel storage to stand-by units;
- atmospheric pollution by stand-by diesel generators;
- increased demand on public utilities (water, electricity, telecommunications, etc) and
- intensification of road traffic.

The following main issues have been identified in detail for the operation phase.

4.2.1 Generation of Solid Wastes

In general, solid waste management is paramount and has been a big problem. This is the result of existing policy, financial problems and lack of peoples' awareness. At the moment, most of the garbage is disposed to the specified dumping site which is not big enough to hold the total amount letting the excess being scattered all around and causing the causal of drain blockage which in turn during the rainy season incite flooding haphazardly in the streets, water drainages and so on.

Solid waste will be generated every day, in amounts depending basically upon the occupancy rates, and they will consist of:

- Organic wastes, i.e., food leftovers from restaurants, kitchen wastes (grease and oils)
- Non-organic wastes, i.e., glassware, metal cans, plastic bottles and packages, paper

Nature of the Impact
Food leftovers and kitchen wastes if left under ambient conditions will generate foul smell as well as attract vermin, flies, etc. that are vectors of diseases.
Mitigation Measures
The non-organic as well as organic solid wastes (food wastes) from restaurants, bars and kitchens, will be collected in plastic bins which will be stored in a cold room (4°C), to be collected every day. This technique of storing solid wastes, in particular the organic components, is recommended as the low temperature prevents fermentation which would have otherwise rapidly taken place, with the generation of leachate and foul; smells, the attraction of flies, vermin, etc. Selective solid waste storage for dry solid wastes will be implemented so as to promote waste recycling. Separate bins will be used for the storage of waste: e.g., waste paper and carton boxes; glass materials; plastics, etc.

4.2.2 Generation of Biological Pollution

Biological pollution will result from:

- The discharge of untreated domestic wastewater from the hotel, kitchen, and staff quarters, etc.
- Generation of leachate from solid waste such as food wastes from the kitchen or restaurant.

Nature of the Impact
The aforesaid raw effluents contain biodegradable matter, nutrients, suspended solids, bacteriological load, etc. and these pollutants cannot be discharged in the natural environment without having undergone pollution abatement. Discharges of these untreated effluents will pollute the water environment and are the threat to the surrounding areas.
Mitigation Measures
• Construction and Operation of a Sewage Treatment Plant This option has the advantage that the hotel already wastewater treatment plant with the use of the treated effluent for irrigation of the landscaped areas within the hotel. The Wastewater Treatment Plant WWTP will incorporate not only carbonaceous removal but will also include: • Nitrification and denitrification processes; • Phosphate removal although the phosphate is not a specified parameter under irrigation standards but deemed necessary to minimize the risks of Eutrophication. • Odor control as the WWTP will be housed inside a building with active ventilation and odor scrubbing and treatment using bio filters.

4.2.3 Drainage and Run-off

Possible impacts
Flooding mitigation with respect to proximity of the development site to near-by villages is the major consideration. Consideration must be given to drainage of the site through percolation, overland flow, and existing natural drainage channels paying particular attention to the cumulative impact of increased storm water runoff and effluent of the wastewater treatment plant from the site. The drainage plan will be implemented, and should prevent flooding on the site.
Mitigation Measures
The main mitigation measures that will be expected to prevent flooding on the near-by villages from drainage will be: • Maintenance of these drains, and the natural drainage systems leading into them, is required, as these channels should be kept clear and free of debris. • The responsible person from the hotel should arrange dialogue with the Municipal authorities to address potential flooding, and to be involved as appropriate with any efforts to improve drainage management in that area.

4.2.4 Sewage

Possible impacts
Besides garbage, sewage may be termed as one of the big pollutant in Myanmar Municipality. The sewage discharged untreated indicates the presence of higher level of BOD, COD, *Fecal Coliform* and other sewage pollutants. The situation has somehow improved due to improvement of the sewage collection system. Main sources of the sewage are domestic, commercial and tourism activities. In principle, mismanagement of sewage could lead to serious threat to ground water environment. The nature of the sewage and its associated problems like upset of ecology, eutrophication, health effects to water users and nuisance condition like odor, color and smell necessitate its treatment before being discharged to the environment.
Mitigation Measures
In order to alleviate the problems of sewage, the investor has to place a proper treatment facility. Number of facilities with different technology are available, however, its adoption depends on various factors including: • The nature of the land • Affordability in terms of technology and cost • Final effluent requirement standards • Amount of sewage to be treated

4.2.5 Swimming Pool

Nature of the Impact
Among facilities to be placed within the hotel's compound is swimming pool. Water in the swimming pool has to be disinfected so those to take care of microbial effects. Common disinfectant used is chlorine. Swimming pool-chlorinated water has to be intermittently discharged and replaced with fresh batch. Discharge of the chlorinated water into the environment may bring about ecological effects. Although the effect of chlorinated water can be realized after long time, there is a need of taking precautions as earlier as possible.
Mitigation Measures
To alleviate the problem of water pollution through chlorinated water the following measures should be taken: • The chlorine dosing should be in such a way that, the chlorine residuals in the

water are in acceptable amount. This can be achieved by using modern and appropriate dosing equipment and performance of the continuous chlorine strength monitoring.

- Water from the swimming pool should not be directly discharged into surface water instead, it can be used in nursing of hotel gardens or allowed to percolate into the seepage pits.

4.2.6 Water

Nature of the Impact

The following are main sources of generation of water pollution from the hotels:

- Utilities i.e., toilets, bathrooms, washrooms, etc.
- Kitchen & dining hall
- Laundry
- Filtration plant backwash, etc.
- Water softening plant backwash, etc.
- Floor washing
- Additional effluent due to marriage & other celebration parties

Mitigation Measures

- The hotel is to provide oil & grease trap for kitchen wastewater.
- The hotels which provide services for marriage/celebration parties in their premises are to ensure adequate arrangements for collection, transportation and treatment of wastewater.

4.2.7 Noise Pollution

Noise can be defined as undesirable sound. This definition cannot be taken as universal as undesirability is quite relative from person to person however, sound above 120 dB is considered as undesirable. In principle, sound doesn't have physical environmental harm but is highly associated with hearing disturbance, headache, vomiting, and annoyance and alike. Hotels are not potential source of noise. However because of the sensitivity of the place, there are some areas, which need special concern. In this development main sources of noise will be from standby generator, motor vehicles across the road nearby and noise from aviation. It is somehow difficult to control all sources of sound as they are accompanied with natural activities for the life of the hotel.

Thus, noise will be generated by:

- The standby generators which will be mounted in a noise-insulating enclosure as well as a noise insulated building
- Traffic along the nearby road

The Impact and Impact Receptors
The noise levels are usually assessed in terms of dB(A). Each source of noise will contribute to the overall noise level and impacts will result if the overall noise level, at any given time exceeds levels that are estimated to produce no nuisance. The standby generator will be the main source of continuous noise level when in operation. With sound attenuation, the noise level can be reduced to the acceptable limit. The main noise impact receptors are hotel residents.
Mitigation Measures
The following measures could be adopted in order to minimize the impact of the noise if they are properly observed: • The rooms of the hotel should be in such a way that visitors/occupants are as far as possible from the road and generator house • Power generator should be of brands, which have as minimum sound as possible • The walls of generator house should be made of soundproof materials • The movement of motor vehicles within the compound should be restricted as much as possible

4.2.8 Fire Risk

The Impact and Impact Receptors
Fire is the serious problem, which requires due consideration during the planning stage of the project. In Myanmar fire has been reported to destruct many residential areas and market places. The problem becomes more serious on considering the fact that, the area of the development situates in the dry zone, which needs fire fighting equipment to attend in case of the problem.
Mitigation Measures
To alleviate the problem, Pullman Mandalay Hotel has equipped with the best fire protection system. • The project compound should be installed with modern fire fighting hydrant system. • Building should be equipped with the fire precaution mechanisms like fire alarms and so on. • Workers should be well trained on how to prevent fire and how to use fire-fighting equipment.

5. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

Introduction

Environmental management has become an important issue in the hospitality industry, and numbers of hotels are adopting sound environmental management practices. The increasing adoption of environmental management in hotel firms seems to have been sparked off by growing concerns over the impacts of tourism on the environment.

Hotels and the Environment

Hotels are at the hub of the tourism industry and it is one sector of the tourism industry in which activities such as construction of buildings and landscaping, cooking and disposal of waste, use of water and energy tend to affect the environment adversely if not properly managed. The size of hotel facility also influences the environmental impact. For instance the impact of a hundred room limited service hotel will be different from a six-hundred room full service hotel.

Hotels use large amounts of water, energy, chemicals, supplies, and disposable items. They also generate lots of waste such as wastewater and solid waste. Because of this, small efficiency gains can lead to large cost savings and environmental performance improvements. Environmental management is a systematic approach to finding practical ways for saving energy, water, and materials, and reducing negative environmental impacts. A proactive environmental management program can help a property save money, get recognized for environmental leadership, and preserve and protect a unique destination protect a unique destination.

5.1 Energy Management

Issue
Hotels use significant amounts of energy for daily operations and recreational activities. In many facilities, energy costs are the second-highest operational costs after payroll. This high demand for energy is often due to the use of energy-intensive technology to provide modern comforts and conveniences, such as air conditioning, to large numbers of guests. The vast majority of hotels and resorts meet their energy needs by purchasing energy produced through the burning of fossil fuels (coal, oil and natural gas), which contribute to local air pollution and global climate change. The extraction, refining and transport of fossil fuels can also cause environmental damage. Improvements in housekeeping and efficiency measures and use of renewable energy can decrease dependency on energy produced through fossil fuels.
Need for Management Practices
• Investments in more efficient energy use and improved housekeeping practices can lead to significant reductions in operating costs and energy bills, with relatively short payback periods.

- Using renewable energy can reduce local air pollution, maintain destination quality and enhance the guest experience.
- Energy efficiency and conservation practices can enhance reputation among guests and others who are concerned about reducing global energy consumption and the effects of climate change.

Management Plan

Monitor regularly energy consumption

- Check the electricity meters at least once a month
- Install meters in each department to monitor energy consumption
- Monitor hot water consumption as much as possible
- Calculate the energy consumption costs for the hotel and departments
- Determine which areas consume the most energy

Improve the lighting system

- Investigate the use of hotel lighting and observe how long the various lights are switched on each day
- Use energy-saving bulbs, especially in high consumption areas (a traditional bulb consumes 60 W, an equivalent energy-saving one 11 W)
- Install timers and movement detectors to reduce lighting time in selected locations (bathrooms, hallways, parking lots, etc.)

Reduce energy consumption

- Code the light switches (using labels or a color code) so that you can switch on only those lights that you need
- Reduce general lighting during daytime and make sure that exterior lighting is switched on only at night (you can use photoelectric cells for example)
- Operate machines according to the manufacturers' recommendations for better energy efficiency
- Choose high performance insulation systems to minimize heat losses and gains
- Reduce the number of lifts that are operated during off-peak hours
- Train the staff to do the right things, and invite guests to get involved
- Repair or replace faulty equipment with more efficient and economic alternatives
- Use solar panels to heat water for the guest rooms (saving 40% on the energy costs of the hotel)

Minimize energy losses

- Organize preventive maintenance of the electric network and equipment, including heating and air conditioning equipment
- Check the insulation on hot water pipes to reduce heat losses
- Install double glazed windows
- Shade windows from the sun to limit air conditioning needs (by means of awnings, curtains, blinds, screens, heat reflecting sheets, etc.)
- When renovating, install revolving doors to limit drafts

Recover energy

- Recover the heat generated by the refrigeration units in order to heat the water for guest rooms or the laundry
- Install closed loops to recover and reuse steam

Kitchen

- Avoid turning on kitchen equipment without thinking when arriving in the morning (break the habit)
- Think about the temperature of kitchen rooms when installing or relocating refrigerators and freezers (an extra 5°C increase in room temperature results in a 30% increase in energy consumption for a refrigerator)
- Switch off equipment when it is not required (especially after busy periods)
- Do not exceed preheating times
- Use cooking pots whose diameters are compatible with the cookers or burners
- Cover pots as they are cooking (to boil 1 liter of water in a covered pot requires about 25% of the energy needed if the pot is uncovered)
- Invest in high-performance cooking units when replacing equipment
- Open refrigerators and freezers only when necessary
- Defrost refrigerators and clean the door seals monthly

Laundry

- Fill washing machines to their maximum capacity
- Use low temperature washing program
- Choose washing machines that offer high spinning speeds in order to limit drying time
- Avoid overloading the dryer and thereby increasing drying time

- Plan the washing so that the dryers are continuously in use, thereby preventing heat loss
- Plan to use the equipment during periods of low consumption (off-peak hours)
- Allow food to cool down before placing it into a refrigerator or freezer
- Install plastic curtains outside refrigerators or freezers to retain cold air
- Regulate water temperature according to kitchen and cleaning needs
- Do not wash dishes under running water (fill the sink instead). Operate dishwashers only when full

Room service, accommodation

- Turn off air conditioning and set heating at minimum in unoccupied rooms
- Choose thermostats that allow you to program maximum and minimum temperatures (and so prevent guests excessively heating or cooling their rooms)
- Make sure the lights are switched off in unoccupied rooms (magnetic cards automatically turn off the room's power when the guest leaves the room)
- Do not leave television sets on standby (a single television set on standby can consume 193 kWh in one year)
- Make sure that the refrigerators (mini-bars) consume less than 1 kWh/day and that they are switched off in rooms that are unoccupied for three or more consecutive days
- While cleaning, do not air rooms for more than 15-20 minutes in order to avoid wasting energy on heating or cooling
- Install an air conditioning system that automatically switches off when the windows are open
- Clean and change the air conditioner filters regularly

Administration

- Avoid leaving computers switched on when taking breaks longer than 30 minutes (on standby, a computer consumes 95 W)
- Switch off equipment when not in use (a copying machine on standby can consume up to 80% of the energy it uses in working mode)
- Use natural light rather than artificial lighting as much as possible
- Rearrange the workplace to make optimal use of natural light

- Avoid leaving doors and windows open to minimize energy consumption for heating or air conditioning
- Switch off the coffee machine after each use (a coffee machine that is left switched on the whole day consumes as much energy as it uses to make 12 cups of coffee)

Pool

- Retain the pool's heat by covering it with a thermal cover at night
- Keep the water temperature at 24°C (increasing the temperature by two degrees can consume up to 25% more energy)
- Limit the pool lighting that is not necessary for the users' safety
- Make sure that the pool's thermostat is in working order

Good Practices

- Pullman Mandalay Hotel will install keycard-controlled master switches to save energy when guests did not turn off the master electrical switch when leaving their rooms.
- Install improved control mechanisms and widespread use of low consumption (6/9 watts) fluorescent bulbs instead of using incandescent bulbs.
- Air conditioning savings
    1. A/C will switch off automatically once a window is opened.
    2. A/C self-adjusts to the minimum when no presence is detected in the room.
- All outdoor areas will be provided with electronic switching devices to ensure that lights are turned off during daylight hours.
- Start by assessing existing energy use to determine where the highest energy consumption takes place within the premises and the most likely places for efficiency improvements.
- Continue to regularly monitor energy consumption. Daily or weekly monitoring of energy use helps to identify abnormal consumption and to quantify energy savings when efficient equipment is installed or a good practice is implemented.
- Encourage guests to follow energy-saving practices, such as switching off lights and air conditioning, closing window shades before leaving their rooms and using towels or linens for more than one day.
- Work with employees to identify energy-saving practices, such as lowering heating or air conditioning to a fixed temperature when cleaning the room, or operating dryers and dishwashers only with full loads. If there is a swimming pool, turn off the pump in the evening.

- Regularly monitor and service all equipment, to ensure that it is running as efficiently as possible. Upgrade older, inefficient equipment or replace with newer technology.
- Use products that require less energy to maintain, such as colored sheets and towels or eco-labeled cotton products that can be laundered at lower temperatures.
- Use sensors and timers to turn off unnecessary lights in intermittent-use areas, such as meeting rooms, storage areas and public and staff bathrooms.
- Reduce the number of elevators and escalators running during times of low use.
- When feasible, use renewable energy sources, such as biogas, wind or solar power.

5.2 Water Management

Issue

In many areas of the world, demand for water exceeds supply and is seriously straining available water resources. In some of the most water-stressed areas in the world, guest demand for water usually far exceeds that of local residents.

In addition to the water required for each hotel room and general hotel management activities such as kitchen and laundry, features such as swimming pool, lawns and golf course can add significantly to total usage. Excessive water use can degrade or destroy local water resources, threatening the availability of water for local needs. Problems may be made worse in areas where high tourist season corresponds with periods of low rainfall.

Need to control

- Decreasing overall water use can lead to cost savings, especially during periods of drought, use restrictions or increasingly strict government regulations on water use.
- Reducing water use can conserve and protect local water resources upon which a hotel and the local community depend.
- Preserving the quality of local water resources can eliminate the need for costly drinking water treatment processes.
- Water conservation can enhance reputation among guests and others who are concerned about reducing water consumption and protecting local resources.

Management Plan

Monitor the hotel's water consumption

- Install water meters in each department
- Determine the monthly water consumption and its cost
- Identify activities and areas that cause high consumption

Minimize wastage of water

- Install water-saving devices in the appropriate places (flow regulators, water flow sensors, self-closing taps, low-flush toilets, etc.)
- Avoid leaving taps open unnecessarily
- Avoid cleaning with high pressure hoses

Eliminate leaks

- Regularly maintain plumbing fixtures and piping in order to avoid losses
- Replace defective seals and repair damage to water pipes

Kitchen

- Adjust the water flow according to the type of cleaning to be done
- Do not let water flow while cleaning or rinsing
- Soak the dirty dishes before placing them in the dishwasher in order to shorten the prewash
- Fill dishwashers to their maximum capacity in order to minimize the number of cycles
- Do not defrost food in water, but leave it to defrost in the air

Laundry

- Sort the laundry according to the degree of soiling, so that only the dirtiest items are washed intensively
- Use the washing machines in "*full load*" mode in order to limit the number of wash cycles
- Eliminate the prewash (allowing a 25% reduction in water consumption) and use water-saving wash cycles
- If possible, wash towels and linen at the request of guests rather than every day
- Reduce water pollution by using less polluting detergents (phosphate free, whitener-free, etc.)
- Check the laundry room's equipment regularly to avoid leaks
- If possible, recover the rinse water from relatively unsoiled loads for the next cycle's prewash and wash

Room service, accommodation

- Install flow regulators on the showerheads in order to decrease consumption from 20 to 12 liters/minute (40% saving)
- Install timed (self-closing) faucets so that they do not keep running for a long time if left open inadvertently

- Choose water saving toilets that use 6 litres for each flush (more than 30% of a hotel's total water consumption can be saved this way) or with a dual flush mechanism (offering a choice of half- or full-cistern flushes)
- Invite – as far as possible – the guests to reuse the towels and bed-linen (70% of guests readily agree to this)
- Train the staff to respect the instructions concerning the reuse of towels and bed-linen

Pool

- Cover the pool outside of the opening hours so that the water does not evaporate or get dirty
- Reduce the use of chlorine in the water and /or choose other treatment systems (ozone, electrolysis, salt, etc.)
- Reuse the pool's water to wash the floor

Gardens

- Choose plants that are suited to your region's climate and rainfall
- Avoid flower beds that quickly dry up
- Water lawns early in the morning and late at night to limit evaporation
- Install automatic sprinkler systems and localized devices (micro-sprinklers, drip irrigation systems for roots, etc.)
- Lay out slopes so that water infiltrates the ground without causing erosion
- Reuse the water that was used in the kitchen to wash fruits and vegetables for watering the garden
- Collect rainwater for watering the lawns

Good Practices

- Pullman Mandalay Hotel uses low-flush toilets and urinals, low-flow devices on faucets and water-saving showerheads. Water tank in toilet will use 3/6 liters of water per flush.
- Use treated water from wastewater treatment plant for irrigation of landscaping, thus limiting the use of freshwater.
- Identify the main areas of water consumption in the hotel where significant water savings may be achieved.
- Regularly monitor water consumption for each area of the hotel (kitchen, laundry, rooms, etc.). Daily or weekly monitoring helps to identify leaks and to quantify water savings when efficient equipment is installed or a good practice is implemented.

- Encourage guests to use their towels or linens for more than one day. Provide guests with tips about water saving measures such as turning off the taps in the sink when shaving or brushing their teeth.
- Ensure employees to use water-saving practices, such as avoid leaving water running, or operate washing machines and dishwashers with full load
- Engage housekeeping and engineering departments in an active campaign to detect and repair leaking toilets, faucets and showerheads.
- Install water-saving devices such as low-flush toilets and low-flow showerheads and faucets. Low-flow fixtures in showers can reduce the flow of water by 50 percent without affecting the comfort level of the user.
- Maintain all equipment regularly. The absence of preventive maintenance generates small but regular leaks, which can correspond to an important loss of water.
- Use technologies that reduce water use through recycling.
- Avoid wasteful landscaping practices, such as hosing outdoor surfaces and watering gardens during the day.
- Use drip irrigation systems and choose drought-resistant native plant species for landscaping.

5.3 Wastewater Management

Issue
Hotels can produce significant quantities of wastewater, both graywater, which mainly comes from washing machines, sinks, showers, baths and roof runoff, and blackwater, which comes from kitchen dishwashing and toilets. In a number of destinations, little or none of this waste is treated, and pollutants such as fecal coliform bacteria and chemicals are discharged directly into the environment. Poor sewage treatment can lead to pollution of ground and surface water. Among people, inadequate treatment of human waste can cause infection, gastro-intestinal disease, leptospirosis and cholera.
Need to control
• Proper wastewater treatment can reduce the chances of contamination of local drinking and agricultural water supplies, reducing the need to buy or treat drinking water and improving relations with local communities. • Effective wastewater treatment can avoid serious illness among guests and staff members. • Treating wastewater and sewage may avoid fines and clean-up costs.

- Avoiding the discharge of untreated wastewater or sewage can protect surface water as well as ground water.

Management Plan

- Minimize wastewater discharge by reducing water use
- Collect waste oil and grease for separate processing
- Use biodegradable detergents and cleaning agents that are compatible with the wastewater treatment technologies
- Minimize the use of chlorine, bleaches, detergents and other chemicals that end up in wastewater
- Ensure all wastewater is properly treated before it is released into the environment
- If no municipal system is available, work with other businesses and organizations and the local municipality to support the development of modern municipal wastewater treatment systems
- If no municipal system is available, identify the best options for treatment on site. If feasible, use natural wastewater treatment options that use plants and natural bacteria to purify water, rather than chemicals
- Reuse treated gray water for washing floors, flushing toilets and irrigating gardens and golf courses

Good Practices

- Pullman Mandalay Hotel collects graywater using a separate plumbing system from blackwater, so that it can be treated and recycled for toilet flushing, garden and land irrigation.
- The hotel has Central grease traps from kitchens.
- Soil and kitchen waste water estimated at 125m^3/day or 27,500 gal/day at full occupancy from the hotel will be collected via an internal sewer network and sent to a wastewater treatment plant equipped with active odor control and designed for stringent treated effluent quality standards.
- Wastewater treatment plant treats water from both the hotel and other housing and shopping complex of Mingalar Mandalay Project.
- Treated wastewater is recycled to irrigate the green areas, thus saving the fresh water use.
- WWTP is designed to remove gross, suspended and floating solids from raw sewage. It includes grid well to trap solid objects and sedimentation by gravity to remove suspended solids. Then anaerobic digestion followed by aerobic digestion and finally sedimentation. The treated water is then disposed to the open drains.

5.4 Wastes Management

Issue
Hotels produce large quantities of solid waste, from packaging to food scraps to cleaning and maintenance materials, some of which is toxic. In many cases, this waste is collected in badly designed waste dumps, or simply dumped in areas out of sight of guests. In addition to visually degrading a destination, improper waste disposal can lead to water and soil pollution through leaching of contaminants from waste piles. Poorly designed waste dumps can result in fires, odors, flies and ineffective containment of wastes. Uncontrolled disposal of toxic items such as paint cans and batteries can severely contaminate water, air and soil resources, threatening the environment and human health. Even where waste is disposed of legally, landfills have limited capacity, which is a particular problem for non-systematic arrangement.
Need to control
• An effective waste management program can reduce hauling and disposal fees. • Reuse and recycling of products can cut product purchasing costs. • Improper or illegal waste disposal may lead to significant fines and clean-up costs. • Proper waste disposal may limit the risk of complaint from guests or area residents who become ill from hazardous wastes. • Effective waste management can protect a hotel's image by limiting visual degradation of the area and enhancing approval from guests. The visible effect of waste disposal is the most mentioned concern by guests regarding their holiday destinations.
Management Plan
• Begin by reviewing the types and quantities of waste produced and current disposal methods and costs • Develop solid waste management program around the three R's: Reduce, Reuse and Recycle • REDUCE: Buy products in bulk and with less packaging, to reduce waste generation • REUSE: Replace disposable items with reusable ones, such as rechargeable batteries, refillable soap and shampoo containers and cloth laundry bags Require vendors to take back pallets and crates • RECYCLE: Separate waste at the source, rather than having to go through all the trash after it is collected. For example, provide containers for recyclables in guest rooms and compost bins in kitchen work areas

- Where there is a market for recyclables, recycle items such as paper, glass, metal and plastic
- Compost organic wastes such as food scraps, leaves and tree cuttings
- Provide waste bins in key areas
- Keep solid waste in a safe, sanitary holding place until it is picked up by the municipality or other disposal entities
- Work with other businesses and organizations and the local municipality to support the development of efficient waste separation, collection, recycling and treatment systems

Good Practices

- Scrutinize avenues of solid waste reduction
- Segregation of solid waste at source into recyclable waste, dry solid waste and wet garbage
- Segregation of organic solid waste from kitchen for its utilization as animal feed or treatment as biodegradable solid waste at either an on-site or an offsite facility
- Avoid use of polystyrene foam pellets
- Avoid using plastic wrapping bags and use cloth bags for laundries
- Substitute reusable glass bottles in place of plastic ones
- Use reusable ceramic/glass mugs in place of paper/styrofoam

5.5 Hazardous Wastes Management

Issue

Excessive or improper use, storage and disposal of chemicals and other hazardous wastes in daily operations can result in pollution and contamination of local environmental resources. Use of pesticides, fertilizers and herbicides for gardening and to control insects can lead to toxic runoff into surrounding waters and groundwater.

Chemicals used for cleaning guest rooms or in recreational facilities such as swimming pools can contaminate local soil and water supplies and may pose a potential hazard to human health.

Leakage of CFCs and HCFCs from refrigerators, air conditioners and other cooling equipment, as well as chemicals used for dry cleaning, in aerosols, fire extinguishers and foams, contribute to the depletion of the ozone layer.

Need to control

- Reduced use and responsible handling of chemicals and hazardous wastes can maintain the quality of tourism resources by minimizing the potential for air, water or soil

pollution.

- Improper use, including overuse, of chemicals poses a real threat to the health and safety of guests and staff members.
- Effective management of chemicals and hazardous wastes can reduce water treatment costs and the quantity and cost of chemicals purchased by the hotel.
- Proper use, storage and disposal of chemicals and hazardous wastes can ensure compliance with government regulations and reduce potential fines or clean-up costs.

Management Plan

- Limit the number of chemical products used
- Reduce contaminants by using natural products such as salt, vinegar and baking soda to clean ovens, drains, windows and floors
- Use biodegradable and environmental friendly cleaning agents, paints, solvents and other products
- Use automatic dosing for chemicals for cleaning and swimming pools, to ensure that the appropriate amounts of chemicals are used for each task
- Train staff how to handle and dispose of chemicals and hazardous materials responsibly and safely
- Dispose of hazardous materials responsibly and according to local laws and international standards
- Regularly monitor air conditioners, heat pumps, refrigerators, freezers and kitchen cooling equipment to detect and eliminate leakage of ozone-depleting CFCs and HCFCs
- Convert existing equipment to utilize low-Ozone Depleting Potential (ODP) or zero-ODP chemicals. This generally requires replacement of existing equipment parts and/or change of lubricating oil. When purchasing new equipment, choose those that use zero-ODP chemicals
- When making landscaping decisions, choose native plants that require less water, pesticides, fertilizers and herbicides
- Use compost or other organic substitutes for chemical fertilizer

Good Practices

- Keep all chemical products (especially those that are hazardous) in a designated, protected, and safe area
- Respect the storage instructions provided by the manufacturers
- Label containers of hazardous substances clearly

- Avoid storing substances that could interact in the same area
- Ensure that the necessary storage conditions are maintained to avoid accidents (appropriate temperature, ventilation, etc.)
- Avoid exposing flammable products to the sun or to any other source of heat
- Restrict access to hazardous products and control their use

5.6 Purchasing Management

Issue
Hotels purchase vast quantities of products, including cleaning and laundry supplies, food and beverages, equipment, vehicles, office supplies, furniture, bedding and toiletries for guest bathrooms. These products can have negative environmental impacts through their manufacture, distribution, use and disposal. Products can also have negative social impacts if they are produced using unfair labor practices. By working with suppliers and service contractors, hotels and hotel associations are in a position to promote environmental and social improvements in manufacturing and production. Product purchasing decisions also impact the levels of waste produced by a hotel, as well as the potential for local air, water or soil pollution generated through the use or disposal of these products.
Need to control
• Purchasing materials with a minimal environmental impact from manufacturing, use and disposal can maintain the quality of tourism resources by reducing the potential for air, water and soil pollution. • Buying products made with less packaging or materials can lower waste disposal costs. • Purchasing environmentally and socially benign products can enhance reputation among guests and others who are concerned about wasteful or harmful product use. • Buying local, sustainable products can reduce waste and improve relationships with local communities by increasing tourism-generated income in the wider community.
Management Plan
• When possible, purchase products that are certified for their environmental quality • When possible, buy fair trade products • Take an active role in influencing and working with suppliers. Environmentally friendly products cannot always be identified with eco-labels. Working with suppliers will also

help to identify environmental issues and the best available products

- Where possible, require suppliers to have and adhere to an environmental policy and fair labor practices
- Ensure that on-site vendors use environmentally and socially sound practices
- Provide guests with information on locally produced alternatives to imported goods, such as bottled water, as well as a list of local products to avoid souvenirs made from endangered species
- Buy paper products that have a high post-consumer recycled content and are not chlorine bleached
- When feasible, buy products for which a recycling market already exists
- Buy products in bulk and with less packaging, to reduce packaging, storage, transport and disposal costs
- Buy local products and materials that require less transport, packaging and storage and may enhance community relationships and goodwill

Good Practices

- Prefer, whenever possible, products that are recycled, reusable, repairable, biodegradable, recyclable, fair trade and/or eco-labelled (such products should not be imported or transported over long distances, otherwise their ecological advantages will be lessened)
- Use the hotel's products and equipment in a rational way
- When purchasing new equipment, take their water and energy consumption into consideration
- Prefer products with little packaging and that use single-material packaging (homogenous and polystyrene-free)

5.7 Noise Management

Issue

Tourism hotels are not potential source of noise. However because of the sensitivity of the place, there are some areas, which need special concern. In this development main sources of noise will be from standby generator and motor vehicles across the road nearby.

It is somehow difficult to control all sources of sound as they are accompanied with natural activities for the life of the hotel. However the measures could be adopted in order to minimize the impact of the noise if they are properly observed.

Need to control

- In principle, sound doesn't have physical environmental harm but is highly associated with hearing disturbance, headache, vomiting, and annoyance and alike.
- Noise can be defined as undesirable sound. This definition cannot be taken as universal as undesirability is quite relative from person to person however, sound above 120 dB is considered as undesirable.

Management Plan

Evaluate risks

- Measure the noise levels and record them
- Monitor the variations in noise levels in the noisy areas

Act on the environment

- Reduce noise at its source
- Install sound insulation and other means of damping vibrations

Change your organization

- Accept deliveries only at agreed hours
- Relocate noisy machines to an isolated area or away from the hotel and its surroundings

Protect the staff

- Inform the staff of the long-term health effects linked to noise pollution
- Provide the employees who are exposed to high noise levels with individual ear protection

Look after the well-being of the guests' and the quality of the environment

- Carry out noisy activities at times which will cause the least nuisance for the guests and the surroundings
- Display posters in exposed areas to raise employee awareness

Good Practices

- The plan of the hotel is in such a way that occupants are as far as possible from the road, and generator house
- Power generator should be of brands, which have as minimum sound as possible
- The walls of generator house should be made of soundproof materials
- The movement of motor vehicles within the compound should be restricted as much as possible

5.8 Air Management

Issue
The air quality assessment determined that construction effects would be temporary and it is unlikely that significant construction effects on air quality would occur. All the PM_{10} and $PM_{2.5}$ impacts are predicted to be under-controlled. The Diesel generators that are to be used on electricity supply failure have been shown to give rise to substantial adverse impacts.
Need to control
• Transport emissions and emissions from energy production and use are linked to acid rain, global warming and photochemical pollution. Air pollution from tourist transportation has impacts on global level, especially from carbon dioxide (CO_2) emissions related to transportation energy use. And it can contribute to severe local air pollution. • Some of these impacts are quite specific to tourist activities. For example, especially in very hot countries, tourists often leave their hotel rooms leaving air conditioners running for hours while the tourists go out for an excursion because they want to return to a comfortably air-conditioned room.
Management Plan
Allergens • Make sure the hot water network and hot water tanks are well maintained (keep the temperature at 55°C at least) • Clean tanks and taps during periods of extended shutdown • Clean up moldy areas with bleach and ventilate them in order to diminish humidity • Avoid acaroid (lice) by limiting the use of carpets, rugs and wall hangings • Avoid dust accumulation by regularly washing bed linen **Outdoor air quality** • Check and maintain regularly boilers and cooling equipment • Change the filters of air conditioning equipment regularly • Replace old oil-fired burners with natural gas ones • In cases where fuel oil is specifically required, use low sulfur fuel • Draw up a list of all the cooling equipment (air conditioning, refrigeration), check their air tightness and remove and dispose appropriately of refrigerant fluids (CFC)

which are harmful to the ozone layer

- Monitor leaks in refrigerating systems
- Select fire-extinguishers and firefighting systems that are halogen-free (since halogens also contribute to the destruction of the ozone layer)
- Ask your suppliers to switch off the engines of their vehicles when delivering supplies.

Indoor air quality

- Provide high performance indoor ventilation
- Identify sources of pollution and eliminate them or decrease their effects
- Create non-smoking places in public areas
- Mark smoking and non-smoking rooms clearly, if the hotel is not completely smoke-free
- Limit the use of aerosols and check that they will not damage the ozone layer
- Choose sprays that do not use propellant gases
- Ensure close adherence to the instructions for the use of cleaning agents (e.g. "*do not use in a confined space*", "*do not inhale fumes*")
- Prefer products that are solvent-free to avoid emissions of volatile organic compounds (VOC)
- Choose biodegradable cleaning agents
- Do not mix cleaning agents (interactions between substances can increase their toxicity)

Good Practices

- Attention will be given to the choice of the specific diesel generators to minimize emission impacts, such that in practice the hourly mean nitrogen dioxide content should not be exceeded.
- The overall air quality impact to be of minor adverse, all the information presented in this assessment is taken into account.

5.9 Best Environmental Management Scheme

Table 5.1 Environmental Management Scheme

Issues	Tasks	Target Completion Date
Renewable Energy	● Investigate the use of a central solar power	Final project

	system for the supply of electricity for outdoors /indoors lighting	appraisal by promoters
Energy Management	● Incorporate energy saving equipment in the project. Install heat recovery on the chillers and heat pumps for hot water supply	Before start of hotel operation
Solid Waste Management	● Implementation of a solid waste separation will entail the sorting out of different waste fractions for recycling purposes. Contract agreements should be formalized with different waste recyclers similar to composting.	Before start of hotel operation
Wastewater Management	● Wastewater treatment plant is installed already to ensure that project effluent conforms to effluent quality as identified in the EIA report and in conformity to environmental standards.	During hotel operation
Standby Generator Flue Gas Emissions	● Install chimney for disposal of gaseous emissions ● Install gas filters to remove any Particulate Matter from gaseous emissions before release to atmosphere ● Install noise attenuation canopy on the generator set ● Verify that the room for the standby generators is sound proof	Before start of hotel operation
Noise	● Adopt anti-vibration mounts, sound deadening casings and silencer for noisy machinery such as standby generator	Before start of hotel operation
Diesel Storage	● Construct diesel storage tanks with high quality welds, high tensile bolts, impervious fire screens and bunded area equivalent to 110 % capacity of storage tanks ● Provide sprinklers, fire hose, emergency isolating valve and automatic shut-off valves	Before first diesel loading

	● Provide automatic pressure monitoring alarms and control, leakage detection and alarm	
Chemical Management	● Develop a chemical management program incorporating a hazardous risk management plan in conformity with local regulations and international guidelines	Before first delivery of chemicals
Safety	● Develop emergency response plan, incorporating guidance for communication with local authorities	Before start of hotel operation
Visual impact	● A tree preservation plan to be developed before construction work begins.	Before start of hotel construction works
Environmental Management	● Establish environmental management unit.	Before start of hotel operation
Environmental Monitoring	● Commission on site laboratory unit equipped with all testing equipment for chemical physical and bacteriological quality for the potable water storage and distribution network and wastewater treatment plant	Before start hotel operation

5.10 Environmental Budget

0.1 % of the total investment is budgeted as a tentative cost for implementing environmental management plan starting from Year1 to Year 30. This cost includes the cost of mitigation measures, implementation of monitoring plan as well as enhancement measures.

5.11 Social Environmental Aspect

- No rehabilitation/resettlement issues are involved
- The proposed project on implementation will generate direct employment opportunities
- The project proponent is a Private Hotel, which is owned by Regal Hospitality Company Limited, hence the tax revenue for proposed project will be directly paid to the Government.
- Activities such as funding primary school, health care and religious affairs, etc. will be implemented

6. ENVIRONMENTAL MONITORING PLAN

To check the effectiveness of mitigation measures as proposed, a detail environmental monitoring plan shall be implemented both during the construction and operation stages of the project. There shall be a project implementation unit (PIU) and it will be the responsibility of PIU to implement such monitoring program. Such monitoring activities will help the PIU to maintain the quality of environment through adequate checking and control of mitigation measures and environmental infrastructures.

6.1 Management System

A management system needs to be put in place to monitor potential impacts during construction, operation, and if applicable, after decommissioning.

There shall be monitoring program both for the construction and operation stages of the project.

6.2 Purpose of a Monitoring System

The purpose of monitoring is to ensure the condition and operation of the facilities against the set management objectives for each facility and the goals should therefore be quantifiable.

The objectives for Pullman Mandalay Hotel monitoring system could be as follows:

- To provide meaningful and accurate information on the ecological changes and visual impact that may occur around the hotel
- To identify casual factors where measurements do not comply with the management goals
- To obtain information which would enable technical decisions on needed actions, such as where the wastewater treatment plant function properly, or to make strategic decisions such as to limit visitor numbers

Therefore, a dual-monitoring system is recommended because managers and users rate the facilities differently. Top-down monitoring is the periodical monitoring by an official group or person. Bottom-up monitoring is the informal monitoring of lodge and is usually complaint based.

6.3 Environmental Monitoring System (EMS)

The local authority should be responsible for monitoring and management of all indirect impacts occurring in the project area.

The following table illustrates the responsible unit, the monitoring responsibilities and frequency.

Table 6.1 Environmental Monitoring Plan

Environmental Issue	Implementation	Responsible Unit	Frequency
Managing Air Quality			
Prevent emissions of air pollutants to the atmosphere and OH&S issues for employees	Ensure that volatile liquids such as solvents are stored in containers with well-fitting lids or with taps for dispensing	Designated staff	Daily
	Limit engine operating times within the workshop to a minimum	All staff	Daily
	Use damp cloth or mist spray to clean brakes – not compressed air	All staff	As necessary
Managing Water Quality			
Stop pollutants entering the storm water system	Ensure staff uses drip trays to catch liquids	Supervisor	As necessary
	Provide cleanup equipment specifically designed to deal with small spills that occur. A spill kit is to be placed in a conspicuous location and to be clearly labelled	Manager	As necessary
	Develop a step-by-step cleanup guide to using the spill kit for small spills	Manager	As necessary
	Develop an emergency response procedure for large spills	Manager	As necessary
	Train all staff in the emergency response procedure. Make sure all staff know where the	Manager	As necessary

	written procedure is kept		
	All stormwater drains on the premises and nearby outside the premises should be labelled 'Clean Water Only'	Designated staff	As necessary
	Inspect the factory area to check stormwater from run-off or roof leaks is not entering the bunded area	Manager	Monthly
	Check the bund surrounding the storage tanks to ensure it is in good condition and would contain spills	Manager	Monthly
	Check and clean stormwater drains	Designated staff	Weekly
Solid Waste And Resource Recovery			
Prevent excess waste	Keep the waste bins covered or stored in a covered area to prevent dispersing all around	Designated staff	Daily
	Separate each of the different kinds of waste for easy collection and recycling	Designated staff	Daily
	Carry out a waste audit of your operations to find out how much waste is being generated	Manager	As necessary
	Review results of the waste audit and work out how waste can be eliminated, minimized, separated, reused or recycled	Manager (with designated staff)	As necessary
	Set quantified waste reduction targets (in volume, weight or costs)	Manager (with designated staff)	As necessary

Hazardous Substances and Liquid Waste			
Minimize risks of hazardous liquids polluting the environment and OH&S issues for employees	Provide training to employees on how to dispose of contaminated material, such as oily rags and used absorbents from the spill kit	Manager	For each new staff
	Store oily and greasy parts, engines, batteries, etc. in a bunded and covered area or on drip trays	Designated staff	Daily
	Check that lids are on all containers and they are not leaking	Designated staff	Daily
	Ensure MSDS for hazardous products are up-to-date and accessible at any time	Designated staff	Monthly
	Check the bund surrounding the liquid storage area is in good condition and would contain spills	Manager	Monthly
Managing Noise			
Noise should not disturb neighbors	Maintain all equipment so it's running efficiently	Workshop manager	Weekly
	Check whether operational noises can be heard outside your premises and trace the source of noise	Workshop manager	Daily
	Ensure you operate within the hours approved by your local authority	Workshop manager	Daily
Social welfare			
Public health and occupational safety	Special attention should be paid to the sanitary facilities (pit latrines), they should be kept clean and well lit	Project manager	Daily
	Ensure proper solid waste disposal and collection	Project manager	Weekly for solid

	facilities		waste disposal
	Provide First Aid kits on the site Educate stakeholders/workers on environmental management	Project manager	Once a month
	Provision of all necessary PPEs	Project manager	Once a month
	A comprehensive risk assessment and health and safety audits should be conducted for the site	Project manager	Once a month
	Workers should be trained on occupational health & safety and first-aid administration	Project manager	Once a month
Safety	Security men should always be available to alleviate cases of robbery and other related incidences on site	Designated staff	Daily
	Installation of security lighting especially at the site	Designated staff	Daily

To establish baseline for noise and particulates information, stations peripheral to the development boundary should be chosen. Thereafter, monitoring at set intervals should be made to determine compliance with noise and air quality guides.

Monitoring intervals recommended would be weekly for the first month with monthly monitoring thereafter. Ad hoc monitoring would also be conducted on a case by case basis if complaints are received by the management of the development.

Best practices monitoring is essential to ensure compliance with mitigations for solid and liquid waste management. This monitoring would involve random visits to the site to evaluate whether or not solid or liquid wastes are being managed properly and to determine whether or not vehicles transporting materials into or solid wastes out of the site are doing so in accordance with the law.

A drainage assessment during a rainy season is required to determine a base volume of water flow and sediment transport through the property prior to the onset of development. This would be best done during a rainfall event. From this, a monitoring regime can be established to determine changes in drainage during the course of the development implementation. Monitoring would be conducted based on predicted weather changes that could result in rainfall occurring.

7. FIRE SAFETY AND EMERGENCY PLAN

7.1 An Overview of Hotel Fire Safety

The amount and type of fire safety equipment in a hotel varies by the size of the building, its height and age. Many high-rise hotels are protected with fire sprinklers, regardless of height.

New hotels are more likely to have what we consider high-quality fire protection, that is, fire sprinklers in every guest room as well as detection and alarm systems. Some fire safety equipment is obvious, even to people who are not trained in fire safety. Examples are fire sprinklers and smoke alarms. Other items may not be obvious because laymen do not associate them with fire safety. In fact, most people drastically underestimate how quickly they can become deadly.

Another factor that increases the consequences of hotel fires is that hotels contain large numbers of people who are unfamiliar with the building and may be sleeping when a fire occurs. The history of hotel fires bears out the consequences of these factors.

TIM

It is an acronym for three important items: Testing, Inspection and Maintenance. Fire safety equipment that is present may be of no use if it is not regularly tested, inspected and maintained by qualified technicians. There are nationally recognized standards that dictate how often TIM should occur for sprinklers and other fire safety equipment. Hotels with high-quality fire protection will have records of TIM.

Fire investigations abound with reports of equipment that did not operate or was improperly adjusted, and that is why we refer to TIM throughout. Travelers may be fortunate enough to stay in a brand new hotel from time to time, but this is the exception to the rule. We are more likely to stay in buildings that are several generations old, with fire safety equipment that is as old as the building. The importance of TIM cannot be understated, and any hotel that does not adequately document TIM is neglecting its fire safety responsibilities.

7.2 Components of a Hotel Fire Safety System

The components of a hotel fire safety system include the following items:

- Fire sprinklers
- Smoke and fire detectors
- Duct Smoke Detectors
- Automatic alarm systems
- Connection between Air handling units and alarm systems
- Manual alarm systems (the pull-boxes near stairway doors and elevators)
- Fire department standpipes (the things that you see in stairways)

- Emergency lights
- The emergency egress system
- Fire Resistivity of Construction
- Exits & Exit signs
- Pressurized stairways
- Smoke control systems
- Portable fire extinguishers
- Staff emergency response plans
- Staff training
- Gas Supply Shut-off Devices
- Fire Alarm System Required Hotels/Motels
- High Rise Buildings

A hotel's fire safety system is a complex set of critical items that are all interrelated. Testing, inspection and maintenance by qualified technicians is also important because the failure of one part of the system can affect the ability of the other parts to work effectively. When a fire occurs it is too late to find the problems.

Fire sprinklers are the most reliable part of a building's fire safety system for saving lives and property. It is for these reasons that sprinklers are the fundamental criterion for a quality hotel fire safety system.

7.2.1 Fire Sprinklers

Fire sprinklers are fundamental to hotel fire safety. A basic criterion for hotel fire safety is a fire sprinkler system with sprinklers in every room, installed in compliance with nationally recognized standards and then maintained by qualified technicians. Sprinklers are designed to stop a fire when it is small, and they have a superior track record in saving lives and property.

Value of Fire Sprinklers

If a fire can be stopped before it grows, it cannot develop a lot of smoke, which is the biggest killer in fires. Smoke alarms are great and we look for them as well as sprinklers. But smoke alarms can only alert people to a fire, and fires can grow so quickly that they can kill before people can escape. A sprinkler will not only alert people to the fire (when a sprinkler opens, the water flowing through the system triggers an alarm), but it also opens very quickly and stops the fire. A fire that is quickly stopped cannot produce smoke and the carbon monoxide it carries.

Fire sprinklers are designed to operate when a fire is small and stop it before it grows to a stage known as flashover. At the flashover stage, the fire travels from the room

of origin with a large burst of energy, pushing great amounts of heat and smoke to the rest of the building. Sprinklers are spaced so that they can stop a fire with a relatively small amount of water. In nearly all cases only one sprinkler opens.

Travelers need to be aware that some hotels have installed sprinklers in "common areas", such as corridors, restaurants, lobbies, etc., but not in the guest rooms. If a hotel does not have sprinklers in every room then it does not meet our criteria for hotel fire safety. The reason for this is simple. If sprinklers are not installed in every room, a fire can grow to deadly proportions before the sprinklers outside the room stop its progress. A sprinkler located outside a burning room cannot stop the smoke that is being produced in the room, and this is a bigger threat to people than the flames.

7.2.2 Smoke Detection and Alarms

A system of interconnected smoke detectors should be installed, with units in every room including common areas and all non-guest rooms. The alarm system will alert guests who are at risk. It is also important that the alarm system be monitored off-site by a qualified organization. Some alarm systems are connected directly to the fire department.

Equally important is documentation on TIM. Modern fire alarm systems can be very complex, especially in high-rise buildings. They need regular attention by qualified technicians.

7.2.3 Duct Smoke Detectors

All air handling duct system must be equipped with duct type some alarms.

7.2.4 Connection between Air Handling Units and Alarm Systems

All the air handling units must be programmed due to fire alarm. They must be stopped whenever a fire alarm actuates. All the duct systems must include fire stopping dampers.

7.2.5 Standpipes

A fire department standpipe is a large pipe with a hose connection on it at a hotel stairway on each floor. They are installed in hotels, at least those higher than three stories, so that the firefighters can hook up their hose near the fire. This reduces the amount of hose that they need to carry up the stairs, which reduces the time it takes to set up and attack the fire.

7.2.6 Emergency Lighting

A fire may cause the building's electrical system to fail. Sometimes the fire originates in the electrical system. For this reason, the building should have emergency lights installed in all corridors and public rooms. Emergency lighting that complies with nationally recognized standards will be connected to a separate power supply that is

backed up by an emergency generator. The lights will automatically go on when the system detects an electrical failure.

7.2.7 Emergency Egress System

Every building should be built in compliance with a nationally recognized building code. These codes contain minimum standards for the emergency egress system, i.e., the pathways that provide evacuation routes from every part of the building to the outdoors at ground level. The building codes are based on the principle that the corridors and stairways are a vital part of the egress system, so they are required to have added protection that will theoretically last long enough to allow everyone to evacuate.

7.2.8 Exits & Exit Signs

Exit signs that comply with nationally recognized standards will be visible from any place in the corridor. Those that are not near an exit door will have an arrow showing the direction to the nearest exit. Again, TIM is important. It is very easy for exit lights to burn out overtime, and just as easy to neglect replacing them.

A hotel employee may be tempted to replace a broken sign with one that has no direction arrow - or just as bad, with an arrow going the wrong way. They might make this mistake because they don't know what the installation standard requires. That is why only qualified technicians should work on any fire safety system.

7.2.9 Meeting Rooms

A general rule to keep in mind is that street-level meeting rooms are the easiest to evacuate. Rooms above the seventh floor are more hazardous because fire ladders may not reach that high. Hotel basement meeting rooms may not be a wise choice, because meeting participants must climb upstairs in the same direction smoke and flames will travel.

- The meeting room should have adequate exits. A rule of thumb is that

  50 to 300 persons require **two** exits.

  Three hundred to 1,000 persons need **three** exits and

  More than 1,000 persons should have **four or more** exits.
- The exits should be brightly lit, not blocked, by furniture or curtains and be easily opened.
- They should never be locked or chained.
- Seating or exhibit arrangements should allow enough aisle space for quick evacuation.
- Familiarize with exits and escape routes.
- Not only make sure that the hotel floor plan is visibly posted, but also walk the entire escape route.

- Hallways, exits and stairwells should be clear of obstructions.
- Stairs should have emergency lighting; and
- Elevators should be clearly marked to prevent use in a fire.

7.2.10 Stairway Pressurization

High-rise hotels should have pressurized stairways. An exception is a hotel where the stairways are open to the outside. In pressurized stairways, a fan operates when the fire alarm panel receives a signal from a fire detector or sprinkler. The air is blown in from the exterior, and this creates a positive pressure in the stairway, keeping smoke from creeping into the stairway and blocking the egress path.

7.2.11 Smoke Control Systems

Very large buildings will have systems that automatically pressurize certain areas and depressurize others to contain smoke or exhaust it outside. This should definitely be present in buildings with atriums (where the rooms surround an open courtyard).

7.2.12 Portable Fire Extinguishers

Portable extinguishers are designed to control or extinguish small fires. They are placed throughout a hotel to be readily available when someone finds a fire. Installers follow a nationally recognized standard that dictates what type (based on the type of fire expected at that location), their location, and size. Different locations will require different types, depending upon the type of fire expected. For example, the corridors will have units for extinguishing paper and other similar combustibles. A kitchen area will have units designed to put out grease fires.

Notice that the extinguishers are placed in wall cabinets or are hung on the wall at a height that makes it easy for an average-sized person to remove. If they are found on the floor, then they are not in the proper location. One reason for hanging them is to prevent items from being placed on top of them.

It is easy to use portable extinguishers. The instructions use icons to make them clear to someone who has not used one before. However, hotel employees should receive periodic hands-on training on how to use them. Extinguishers are more effective in the hands of experienced users, and periodic training increases expertise. But there is another reason why employees should be trained. The experience also teaches employees the limits of the extinguisher. Knowing when to use it and when to call the fire department without delay is a valuable lesson that all hotels should be teaching to every employee.

Have you ever noticed the paper tags hanging on each extinguisher? They indicate when the unit had its last TIM. The hotel should have a record of the periodic visits by an extinguisher technician, while the individual tags document when the last TIM was

conducted. If it was over a year ago, then the hotel is not keeping up on its TIM responsibilities.

7.2.13 Fire Response Plan

A hotel with quality fire safety will have a written plan that describes every employee's responsibility in a fire or other emergency. The lack of a written plan or a refusal to show it is a cause for concern. Also be concerned if the instructions call for delaying the notification of guests or the fire department. Examples are orders to notify the manager before taking action, or orders to first investigate a fire alarm before calling the fire department or notifying guests.

Premature notification of guests due to false or nuisance alarms always concerns hotel management. There are two things to consider here. First, if the hotel has replaced outmoded technology and the fire alarm system was installed in compliance with nationally recognized standards. False or nuisance alarms are rare. Modern smoke detectors are smart enough to quietly notify the monitoring company if they need servicing or are becoming too sensitive. That is why we stress the importance of TIM. There is no valid reason for a hotel to tolerate false or nuisance alarms.

Second, modern alarm systems have voice notification features that allow hotel employees to alert only those guests who are in immediate danger. For example, if a smoke detector on the 15th floor operates, the employee might be instructed to alert guests on higher floors to prepare for evacuation.

The specific evacuation message will vary by the type, size and layout of the building.

7.2.14 Staff Training

Every employee should receive periodic formal training and practice on what to do in a fire emergency. A hotel with quality fire protection will have copies of their training plans and records of who attended each session. A verbal statement that "we give everyone regular training" should be suspect. The items covered in the plans should include such things as:

- Each employee's responsibilities in a fire emergency.
- Details about the building's fire equipment.
- What the various fire alarm signals mean.
- Who is responsible for notifying the fire department (this should always be done as a backup measure, even when the system is monitored).
- The records should document the orientation and continued training of every employee, including hands-on instruction on how to operate portable extinguishers.

7.3 Fire Safety Plan

7.3.1 Fire Safety for Pullman Mandalay Hotel

Pullman Mandalay Hotel has must follow the directions, given by Fire Department, the Ministry of Home Affairs to get "Fire Safety Certificate".

a) The access way around the building is 18 feet wide and the load-bearing capacity of road is 140 tons at the place of fire engine

b) Width of the stair is 3' 6"

c) Dimension of the stairs is: Riser $\leqslant$ 7 ", Thread $\geqslant$ 10 "

d) Install mechanical ventilation system or leave 15% of the wall for windows on the stairway area.

e) Access door to the staircase: Minimum width = 3' 6" , Height = 6' 6"
Self-closing system
Minimum 1 hr fire rated door

f) Provision of space having area of 3 m^2 at the entrance and exit of the stairs as a smoke stop lobby

g) Provision of space having area of 9 m^2 at the entrance and exit of the main stairway as a fire fighting lobby for fire engine to prepare necessary arrangements

h) Two out of six numbers of lifts should be reserved for fireman

i) Provision of emergency back-up power system for lifts in case of electricity failure

j) Install lifts with emergency rescue device (ERD) so that the lift will stop at the nearest floor when electricity cut off

k) Achieve fire safety certificate from the Fire Department, Ministry of Home Affairs

l) The whole building must be equipped with:

i. Audio/Visual Advisory System
ii. Exit and Indication sign
iii. Emergency lighting system with UPS back-up
iv. Emergency Generator

m) Fire Safety

The following facilities must be provided or equipped on every floor:

i. Fire alarm system
ii. Selective choice of fire detection system namely smoke detection, heat detection or flame detection
iii. Portable hand-operated approved appliances must be provided

iv. Fire hose reel with minimum water pressure of 2.5 bar

v. Automatic sprinkler system

Others:

vi. Riser: Dry riser…….. ground floor to 7th floor

Wet riser……..ground floor to the uppermost floor

(with water available at any time & minimum water pressure 3.5 ~ 5.5 bar)

Material of pipe….GI or Black Steel

Installation……Separate

vii. Fire hydrant……. Two numbers on the access way with minimum water pressure of 3.5 ~ 5.5 bar

viii. Automatic fixed installation other than water system at control room and M & E department.

ix. Establish Fire Control Center

x. Water supply for firefighting:

Water storage tank of 30,000 gallons (Capable to supply two fire hydrants having 250 gpm capacities for1hr)

(250 gpm x 2 x 60 min = 30,000 gallons)

7.3.2 Best Practices by Pullman Mandalay Hotel

Pullman Mandalay Hotel has considered fire safety plan and implemented the followings:

- Gas installations, storage tanks, pipe lines, gas burning appliances, flues and equipment are correctly installed and fitted with appropriate safety devices and signage with “Flammable fluids”, “No Smoking”
- Fire Precautions Notices are to be put up at various points
- Install state-of-the-art, well-maintained fire extinguishers and fire hydrants at public places
- Provision of water storage tank with pumps, hoses and other essential accessories in always ready condition
- Sufficient numbers of fire extinguishers
- Periodic formal training and practice on what to do in a fire emergency for every employee
- Assign duties and responsibilities

- Inspect the electrical wirings and electrical equipment regularly and if necessary, do repair and keep the maintenance records. Automatic main breakers should also be used for safety
- Make sure the emergency exits and stairways are accessible 24 hours, 7 days a week

In case a fire breaks out, in spite of preventive measures, the following should be done to minimize losses due to the fire.

a) Inform the nearest fire station and police for help as soon as possible
b) Try to fight the fire with own trained personnel and firefighting equipment to minimize the losses
c) Evacuate the guests and goods to a safe place
d) Prevent the fire spreading to other places
e) Prevent the outsiders from entering and looting
f) Help the guests for safe exit

In order to implement the fire prevention measures, management team will be formed.

a) Team Leader
b) 2nd Team Leader
c) Secretary
d) Member
e) Member

For the fire safety purposes, communication should be done as follows:

a) To communicate by telephone through specific telephone numbers as per instructions
b) Liaison Person

If there are difficulties for telephone connections, liaison person should be sent for quick and efficient communication.

To implement the above mentioned fire prevention measures, it is a duty for all persons concerned to cooperate fully and to do their assigned duties efficiently.

7.4 Emergency Preparedness Plan

7.4.1 Fire Emergency Plan

- Contact the fire department
- Locate the source of the fire/alarm
- Direct guests to appropriate exits

- Assist guests with disabilities
- Direct emergency response to the location of the fire
- Pre-emergency Planning
  - Monthly inspection / testing of fire alarms / sprinkler systems / extinguishers
  - Posting of evacuation plans in all areas
  - Plan review with all employees
  - Annual review of the Fire Emergency Plan

7.4.2 Weather Emergency Plan

- Identify “safe” locations within the facility
- Monitor emergency warnings during potentially dangerous weather conditions
- Notify guests of emergency and direct to “safe” location
- Assist guests with disabilities
- Maintain communications capability with emergency services, not dependent on phone lines
- Pre-emergency Planning
  - Verify integrity of “safe” locations
  - Post weather emergency information in all areas
  - Plan review with all employees
  - Annual review of Weather Emergency Plan

7.4.3 Guest Illness/Injury Emergency Plan

- Respond to guest location to offer assistance and determine nature of emergency
- Contact emergency services
- Direct emergency services to guest location
- Complete an incident investigation report
- Pre-emergency planning
  - Post emergency numbers or pre-set numbers at hotel switchboard
  - Arrange for cleanup in the event of blood borne pathogens (biohazard)
  - Plan review with all employees
  - Review Guest Illness/Injury Plan annually

7.4.4 Employee Illness/Injury Emergency Plan

- Respond to employee location to provide assistance and determine nature of emergency
- Provide first aid, if applicable
- Contact emergency services or transport employee to medical treatment
- Direct emergency services to employee location
- Complete incident investigation report
- Pre-emergency planning
  - Arrange for employee medical treatment at a local clinic
  - Provide for at least one first aid trained employee on site at all times
  - Plan review with all employees, emphasizing the requirement for reporting all injuries
  - Review Employee Injury/Illness Plan annually

8. OCCUPATIONAL HEALTH AND SAFETY ISSUES

8.1 Introduction

Hotels employ a variety of staff including room attendants, bellmen, front desk personnel, chefs, waiters, laundry operators, banquet servers, engineering/ maintenance crew and so on. They can be exposed to variety of hazards at work depending on the nature of their job.

They may be exposed to the risk of musculoskeletal disorders and injuries and to health hazards such as chemicals, noise and thermal stress. There is also the risk of accidents from slips, trips, knocks and falls, cuts, burns and scalds, electrocution, and fire and explosion.

Occupational accidents and diseases can result in suffering, sickness, productivity loss, disability or even death. All these undesirable results can be prevented by implementing the OSH Management System.

The common workplace hazards and their preventive measures, the principles and elements of safety and health management programs in OSH System can help greatly to establish a safe and healthy working environment in the hotel.

The good safety record will give the better image for the hotel.

8.2 OSH Management System

Hotel should establish OSH Management Organization and program.

8.2.1 Outline of the System

(1) OSH Policy: State overall safety & health goals and commitment.

(2) Planning: Identify potential hazards, perform hazard analyzing, determine safety requirements, and establish operational controls & safe work practices.

(3) Implementation: Implement the planning objectives and practices in the organization.

(4) Checking & Corrective Action: Monitoring system on the outcome of the system.

(5) Management Review: Organize the OSH meeting regularly for the continuous improvement.

8.2.2 OSH Safety Policy and Organization

The management's commitment is important to ensure the success of the safety and health program. The policy should be written and endorsed by the top management and communicated to all levels of staff, including contractors.

8.2.3 Responsibilities

The employer has a duty to ensure the safety and health of their staff and should take the lead in promoting safety and health in the hotel.

The employees should understand that safety and health is not just the responsibility of the employer, but they also have to cooperate.

8.2.4 Hazard Analysis

A hazard is a potential source of harm or adverse health effect on a person. Risk is the likelihood that a person may be harm if exposed to a hazard.

It is a good practice to establish systematic procedures for the identification, evaluation and control of both existing and potential hazards in the workplace. The steps in hazard analysis exercise should summaries as below:

(1) Select activities and equipment for analysis

(2) Identify the hazards involved

(3) Evaluate the hazards and risk involved

(4) Implement measures to control the hazards

(5) Evaluate effectiveness of control measures and record findings

8.2.5 Safe Work Procedures

Employers are encouraged to establish safe work procedures for the various types of work. Safe work procedure should be effectively communicated to all staff to follow.

8.2.6 Group Meetings

Group meeting should be conducted regularly to discuss safety and health issues and disseminate safety and health information to staff. Daily briefs and de-briefs (toolbox meeting) can serve as effective channels for conveying the messages.

8.2.7 Accident, Incident and Disease Investigation, and Analysis

Every work related accident, incident or disease should be report in systematic way. Every accident, incident or disease occurring at work place should be investigated in order to identify the root causes and prevent similar occurrences in the future.

8.2.8 Safety Inspection

It is important to establish an effective program to carry out periodic inspection to identify potential hazards, unsafe acts and conditions. The finding should be recorded and analyzed.

8.2.9 Maintenance Program

An effective maintenance program should be established for all equipment, machinery and tools used. Inspection and maintenance should be scheduled and recorded. There should be a system for staff to report of any defective or damaged tool or equipment.

8.2.10 Emergency Preparedness

An emergency response plan and emergency response team should be established with the duties and responsibilities of each member clearly defined. Management should ensure that all staff are familiar with the plan and procedures. Regular drills and exercises should be conducted. The plan can be improved by the lessons learnt from the drills.

8.2.11 Documentation and Review

There should be a system for the documentation and regular review of the program. That will help the program is remain relevant and effective. Recommendations that result from such reviews should be considered and implemented.

9. SOCIAL ACCEPTABILITY

9.1 Code of Labor Practices

For social acceptability, it is essential to comply with the following Code of Labor Practices:

I. Employment is freely chosen

a) There must be no use of forced labor.

II. There is no discrimination in employment

a) The employer must treat all employees equally, regardless of their race, color, gender, religion, political affiliation, party membership, nationality, social origin, deficiencies or disabilities.

III. No exploitation of child labor

a) There must be no use of child labor.

b) Prospective employees may not be employed before they have reached the age of completion of compulsory schooling and on no account may they be employed under the age of 15.

c) Young people between the age of 15 and 18 must not perform work which can harm their health or safety. For example, they are not permitted to perform work at night or work excessive hours.

IV. Freedom of association and the right to collective bargaining

a) The employees have the right to negotiate with their employer as a group (collective bargaining).

b) The employer must not punish employees who express their opinion and wishes.

c) Workers' representatives shall not be discriminated against and shall have access to all workplaces necessary to carry out their representation functions.

V. Payment of a living wage

a) The wages must at least meet the legal minimum.

b) The wages for a normal working week should always be sufficient to meet the basic needs of workers and their families and provide some discretionary income.

c) Deductions from wages shall not be permitted, which are not provided for by national law.

d) Employees shall be adequately and clearly informed about the specifications of their wages, including wage rates, payment periods and wage deductions. They shall receive a pay slip that contains this information.

VI. No excessive working hours

a) Hours of work shall comply with applicable laws.

b) In any event, workers shall not be required on a regular basis to work in excess of 48 hours per week and shall be provided with at least one day off for every seven-day period.

c) Overtime shall be voluntary and the total working hours per week, including overtime, shall not exceed 60 hours.

d) Overtime shall not be required on a regular basis and must always be compensated at a premium rate, in accordance with the legal requirements.

VII. Safe and healthy working conditions

a) The employer must provide a safe and hygienic working environment.

b) The employer shall provide protective equipment, where necessary, and train the employees in how they are used.

c) The employer shall furthermore take measures to prevent accidents and health risks.

d) Physical abuse, threats of physical abuse, unusual punishments or discipline, sexual and other harassment, and intimidation by the employer is strictly prohibited.

VIII. Legally binding employment relationship

a) Each employee shall receive a written employment contract and all labor law and social security obligations to employees shall be assumed.

9.2 Regal Hospitality Company Limited's Commitment

Regal Hospitality Company Limited is committing to . . . . . .

1. Comply with all mitigation/enhancement measures identified in this ESIA
2. Designate a Pollution Control Officer (PCO) to handle the environmental management programs;
3. Submit regular environmental monitoring reports;
4. Construct, maintain and properly operate adequate and appropriate septic tank and/or wastewater treatment facility for liquid wastes;
5. Maintain the cleanliness of the general surroundings;
6. Participate or contribute towards a communal cleaning effort;
7. Strictly implement a contingency management plan and safety program;
8. Organize and conduct information, education and communication (IEC) activities on environmental, health and other civic issues.

9.3 Undertaking for Corporate Social Responsibility

Recognizing that social responsibility is good business, Pullman Mandalay Hotel allocates 0.1 % of net annual profit for CSR to provide the following activities:

- Education Sector (e.g., Libraries) 15%
- Health Sector (e.g., Medical Clinics) 25%
- Social Development (e.g., Child Day-Care Center, Education Foundation) 20%
- Protection of Environment (e.g., Construction of roads, bridges, drains) 20%
- Regional Development (e.g., Electricity supply) 20%

9.4 Social Welfare Program

Regal Hospitality Company Limited plans to provide the following facilities.

1. Library to improve the knowledge of the workers
2. Health care facilities and a clinic
3. Green belt development for better aesthetic environment
4. Children Day-care Center and Education foundation
5. Sustainable Electricity Lighting system for the neighboring residential areas

10. PUBLIC INVOLVEMENT

The public consultation is a pre-requisite to all the projects to provide different stakeholders with an opportunity to raise their concerns from the project scoping stage to the approval of EIA License. Provision of intense public participation and consultation has been made mandatory for EIA through public consulting during scoping and public hearing after draft report preparation. Such participation of the related stakeholders takes place through entire period of preparation and reviewing of both the Project Report and EIA Study Report.

Hence, a number of consultation and public information campaigns have been scheduled to increase the residents' awareness and knowledge of the project. Public disclosure/consultation meetings were held at Mingalar Mandalay Complex in March through May 2014, following the identification of potential impacts due to the installations of Pullman Mandalay Hotel in Chan myatharzi Township.

The purpose of these meetings were to inform the stakeholders and residents on the nature goals and scope of the project, the improvements expected as a consequence of the installations of Pullman Mandalay Hotel in Chanmyatharzi Township, and the potential positive and negative impacts related to the project.

Copies of the Draft ESIA report were sent before the meetings to the representatives of stakeholder or residents, in order to enhance the knowledge about the project characteristics and facilitate informed discussion on the different aspects.

Invitation letters were sent to the local residents and personal invitations were given to the local government officials. Informational fliers were distributed and Public Service Announcements were also done in the communities.

The negative impacts experienced by the local population will be primarily in the construction phase; these impacts are temporary.

First Public Participation & Consultation Meeting held at Meeting Hall of Regal Hospitality Co., Ltd. in Mingalar Mandalay complex on Saturday, 4 April 2015 that discussed the project salient matters. There were about 150 people from local authorities, communities, NGOs and INGOs.

Second Public Participation & Consultation Meeting was also held at Meeting Hall of Regal Hospitality Co., Ltd. in Mingalar Mandalay complex on Sunday, 13 September 2015 that discussed the anticipated environmental and socio-economic impacts of proposed project. There were about 145 people attended in this meeting.

Figure 10.1 Photos of First Public Participation & Consultation Meeting held on 4 April 2015








Figure 10.2 Photos of Second Public Participation & Consultation Meeting held on 13 September 2015

11. CONCLUSION AND RECOMMENDATIONS

11.1 Recommendations

From EIA studies, it is evident that the proposed project is associated with both positive and negative impacts during construction and operation phases of the project. The proponent and contactor are advised to implement Environmental Management Plan so as to reduce adverse impacts and boost good environmental practices. Environmental safety must also be followed in order to reduce incidences of accidents and compromise to environmental well-being.

Recommendations for the prevention and mitigation of adverse impacts are as follows: -

- The development must be approved by the relevant Government Departments and the proponent should therefore follow the guidelines as set by the departments to safeguard environmental management principles during construction and operation phases of the proposed development.
- It is important that warning/informative signs (bill boards) be erected at the site. These should indicate the operation hours, when works are likely to be started and completed, and potential hazards.
- All solid waste materials and debris resulting from construction activities must be disposed off at approved dumpsites. The wastes should be properly segregated and separated to encourage recycling of some useful waste materials; i.e., some excavated stone materials can be used as backfills.
- Once earthworks have been done, restoration of the worked areas should be carried out immediately by backfilling, professional landscaping/levelling and planting of low grass (in open areas), flowers and suitable tree species.
- Proper and regular maintenance of construction machinery and equipment will reduce emission of hazardous fumes and noise resulting from friction of rubbing metal bodies.
- Heavy construction activities should be limited (or avoided) during the rainy season to minimize the chances of soil degradation (soil erosion).
- Maintenance activities must be carried out in service bay to reduce chances of oils or grease or other maintenance materials, from coming into contact with environment (water or soil). Wastewater from such areas must be refrained from coming into contact with solid mass or water bodies as it contains oil/grease spills.
- Used and new oils must be handled and stored appropriately to avoid oil leaks and spills on the site.
- Sewerage system must be properly designed within the site/office and standard cleanliness and waste disposal facilities at construction site and during occupation must be maintained.

- Workers should be provided with complete personal protective equipment (PPE) and safety gear. They should have working boots, complete overalls, helmets, gloves, earmuffs, nose masks, goggles, etc. A fully equipped first aid kit must be provided within the site.
- It will be necessary to provide the construction workers with proper sanitation in the form of a clean water supply for their domestic consumption and a proper sewerage disposal system.
- The contractor must provide adequate security during the construction period and especially during the night when there are no construction activities.
- A complete firefighting system must be provided after completion of the project.
- All construction materials and especially sand, gravel, hardcore and wood must be sourced/procured from legalized dealers.
- Construction activities must be undertaken only during the day i.e., between 0700 hours to 1900 hours. This will minimize disturbance to the general public within the proximity of the site/project especially the residential estates.
- Traffic on the access road to the site should be controlled and informed during construction and especially when heavy trucks are turning in and out of the site. This will ensure that no accidents are caused by the site's activities.

11.2 Conclusion

It can be concluded that the proposed project is unlikely to generate any irreversible or permanent negative impacts. The report has provided adequate mitigation measures for the identified impacts. It is therefore recommended that the proposed project be approved provided that the proposed recommendations given above are strictly adhered to.

This proposed project does not have any activities that can be classified as detrimental.

It can be concluded that the benefits of the project are greater than the costs and that the development should be allowed to proceed. The project has not received any objection from the neighbors. The objectives of the project, especially improving of tourism and hotel standards makes the project highly viable for the area. The project will also contribute in easing the demand for accommodation for the tourists hence a boost to the tourism industry.

APPENDICES

LIST OF APPENDIX

APPENDIX I

Effluent limits for Tourism and Hospitality Development described in National Environmental Quality (Emission) Guideline- Draft

Parameter	Unit	Guideline Value
5-day Biochemical oxygen demand	mg/L	50
Chemical oxygen demand	mg/L	250
Oil and grease	mg/L	10
pH	S.U.[a]	6 - 9
Total coliform	MPN[b]/100 ml	400
Total nitrogen	mg/L	10
Total phosphorus	mg/L	2
Total suspended solids	mg/L	50

S.U = Standard Unit

MPN = Most probable number

APPENDIX II

AMBIENT AIR QUALITY STANDARD IN SOUTH-EAST COUNTRIES, JAPAN AND IFC

Item	Averaging period	Japan	Thailand	Vietnam	IFC
SO_2	10 min	-	-	-	0.5 mg/m^3
	1 hour	0.1 ppm	0.3 ppm	0.35 mg/m^3	0.125 mg/m^3 (Interim Target -1) 0.05 mg/m^3 (Interim Target -2) 0.02 mg/m^3 (Guideline)
	24 hours	0.04 ppm	0.12 ppm	0.125 mg/m^3	-
	1 year	-	-	0.05 mg/m^3	-
NO_2	1 hour	-	0.17 ppm	-	0.2 mg/m^3
	24 hours	0.04-0.06 ppm	-	-	-
	1 year	-	0.03 ppm	-	0.04 mg/m^3
NO_X	1 hour	-	-	0.2 mg/m^3	-
	24 hours	-	-	0.04 mg/m^3	-
CO	1 hour	-	30 ppm	30 mg/m^3	-
	8 hours	20 ppm	-	10 mg/m^3	-
	24 hours	10 ppm	9 ppm	-	-
TSP	1 hour	-	-	0.3 mg/m^3	-
	24 hours	-	0.33 mg/m^3	0.2 mg/m^3	-
	1 year	-	0.10 mg/m^3	0.14 mg/m^3	-
PM_{10}	24 hours	-	0.12 mg/m^3	0.15 mg/m^3	0.15 mg/m^3 (Interim Target -1) 0.10 mg/m^3 (Interim Target -2) 0.07 mg/m^3 (Interim Target -3) 0.05 mg/m^3 (Guideline)
	1 year	-	0.05 mg/m^3	0.05 mg/m^3	0.07 mg/m^3 (Interim Target -1) 0.05 mg/m^3 (Interim Target -2) 0.03 mg/m^3 (Interim Target -3) 0.02 mg/m^3 (Guideline)
SPM	1 hour	0.2 mg/m^3	-	-	-
	24 hours	0.1 mg/m^3	-	-	-
$PM_{2.5}$	24 hours	0.035 mg/m^3	0.05 mg/m^3	-	0.075 mg/m^3 (Interim Target -1) 0.05 mg/m^3 (Interim Target -2) 0.0375mg/m^3 (Interim Target -3) 0.025 mg/m^3 (Guideline)
	1 year	0.015 mg/m^3	0.025 mg/m^3	-	0.035 mg/m^3 (Interim Target -1) 0.025 mg/m^3 (Interim Target -2) 0.015 mg/m^3 (Interim Target -3) 0.01 mg/m^3 (Guideline)
Ozone	1 hour	-	0.10 ppm	0.3 mg/m^3	-
	8 hour daily maximum	-	0.07 ppm	0.2 mg/m^3	0.16 mg/m^3 (Interim Target -1) 0.1 mg/m^3 (Guideline)
	1 year	-	0.04 ppm	0.14 mg/m^3	-
O_X	1 hour	0.06 ppm	-	-	-
Pb	24 hours	-	-	0.0015mg/m^3	-
	1 month	-	0.0015 mg/m^3	-	-
	1 year	-	-	0.0005mg/m^3	-

Source: National Air Quality Standard in Japan (Circular No. 25, 1973, originally), Ministry of Environment, Japan

Notifications of National Environmental Board No. 10, 24, 28, 33 and 36, Ministry of Natural Resources and Environment, Thailand

National Ambient Air Quality Standard (TCVN5973:2005), Ministry of Science and Technology in Vietnam

Environmental, Health and Safety Guidelines, General EHS Guidelines, IFC, 2007

APPENDIX III

NATIONAL ENVIRONMENTAL QUALITY (EMISSION) GUIDELINES (Draft)

Receptor	One Hour L_{Aeq} (dBA)	
	Daytime 07:00 – 22:00	Nighttime 22:00 – 07:00
Residential, institutional, educational	55	45
Industrial, commercial	70	70

Ambient Air Quality Standards in Respect of Noise

(Noise Pollution (Regulation and Control) Rules, 2000, India)

Area Code	Category of area	Limits in dB (A) L_{eq}	
		Day time	Night time
A	Industrial area	75	70
B	Commercial area	65	55
C	Residential area	55	45
D	Silent zone	50	40

Note: 1. Day time is reckoned in between 6 am and 9 pm

2. Night time is reckoned in between 9 pm and 6 am.

3. Silence zone is defined as areas upto 100 metres around such premises as hospitals, educational institutions and courts.

APPENDIX IV

RESULTS OF WATER ANALYSIS (TUBE WELL)

Green Myanmar
Environmental Services Co., Ltd
No.115, Kanaung Min Thar Gyi Road Industrial Zone (1), Hlaing Thar Yar Industrial City, Yangon, Myanmar
Tel: 01-685572, 01-685571, 09-5081451, 09-5122448 E-mail: gmescompany@gmail.com

WATER QUALITY TEST RESULTS

Name of Client : Regal Hospitality Co., Ltd.
Person to whom results should be sent
Name: Regal Hospitality Co., Ltd.
Address: Mandalay
Collected By: GMES Survey Team

Date of Collection: 3/4/2015
Date of Arrival at Lab: 5/4/2015
Condition of Sample: In 1 lit PP Bottle
Date of commending examination : 6/4 ~ 11/4/15
Date of Issue of result: 12/4/2015

RESULTS OF WATER ANALYSIS

Sr. No.	Item	Unit	Analysis Value	Drinking Water Standard	
			Tube Well Water	WHO (2011)	Indian Specification (IS: 10500, 2012)
1	pH		8.69	6.5 – 8.5	6.5 - 8.5
2	Chloride (Cl^-)	ppm	30	250	250
3	Total Hardness as $CaCO_3$	ppm	21	500	200
4	Total Iron (Fe)	ppm	< 0.3	0.3	0.3
5	Sulphate (SO_4)	ppm	36	250	200
6	Total Alkalinity as $CaCO_3$	ppm	405	-	200
7	Turbidity	NTU	< 0.01	5	1
8	Manganese, (Mn)	ppm	ND	0.5	0.1
9	Copper (Cu)	ppm	ND	1	0.05
10	Arsenic (As)	µg/l	1.8	10	10
11	Aluminum (Al)	ppm	ND	0.2	0.03
12	Cyanide (CN)	ppm	ND	0.07	0.05
13	Total Dissolved Solids (TDS)	ppm	520	1000	500

Analyzed By	Checked By	Approved By
(Daw Wint Phyu Htway)	(Daw Cherry Thwin)	(U Myo Myint)
Technician (Laboratory)	Manager (Laboratory)	Director (Laboratory)

APPENDIX V

RESULTS OF WASTEWATER ANALYSIS (MUNICIPAL SEWAGE 1 AND 2)

Green Myanmar
Environmental Services Co., Ltd
No.115, Kanaung Min Thar Gyi Road Industrial Zone (1), Hlaing Thar Yar Industrial City, Yangon, Myanmar
Tel: 01-685572, 01-685571, 09-5081451, 09-5122448 E-mail: gmescompany@gmail.com

WASTEWATER QUALITY TEST RESULTS

Name of Client : Regal Hospitality Co., Ltd.
Date of Collection: 3/4/2015
Person to whom results should be sent
Date of Arrival at Lab: 5/4/2015
Name: Regal Hospitality Co., Ltd.
Condition of Sample: In 1 lit PP Bottle
Address: Mandalay
Date of commending examination : 6/4 ~ 11/4/15
Collected By: GMES Survey Team
Date of Issue of result: 12/4/2015

RESULTS OF WASTEWATER ANALYSIS

Sr. No.	Item	Unit	Analysis Value		Industrial Effluent Standards	
			Municipal Sewage (1)	Municipal Sewage (1)	Thai (PCD)	National Emission Guidelines (Draft, 2014)
1	pH		7.62	7.92	5.5 – 9.0	6.0 – 9.0
2	Chemical Oxygen Demand (COD)	ppm	80	80	120	125
3	Total Nitrogen (TN)	ppm	-	-	100	10
4	Fat, Oil and Grease (FOG)	ppm	22	29	5	10 (oil and grease)
5	Total Suspended Solids (TSS)	ppm	260	200	50	50
6	Total Dissolved Solids (TDS)	ppm	700	600	3000	-
7	Iron (Fe)	ppm	ND	ND	-	-

Analyzed By (Daw Wint Phyu Htway) Technician (Laboratory)
Checked By (Daw Cherry Thwin) Manager (Laboratory)
Approved By (U Myo Myint) Director (Laboratory)

SOCIAL IMPACT ASSESSMENT (SIA) REPORT FOR

PULLMAN HOTEL (MANDALAY)

Reported by

Socially Responsible Partner (SRP)

Social and Health Impact Assessment Group

November, 2015

1. EXECUTIVE SUMMARY

1.1. Introduction

Green Myanmar Environmental Services Co, Ltd. (GMES) proposes SRP Social Impact Assessment (SIA) Group to conduct Social Impact Assessment (SIA) and Social Management Plan (SMP) for Pullman Hotel (Mandalay) of Regal Hospitability Co., Ltd. It is a five star hotel and situated in Mandalay downtown area, CMTS (CMTS) Township.

1.2. Objectives of Proposed Project

According to the data provided by the developer, the following are the main objectives of proposed hotel project.

(a) To alleviate poverty and improve socio-economic status of local people and modernization of cities in line with the guidance of the President of the Republic of the Union of Myanmar,

(b) To encourage the development of hotels with international standard facilities in Mandalay City,

(c) To raise the prestige of the nation by hosting tourists in hotels with modern urbanization characteristics, and

(d) To improve living standard of local people via creating of employment opportunities for them.

The project implementation will last three years and total project cost is 50, 000 million MMK.

1.3. Objectives of SIA

The main goals of this social impact assessment study include:

(a) To provide baseline socio-economic conditions of the project area proposed hotel;

(b) To identify the potential socio-economic impacts, impacts on public services and fiscal positive and negative impacts that will result from construction, operation, and decommissioning phases of the proposed hotel; and

(c) To propose mitigation and enhancement measures to minimize or avoid negative social impacts and to maximize positive ones.

1.4. Scope of the Study

This SIA reports covers:

(a) The primary data collection of socio-economic around the 2 km radius of the proposed hotel,

(b) The secondary data collection for the whole CMTS Township,

(c) Identification and evaluation of social impacts for pre-construction, construction, operation and decommissioning phases of proposed hotel,

(d) Proposed mitigation and enhancement measures for anticipated social impacts in all phases,

(e) Social management plan (SMP) and monitoring program to measure the improvement of the community around the area.

1.5. Data Collection

This SIA study employed both quantitative and qualitative approaches. Under the quantitative approach, household sample survey was conducted to evaluate primary socio-economic conditions of the project area and to understand the mood, perceptions and extent of preparedness of the people towards the proposed project. For qualitative approach, data on demographic distribution of CMTS Township are sourced from local government offices. The project data are provided by the developer.

1.6. Major Impacts and Mitigation Measures

According to the social impact assessment, there are altogether 11 adverse impacts. The two major impacts among them are increase on traffic in 73th Main Road and guarantee of job opportunities for local people.

In order to control the first major impact (increase in traffic), adequate car parking inside the project complex and proper traffic control and road safety system at the main entrance and exit of the proposed project are proposed. For the guarantee of job opportunities (second major impact) for local people, secure company's policy for appointing of local people is proposed. Other possible mitigation measures for different moderate or minor impacts are also included appropriately.

1.7. Limitations to the Baseline Study

The limitations to the social baseline are as follow:

(a) Accuracy of Primary Socio-economic Data

As our group, to acquire the information, besides carrying out the activities with our well-experienced group, it had been done to get firm Primary Data. As CMTS Township is an overcrowded city (over 200000 people), we could not survey every house within this region and we decided to collect household survey data within 2 km radius of the proposed hotel. The accuracy of primary socio-economic data was based on the accuracy and quantity of household survey. It will also depend on the knowledge of local people about (i) the construction and operation of hotel project and the (ii) perception of the local people about the proposed hotel project.

(b) Accuracy of Secondary Socio-economic Data

To carry out SIA within limited period to survey Secondary Data is so impossible that data concerned with the city had been requested from General Administrative Office (CMTS). The report covers statement on Socio-economic and Health of CMTS Township. The accuracy of secondary data of this report are mainly based on these available regional data.

1.8. Project Benefits

The following will be the direct and the indirectly benefits of the development of proposed Pullman Hotel.

(a) Employment Generation

The project will create direct and indirect employment for about 200 people for short term during construction phase and about 300 people for long term during operation phase. As the company's policy is to appoint local people with relevant skill as much as possible, it may be great benefit for local people especially for local people in Myothit Ward (2).

(b) Revenue for the Government

The Government revenue from the project will increase by the way of direct and indirect taxes, duties, etc.

(c) Increased in Capital Investment

The proposed project will introduce a significant capital investment in CMTS region, resulting in sizeable employment creation, increased in socio-economic development, and increased foreign currency.

(d) Physical Infrastructures and Facilities

Within CMTS, as the internationally recognized hotel comes to stand, it will acquire the fundamental opportunity to progress community. Moreover, it will provide health care facilities besides fire protection on account of that project. There will have recreation places for health and other services.

1.9. Key Findings from the SIA Study

The followings are the key findings from primary data collection, secondary data collection, identification and evaluation of social impacts from SIA Team and public meetings. By observing the mentioned facts, it is intended to shape the hotel project according to the communities' desire.

1.9.1. Key Findings from Primary Data Collection

The positive impact perception and negative impact perception of local people during household survey are as follow.

1.9.1.1. Positive Impact Perception of Proposed Hotel Project

Three most important positive outcomes from the project expected by the local people include employment opportunities for local people, followed by increased income for the Nation and improvement of local small and medium enterprises. All of these data are local people hopes on the hotel project according to their wishes and words that were got from household survey in their surroundings on surveying within the limited borders (within 2 km radius).

1.9.1.2. Negative Impact Perceptions of Proposed Hotel Project

According to survey results, 36.56% of total household identified that traffic accidents in the surrounding area of proposed hotel project and second if potential to fire hazard would be resulted from the project activities.

1.9.1.3. Reasons for Supporting the Proposed Hotel Project

Local people reply to assure and to recommend because of the prospects of the high standards of living opportunity, community development over building up the proposed hotel project according to the survey.

1.9.1.4. People's Concern regarding the Proposed Project

According to the survey, most people concerns about the traffic congestion, traffic accidents, discharge of waste water along the existing drainage system, and fire hazards because of the proposed project.

1.9.1.5. Community Needs

According to the survey, local people prefer the favourable facts, to upgrade existing drainage system that flows from the hotel with no blockage and to remove drainage blocked areas within the quarter if possible.

1.9.2. Key Findings from Secondary Data Collection

The following are the key findings from secondary data collection.

(1) Having jobless 4.17 percent in CMTS Township;
(2) Being just enough for the government health facilities;
(3) Not having over electricity power;
(4) Just having enough MCDC garbage collective system;
(5) Having fire hazards; and
(6) Limited capacity for fire protection.

1.9.3. Key Findings from Traffic Survey

Key findings from the traffic survey are as follow:

(i) potential to traffic congestion in 73th Road;

(ii) Morning peak hour occurs at 7:00-10:00 am;

(iii) midday peak at 11:00 am-2:00 pm;

(iv) evening peak at 4:00-6:30 pm; and

(v) night peak at 7:30-9:30 pm.

1.9.4. Key Findings from Social Impact Assessment by SIA Team

Most of the anticipated social impact can be solved by creating job opportunity for local people. According to the survey, the proposed hotel project might occur just traffic congestion that would affect the local people. 73th Street is so overcrowed that the affect should be resolved systematically. Owing to the proposed project, having responsible CSR fund and creating job opportunities for local people will match with the community and it will be a socially responsible project.

1.9.5. Key Discussions during First Public Meeting

First public meeting was held on (4.4..2015). According to the "Questions and Answers Section" of first public meeting, the most public concern is increase in traffic in 73th road, ensuring for job opportunities and dispose of waste water. Regal Hospitability Co. Ltd. agrees to mitigate all of the related environmental and social impacts.

1.9.6. Key Discussions during Second Public Meeting

The main discussions from the second public meeting are possibility of increase in traffic volume in 73th road, job opportunities for local people, water way blockage along the discharge of waste water, health care facilities for local people, and monitoring program.

1.10. Key Consideration for SIA Study

The hotel project site and its surroundings, upon investigation, are not classified as sensitive zones for the alternation of socio-economic conditions of CMTS Township. The project does not involve any displacement of local people. There is no land acquisition because the project will built in the compound of Mandalay City Development Committee (MCDC) property. All of the socio-economic impacts due to the development and operation of proposed hotel can be mitigated to acceptable level with proper mitigation

measures. Employment opportunities will be improved in the nearby quarters. The developer also intends to contribute towards social welfare like health, education, and facilities for the surrounding areas. So, the building of proposed hotel will have more positive socio-economic changes rather than negative ones.

2. SOCIO-ECONOMIC SETTING AROUND THE PROJECT

Some important socio-economic settings around the proposed hotel are as follow:

2.1. Existing Traffic Conditions

As the nature of hotel project is interrelated with increase in traffic congestion, the SIA team made traffic study to know local peak hour of vehicle movement and to make decision regarding the movement of trucks during pre-construction and construction phases, sign and signal installation for operation phase. The traffic volume count works were made on the 73th main road in two working days and one weekend day. According to the traffic study, the main results are as follow:

2.1.1. Vehicle Count

Vehicle counts were done by traffic survey team counting on 73th main road. At morning peak hour, peak volume is 6925 vehicles in working days. In this period, vehicles coming from Myothit Ward (2) as the time is inbound hours at the beginning of workday. At midday peak hour, peak volume is 4474 vehicles. In this period, vehicles moving in all inbound and outbound directions were about the same amount. At evening peak hour, peak volume is 4956 vehicles. Comparing to morning peak volume, the peak volume recorded between 7:00-10:00 am is significantly high. And night time peak volume is 3130 vehicles.

Table 1. Summary Table of Average Vehicle Movements in Working Days

No.	Duration	Vehicle Category			Total
		Motorcycle	Car	Bicycle	
1.	7:00(Am) -10:00 (Am)	5626	1116	183	6925
2.	11:00(Am) -2:00 (Pm)	3032	1394	48	4474
3.	4:00(Pm) -6:30 (Pm)	3710	1127	119	4956
4.	7:30(Pm) -9:30 (Pm)	2640	442	48	3130

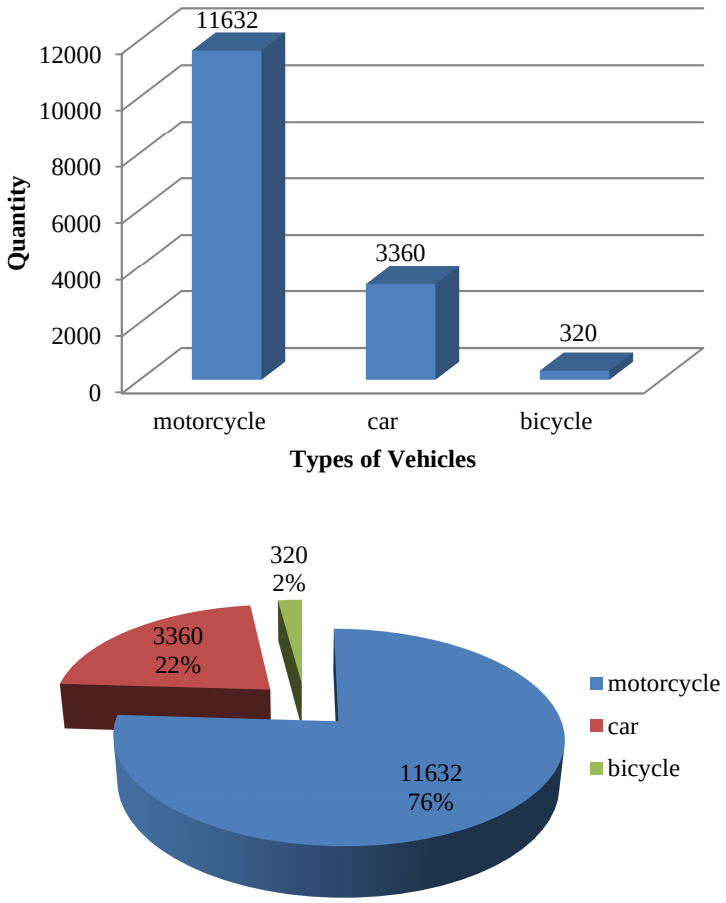
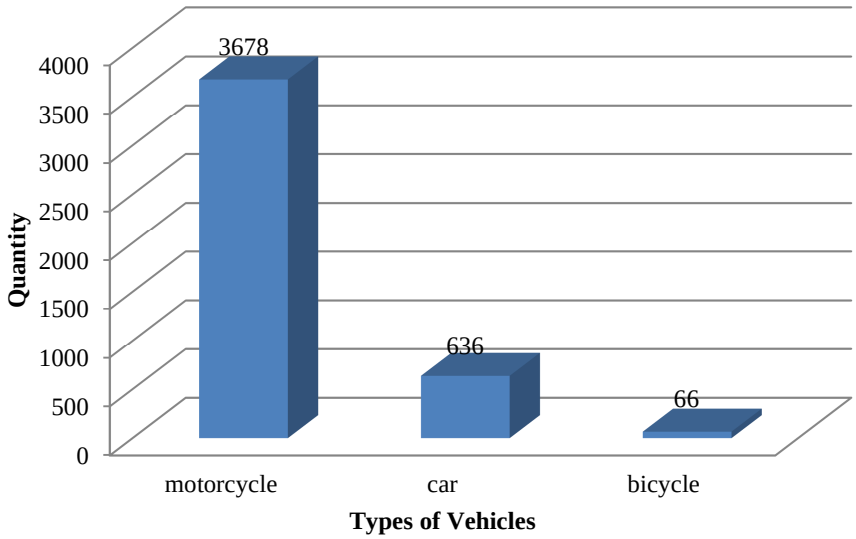


Figure1. Average Vehicles Passed in Day Time at 73th Road in Working Days



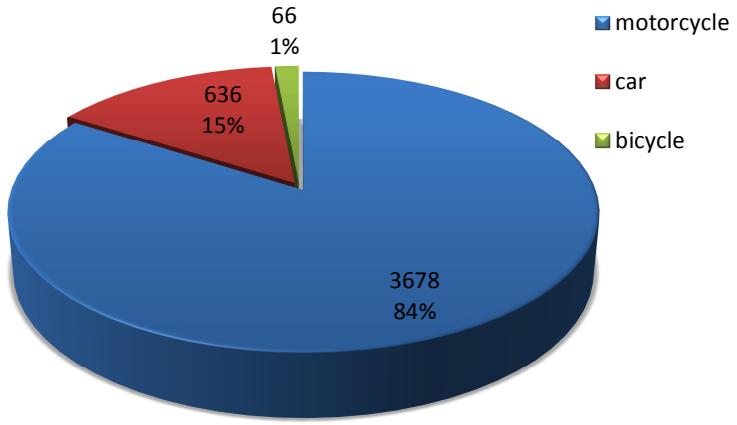


Figure 2. Average Vehicles Passed in Night Time at 73th Road in Working Days

2.1.2. Peak Hours

Morning peak hour occurs at 7:00-10:00 am, midday peak at 11:00 am-2:00 pm, evening peak at 4:00-6:30 pm and night peak at 7:30-9:30 pm. The most traffic time in working days and weekends are shown in Table 4.

Table 2. Summary Table of Peak Hours

Peak hour	
Working Day	Weekends
7:00(am) -10:00 (am)	4:00(pm) -6:30 (pm)
6925 vehicles	4391 vehicles

The traffic survey shows that on 73th Road is originally so crowed due to the travelling of a lot of motorbikes during working days. So, there will be potential to increase in traffic volume and road accident due to the construction and operation of hotel project. If needed, it will be solved with the help of the traffic warden. The peak hour in weekends is occurred due to the shoping at Ocean Center inside the Min-Ga-Lar Mandalay Stadium near the proposed hotel project.

2.2. Land Use

The Pullman Hotel will be built in the compound of MCDC own land in CMTS Township. The CMTS Township has a total land area of 6373.78 acres with no cultivated area. Of which, 4830.78 acres are residential area and areas for other purposes. The rest of the areas cannot be cultivated. Land use pattern of CMTS Township is shown in Figure 5 and there is no impact on agricultural land.

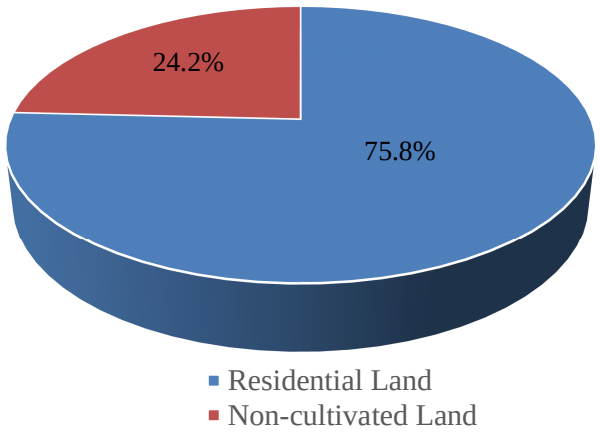


Figure 3. Land Use Pattern of CMTS Township

2.3. Cultural and Heritage

Cultural and heritage assessment were made:

(a) A review of local environmental information (topographic, geological, soil, geo morphological and vegetation descriptions) to determine the likelihood of archaeological sites and specific site types, prior and existing land uses and site disturbance that may affect site integrity;

(b) A review of previous cultural heritage investigations to determine the extent of archaeological investigations in the area and any archaeological patterns;

(c) The development of a predictive archaeological statement based on the data searches and literature review;

(d) Identification of human and natural impacts in relation to the known and any new archaeological sites archaeological potential of the study area;

(e) Undertake a site inspection with the participation of the local communities during SIA household survey.

The following observations are made based on the findings of the cultural heritage.

(a) The area may have not been used for travel and/or hunting and gathering.

(b) In relation to modern alterations to the landscape, the previous clearing and grazing can be expected to have had no impacts upon the archaeological record. Additional land uses such as tracks and vehicle access would also have no impacted on the landscape and any cultural materials that may have been present.

(c) No archaeological sites were identified during field investigations.

3. SOCIAL IMPACT ASSESSMENT FOR PULLMAN HOTEL (MANDALAY)

Socioeconomic impact assessment for Pullman Hotel (Mandalay) was conducted by the following procedures.

(i) pilot survey for scoping process;

(ii) household survey for primary data collection;

(iii) secondary data collection from related local authorities;

(iv) first public meeting;

(v) impact identification and evaluation;

(vi) Mitigation measures for anticipated socio-economic impacts; and

(vii) public disclosure process; and

(viii) second public meeting.

3.1. Pilot Survey for Scoping Process

A pilot study was carried out within and surroundings of the study area by social specialist to scope the anticipated social impacts and to the operational effectiveness of social surveys. SIA study area and possible socio-economic impacts were considered during the pilot survey.

3.1.1. Determination of SIA Study Area

Study area was considered after the discussions with environmental specialists from Green Myanmar Environmental Services Co., Ltd., representatives from Regal Hospitability Co., Ltd. and the head of General Administrative Department (CMTS) Township. Based on the discussion results and international practices for social impact assessment for hotel

projects, the SIA team decided to conduct household survey within 2km radius around the proposed hotel project. Myothit (1) and Myothit (2) were study because these 2 villages are the ones that are located the nearest to the proposed project within 2km radius. Moreover, shop houses within the Mingalar Mandalay Real Estate Stadium are considered as SIA study area. All of the nearest residents which are considered as SIA study area are shown in Figure 6.

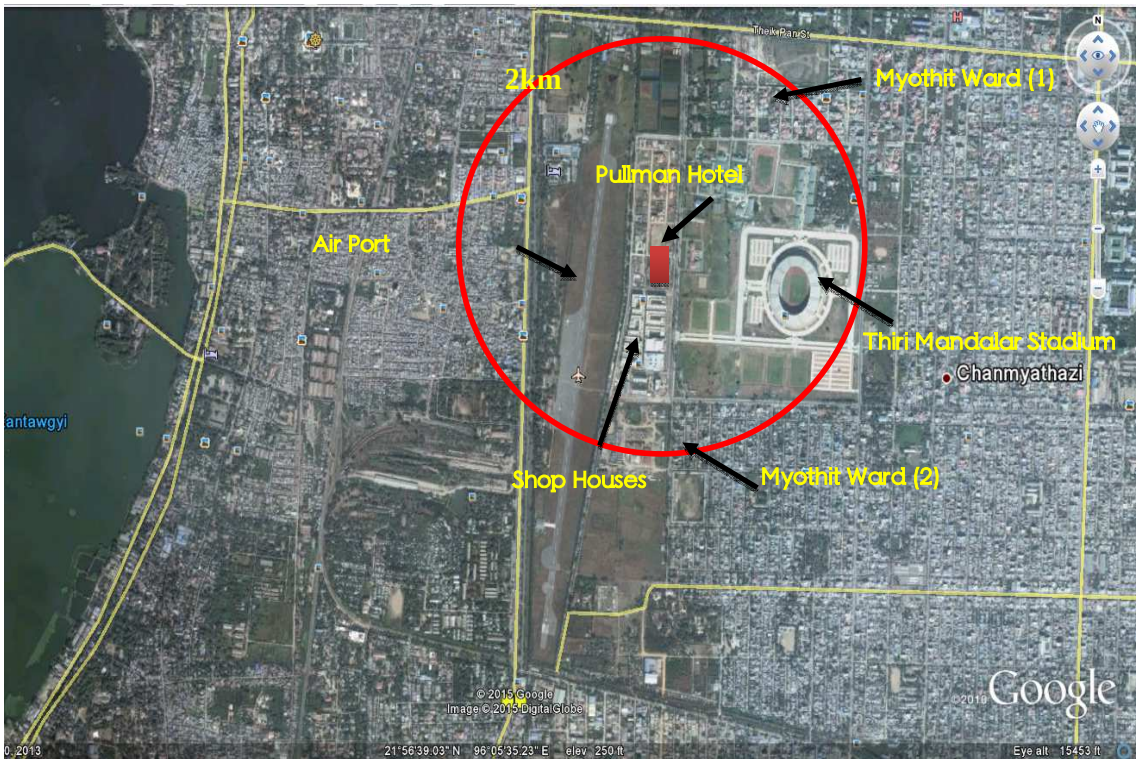


Figure 4. Study Area for Social Survey within 2km Radius

3.1.2. Determination of Project Affected Persons (PAPs) in the Study Area

Key PAPs are considered by discussion with Head of General Administrative Department (CMTS) and group discussions with administrative members of Myothit (1) and Myothit (2) Wards. According to the discussions, the key PAPs are considered as follow:

(i) Local residents in Myothit (1) Ward,
(ii) Local residents in Myothit (2) Ward, and
(iii) People in shop houses in within the Min-Ga-Lar Mandalay Real Estate Stadium.

Figure 5. Recorded Photos for Determination of PAPs by Discussion with Administrative Members of Myothit Ward (2)

Figure 6. Recorded Photos for Determination of PAPs by Discussion with Administrative Members of Myothit Ward (1)

3.2. Primary Data Collection for PAPs within 2km Radius

Under the primary data collection (quantitative approach), household sample survey was conducted to evaluate baseline socio-economic conditions of the project area and to understand the mood, perceptions and extent of preparedness of the people towards the proposed project.

3.2.1. Household Survey for Primary Data Collection

The household survey was carried out over a period of four days (two days for Myothit (1) Ward and two days for Myothit (2) Ward) by a social survey team including 12 people. The team organized mainly two social specialists from the Yangon Technological University (YTU) and one from Dagon University. The rests are the five socio-economic surveyors from Qualified Survey Team, four from local university students and two from quarter administrative office. Household survey was targeted to those households within 2-km radius of the project site.

The collection of primary data consisted of focus group discussions and household surveys in the Myothit (1) and (2) Wards, to provide detailed qualitative social data. Recorded photos during sample household survey for primary data collection are shown in Appendix A. Sample survey selects a small number of units from a population to enable to make reliable inferences about the nature of that population (Krathwohl, 1993). Households were used as sampling units. The sampling frame consisted of all the 150 households in the study area as follow:

(a) Sample Size Determination

The number of households selected to take part in the survey was determined using the Pagoso Formula (Lauraya & Sala, 1995). The method estimates sample size n from, population size N and sampling error E using the following formula:

$$n = \frac{N}{1+NE^2}$$

According to the above calculation, approximately a total of 153 households took part in the study as follow:

Table 3. Stratified Systematic Sample for Study Strata

No	Quarter	Sample Size
1.	Myothit Ward (1)	60
2.	Myothit Ward (2)	73
3.	Shop houses inside the Mingalar Mandalay Complex	20

(b) Data Collection

The field survey data collection activities were performed by social survey team consisting of required number of data enumerators and supervisors. Following a comprehensive plan the enumerators completed the field works within given timeframe using pre-designed questionnaire.

(c) Development of Household Survey Questionnaire

Design for household survey questionnaire was based on Living Standard Measurement Survey (LSMS) examples and those items used in existing socioeconomic survey questionnaires frequently used in developing countries throughout Asia and Africa. Items were formulated by the consultant and reviewed by social assessment team members as to clarity of item wordings and relevance to the socio-economic domains measured.

The questionnaires were personally administered to the respondents in the field. The self-administered questionnaires enabled to allay respondents' fears, distress and anxiety over issues raised in the questionnaires. They also enabled to put the respondents at ease and create good rapport. The survey questionnaires had both closed-end and open-ended questions. Most questions were closed-end questions. Closed-end questions ensured that the data were easily coded. The main limitation of closed-end questions is that they may introduce bias into the study. This is because they may force respondents to choose from responses that do not truly represent their situation. Questionnaires for household survey intended for collection the following data.

(i) Social institutions and networks;
(ii) Local employment, livelihoods and natural resource use;
(iii) Public services and infrastructure (waste, water, energy etc);
(iv) Health and education facilities;
(v) Community development issues; and
(vi) Attitudes to the proposed project.

(d) Recruitment and Training

The team composed of required number of field staffs for conducting the study efficiently and to complete all the tasks within the defined timeframe. Some of the team members were selected from local area and some were graduates and some undergraduate students. A training program was arranged for the data enumerators. The training program included

a briefing on the objectives of the survey, social aspects to be measured, interview techniques as well as a detailed explanation of each question and its relevance to the survey objectives, how to pose the question and how to code the answer. A set of guidelines was given to each enumerator to use in each administration of survey questionnaire.

Public consultations and participation exercises were carried out to gain better understanding of the past and present socio-economic conditions of the project vicinity and key social issues faced by the local people, and to seek input from the public as to the ways to reduce negative impacts and to increase positive outcomes of the project.

(e) Interviews

Structured interviews with government officials and other key informants were also conducted. These included the Head of Administrative Office, household heads and local residents in Myothit Wards 1 & 2 and shop houses in Min-Ga-Lar Mandalay Stadium.

(f) Data Analysis

Quantitative data were coded and processed using SPSS software. On the other hand, qualitative data were processed using a conventional method such as making summary of key findings.

3.2.2. Primary Socio-economic Data Resulting from Household Survey

A total of 153 respondents were interviewed in the survey. Household survey was carried out with household heads and members from residential wards and shops within 2-km radius of the project site. The respondents were chosen from households from Myothit (1) and Myothit (2) Wards and shop houses located within the Mingalar Mandalay Stadium. According to the household survey, demographic characteristics of respondents are depicted in Figures 2, 3, 4, and 5.

3.2.2.1. Ethnicity and Religion

Regarding ethnicity and religion, 90.32% of the sample was Buddhists and the majority of respondents (82.80%) were Bamar. Other ethnic groups include Shan (4.30%) and Kachin

(1.08%), Ta'aung (Palong) (1.08%), Chinese (5.38%), Shan Chinese (1.08%), Bamar Moslem (1.08%), Indian (1.08%), and Nepal (1.08%).

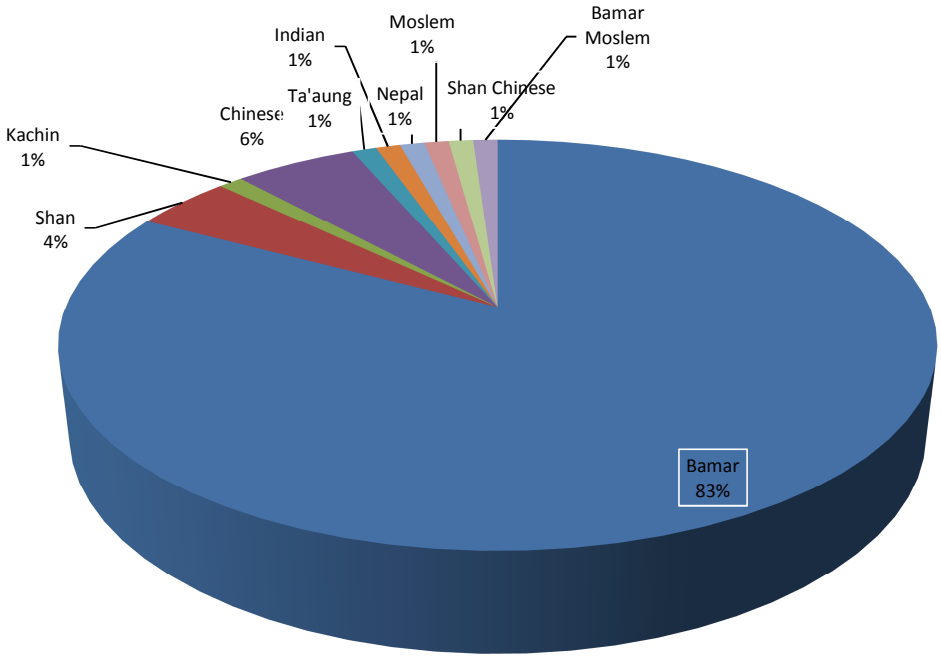


Figure 7. Ethnicity of Respondents

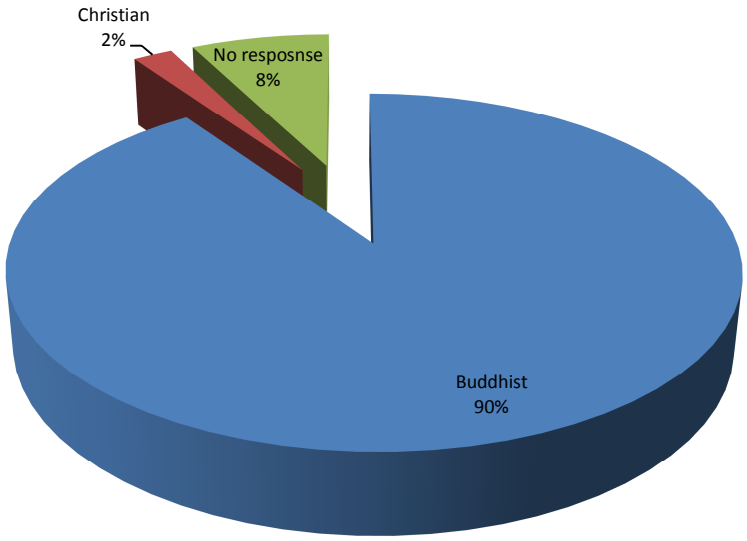


Figure 8. Religion of Respondents

Apart from Mandalay is a cultural city, it would be needed to put shrine, temples as a token, the cultural monuments at the hotel as the proposed hotel project as most of the people are Buddhist.

3.2.2.2. Marital Status

Figures on marital status showed that over half of the residents (60.22%) were married, 32.26% were single, 2.15% of the sample was widows or widowers, and 5.38% did not report their status. Only one homogeneous religious, ethnic, and linguistic group is dominating in the project area. Average household size in the area was found to be 5.17.

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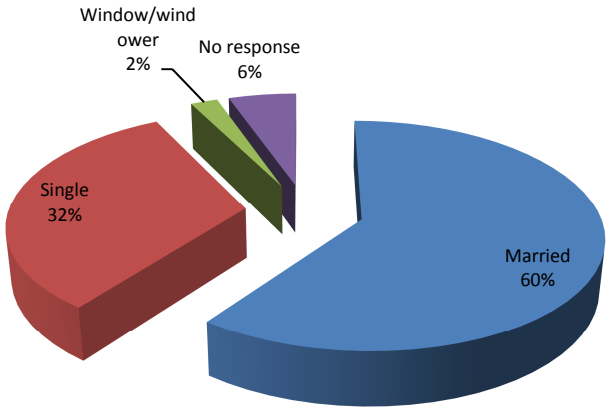

Figure 9. Marital Status of Respondents

As there has a lot of married population and some people from nearest quarters go downtown to their workplace, job creation will be great benefit for local people. Creating job opportunities for local people will also reduce traffic congestion at peak hour in 73th road due to the travelling of local people to their workplace.

3.2.2.3. Education

Primary data on education revealed that nearly one-fourth of the total respondents (23.65 %) only reached primary school. Of the total sample, over 20% were graduates, 15.05% have completed middle school, 8.6% reached middle school education, and 1.08% undergraduates. Data also revealed that 2.15% of the sample had no schooling. Nearly one-third of the sample did not report their education.

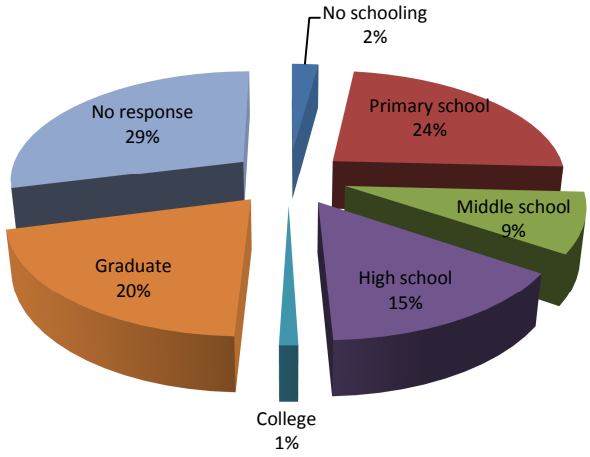

Figure 10. Education of Respondents

In the surrounding, it is found that there have so many literate people that they could be offered to both skilled and unskilled employee.

3.2.2.4. Land Ownership

Regarding land ownership status, 72.04% of the households surveyed owned their land while 14.98% were tenants. Of the sample, 12.98% did not report their status.

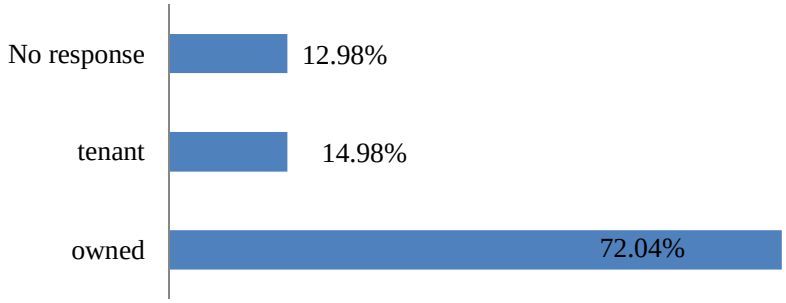

Figure 11. Land Ownership

As we see many land ownership, there would have difficulty or need to control the increase of migrant workers who come from other place due to the job opportunities in construction and operation of hotel.

3.2.2.5. Transportation Means

Respondents were interviewed as to the transportation mode they usually use. Nearly 75% of households use their own motor cycles while a substantial portion (20.43%) use their own vehicles. A small number of household reported that they use pony carts and motor cycle taxi.

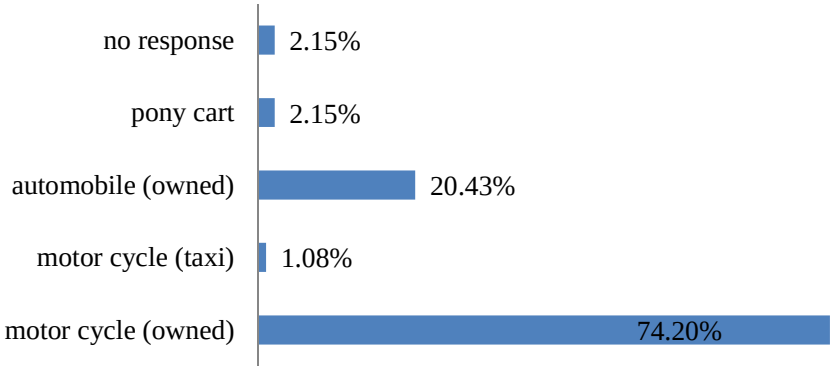

Figure 12. Transportation Means of Households in the Project Area

There have a lot of owned motorbikes to take a trip to and transport.

3.2.2.6. Used of Public Roads

Respondents were asked to express that road they frequently used in their daily living. Fig. 8 reports the results. 73th Street was found to be the commonly-used public road in the project area. Nearly 70% of respondents reported that the frequency of using these public roads per week is higher than 10 times.

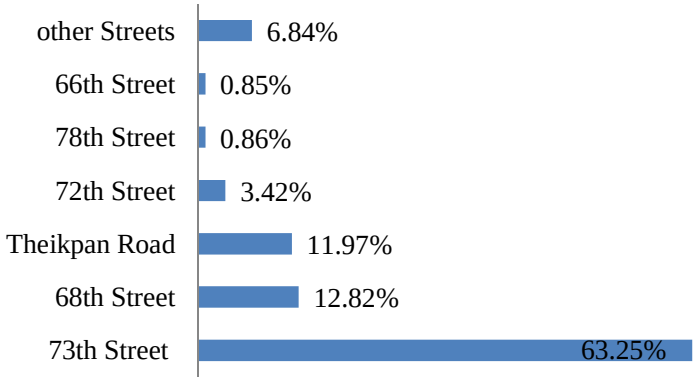

Figure 13. Public Roads Commonly-Used in the Project Area

It is found that 73th road is widely used for up and down by local people and there should have alternative way or plan to reduce traffic congestion if proposed hotel use 73th road as their main entrance.

3.2.3. Most Public Concerns from Primary Data Collection

The following are the most public concerns from the primary data collection (household survey) by interviews with 153 people in Myothit (1) Ward, Myothit (2) Ward and shop houses in Mingalar Mandalay Stadium.

3.2.3.1. Positive Impact Perception of Proposed Hotel Project

Survey data suggest that local people expect some positive impacts from the proposed Pullman Hotel such that employment opportunities for local people, increased income for the Nation, improvement of local small and medium enterprises, hotel and tourism industry development, and skill-building for local people. The most frequent expectation of local people regarding positive impacts of proposed Pullman hotel is employment opportunities for local people. Three most important positive outcomes from the project expected by the local people include employment opportunities for local people, followed by increased income for the Nation and improvement of local small and medium enterprises.

Table 4. Positive Impact Perceptions of Proposed Pullman Hotel by Households

Positive Impact Perceptions		
	Frequency	**%**
Employment opportunities	63	67.74
Increased Income for the Nation	50	53.76
Improvement of Local Small and Medium Enterprises	49	52.69
Hotel and Tourism Industry Development	42	45.16
Skill-building for local people	27	29.03
Others	6	6.45
Unknown	3	3.23

3.2.3.2. Negative Impact Perceptions of Proposed Hotel Project

Four of the most community expectations of negative impact were also identified in this study. According to survey results, 36.56% of total household identified that traffic accidents in the surrounding area of proposed hotel project would be resulted from the project activities. Of them, 22.58% reported that potential fire hazards would be caused by the project. There are also people's perceptions of the negative impact from the project including adverse effect on local environment due to dust and gas and effluent that will be produced by hotel activities. However, a substantial portion of household (41.94%) did not identify negative impacts of proposed Pullman hotel project on environment and local community.

Table 5. Negative Impact Perceptions of Proposed Pullman Hotel by Households

Positive Impact Perceptions		
	Frequency	**%**
Increased social problems due to hotel activities	8	8.60
Increased social problems due to hotel guests	5	5.38
Disturbance for hotel neighborhood	3	3.23
Water pollution due to effluent from hotel	16	17.20
Air pollution due to dust and gas	20	21.51
Potential fire hazard	21	22.58
Potential traffic accidents	34	36.56
Affecting stability	4	4.30
Broadening the gap among social class	4	4.30
Affecting culture and customs	4	4.30
Others	1	1.08
Unknown	39	41.94

Sixty eight percent (68%) of the respondents from primary data collection felt that job opportunities during hotel construction and operation were economic benefits of great significance. Ninety two percent (92%) of the respondents from shop houses within the Mingalar Mandalay Compound also felt that increased in the number of customers will be great economic significance. Furthermore, thirty seven percent (37%) of the respondents felt increased in traffic in 73th Mani Road will be impact of great significance. All of the

public concerns can be relieved by enhancement of job opportunities for local communities, systematic traffic management plan and sufficient car parking within the Mingalr-Mandalay Real Estate Complex. The above observations find frankly talk without any personal emotion that show for and against on the proposed hotel project.

3.2.3.3. Reasons for Supporting the Proposed Hotel Project

Household interview schedule contained open-ended item that asked the reasons for supporting the proposed hotel project. Analysis of responses of households revealed the following reasons.

(a) Prosperity and development of local area;
(b) Promoting living standards of local people;
(c) Economic benefit for local people;
(d) Employment opportunities; and
(e) Increased national income.

3.2.3.4. People's Concern regarding the Proposed Project

Local people's concern about the proposed project has also been studied in the household survey. The main concerns found in the survey are as follows.

(a) Traffic congestion and accidents;
(b) Use of utilities (groundwater and electricity);
(c) Pressure on facilities to waste disposal;
(d) Discharge of waste water from hotel; and
(e) Fire hazard.

3.2.3.5. Community Needs

During social survey, immediate community needs were also assessed. Community needs reported by respondents can be classified under three categories.

(a) Improving water internal drainage system and water flow in Myothit (2) Ward,
(b) Facilities for street lights in Thazin Street and surrounding streets within Myothit (1) Ward, and
(c) Providing assistance for all-round development of local area (social, education, and health, etc.).

3.3. Secondary Data Collection for the Whole CMTS Township

The study team spent a few days on collecting secondary data that reveal the existing socioeconomic conditions of the whole CMTS area from various sources such as official reports, administrative records, and internet resources. The following are the regional socio-economic profile of the CMTS Township.

3.3.1 Location of CMTS Township

CMTS Township is located in south central area of Mandalay City in the Mandalay region, Myanmar with an area of 9.97 sq. miles. CMTS Township is situated between 21˚55′30" to 21˚57′ North Latitude and 96º 03´30" to 96˚08′ East Longitude. Its length in the South-North is 5.25 miles and East-West direction is 1.75 miles. Chanmyathzi is bounded by Pyigyidagun township in the south, Patheingyi township in the east, Mahaaungmye township in the north, the Ayeyarwaddy river and Amarapura township in the west. The Mahamuni Pagoda, one the city's main tourist attractions is located in the township. It is home to University of Dental Medicine, Mandalay.

3.3.2 Landscape

Landscape of CMTS township is plain field at 249 feet above sea level. The eastern area of the township is located at high elevation and the landscape is gradually lowered in the western area.

3.3.3 Hydrological Condition

CMTS has some water ways for drainage. The creeks named the Parantaw, the Nadi, and the Shwetachaung pass through the township from north to south.

3.3.4 Climate (Metrological Conditions)

Mandalay region falls in the central dry zone. The region features a tropical wet and dry climate under the Köppen climate classification. CMTS Township also has wet and dry climate with minimum temperature of 10.8˚C and maximum of 45˚C. Official records of the township indicate that there were 41 rainy days and a total rainfall of 35.19 inches was received in 2013. Overall township profile of CMTS Township is mentioned in Table 8.

Table 6. Overall Township Profile

Location	
Coordinates	Latitude 21˚55′30" to 21˚57′ N, Longitude 96º 03´30" to 96˚08′ E
Adjacent Territory N/E/S/W	Pyigyidagun / Patheingyi / Mahaaungmye / Amarapura
Areas	9.97 square miles
Above sea level	249 feet
Administrative Division	
Overall Township	14 wards
Household Information	
Dwelling	35,402
Household	38,797
Population	2, 04, 929

3.3.5. Demographic Details

CMTS township is composed of 14 wards. According to the official records of Township General Administration Office, there are 35,402 dwellings and 38,797 households in the area. Township population is nearly 2.05 million (2, 04,929 people). Population density of the township is 20, 554.56 people per sq. mile. The township has population increase rate of 0.8%. The male-female ratio is 1:1.14. The population of females is slightly higher than that of males in the township. The ratio of less than 18 year and above 18 year is 1:2.01. This can be explained higher number of working age per household in the area. The average household size is 5.28 persons. Household information and population details of CMTS township (up to March 2014) are described in Tables 9 and 10.

Table7. Household Population

Residence	Dwelling	Household	Ward	Village Tract	Village
Urban	35402	38797	14	-	-
Rural	-	-	-	-	-
Total	35402	38797	14	-	-

Table 8. Population and Gender

Residence	Older than 18			Younger than 18			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Urban	62,257	75,457	1,36,815	33,520	34,594	68,114	95,777	1,09,152	2,04,929
Rural	-	-	-	-	-	-	-	-	-
Total	62,257	75,457	1,36,815	33,520	34,594	68,114	95,777	1,09,152	2,04,929

The above observations show that the city has over crowded population and they are flexible with the modern age, and we believe that the standard of living must progress with the time changes. Because of the project, therer would have no apparent standard of living.

3.3.6. Ethnicity, Religion, and Language

Data (Table 11) revealed that the major ethnic group in CMTS is Bamar (98.57%), followed by Shan (0.58%), Kachin (0.15%), Kayin (0.13%), Rakhine (0.09%), Chin (0.08%), Mon (0.03%), and Kayah (0.01%). Therefore, the area is culturally undiversified. The percentage of foreign nationalities (Chinese and Indian) lived in CMTS is estimated as 0.32%. Myanmar language is the common language used in the overall region. Other languages including Kachin, Shan, Kayin, and Chin are also used in the region.

Table 9. Ethnicity in CMTS

Kachin	Kayah	Kayin	Chin	Bamar	Mon	Rakhine	Shan	Foreign nationality	total
307	38	276	195	2,02,000	61	199	1,191	662	2,04,929

Table 12 reveals that the majority of local people are Buddhists (90.74%), followed by Moslems (4.02%), Christians (0.42%), Hindus (0.24%) and others (4.40%). Thus, only one religious group is dominating there.

Table 10. Religion in CMTS

Buddhism	Christian	Hindu	Islam	Others	Total
1,85,958 (90.74%)	854 (0.42%)	484 (0.24%)	8,612 (4.02%)	9,021 (3.92%)	2,04,929

Most of the people in CMTS Township are Myanmar and Buddhist. So it is necessary to make foreign workers to know about the tradition and custom of Buddhist Myanmar.

3.3.7. Religious Edifice and Historic Places

The well-known and historic Mahamuni Pagoda, one of the major pilgrimage sites of Mandalay region, is located in the township. The Mahamuni Buddha image is deified in the pagoda, and originally came from Rakhine. The Image is said to have been cast in the life-time of the Gautama Buddha and that the Buddha embraced it 7 times thereby bringing it to life. Consequently, devout Buddhists hold it to be alive and refer to it as the Mahamuni Sacred Living Image. Revered as the holiest pagoda in Mandalay, it was built by King Bodawpaya, the sixth king of the Konbaung dynasty in 1785. It is highly venerated in Myanmar and central to many people's lives, as it is seen as an expression of representing the Buddha's life. The image in a sitting posture is 12 feet and 7 inches (3.8 m) high. As the image was brought from Rakhine State it was also called the Great Rakhine Buddha. The early morning ritual of washing the Face of Buddha Image draws a large crowd of devotees everyday. Another historic place in the township is the 17 -Martyr Edifice. There are a total 51 pagodas and 412 monasteries for Buddhists. There is one church and four mosques in the township. Table 13 summarizes religious edifice in CMTS.

Table 11. Religious Edifice

Pagoda	Monastery	Sangha Society			Church	Mosque
		Monk	Novice	Total		
51	412	4323	2299	6622	1	4

It has a lot of pagodas and especially the glorious Mahamyatmuni. As it progresses in our religion, culture, it would be favoured. For instance, having religious tokens, donating some in religious festivals, celebrating Dhamma Thabin in the hotel. If possible, the pagoda should be captured in the compound.

3.3.8. Education

In primary education, school enrollment rate of 5-year-olds is 123.66% in the overall township. Percentage of students passing the matriculation is 42.63% in 2012-13. The teacher-student ratios are 1:34 in BEPS, 1:37 in BEMS, and 1:33 in BEHS. Data on education and literacy report that literacy rate of CMTS township was 100%.

Table 12. Educational Infrastructure

School	No. of Schools	No. of Teachers	No. of Students	Teacher/ Student Ratio
BEHS	6	478	15946	1:33
BEMS	5	259	9710	1:37
BEPS	23	322	11085	1:34
Monastery school	6	124	5159	1:42
Preschool	7	14	176	1:13

Table 13. Scholl Enrollment

No. of 5 Yrs.-old children			Enrollment			Enrollment Rate
Male	Female	Total	Male	Female	Total	
1475	1260	2737	1643	1739	3382	123.66%

Table 14. Literacy Rate

Township Population	Population above 15 Yr.	No. of Literate	Literacy Rate
2,04,929	1,47,066	1,47,066	100%

Table 15. Matriculation Pass Rate

2011-12			2012-13		
Sit	Pass	Pass Rate	Sit	Pass	Pass Rate
5363	2014	37.55	5942	2533	42.63%

According to the above facts, the rate of literacy in CMTS covers better. It is found that if needed, the skillful workers and engineers for hotel construction and operation should be employed from the region.

3.3.9. Safety and Security

There are 6 police stations in CMTS which host 169 crime fighting personnel. The ratio of police to population is 1:1213. Cases of 10 major crimes, other crimes, and preventive crimes are shown in Table 18. The incidence of crime occurred in the area is decreased significantly in 2013-14.

Table 16. Incidence of Crime

2012-13			2013-14		
10 major crime	7 other crime	10 preventive crime	10 major crime	7 other crime	10 preventive crime
9 cases	436	1076 cases	-	94 cases	386 cases

There would be a little difficult for the increased population of the proposed project as the security protection of CMTS Township is just enough.

3.3.10. Fire Service and Fire Machine

There are 12 permanent fire-fighting personnel and 460 people in the auxiliary fire fighting force in the township. Table 19 shows fire brigade and fire machine in CMTS.

Table 17. Fire Service and Fire Machine

Permanent force	Auxiliary force	Total	Fire machine	Water carrier	Supporting vehicle	Light fire machine
12	460	482	8	3	-	14

It is such a overcrowded city that it has limited fire bridage and the force. It would be more difficult for increased population due to hotel project.

3.3.10. Livelihoods and Economy

CMTS is one of the strategic townships of Mandalay's economy. The main products of the township are golden weaved-silk products and bronze wares and exported to other regions all over the country. As CMTS is located in the Mandalay urban area, its economy is based on sectors other than agriculture. According to official statistics (see Table 20), the major livelihood activities in the area include trade, industry, services, and public services.

Table 18. Occupational Patterns

A significant portion of households are self-employed. Domestic net production and value of services of the township in 2013-14 FY is estimated to be 1, 84, 187 million kyats and per capita income is estimated to be 8, 90, 526 Kyats in 2012-13 and 9, 05, 400 Kyats in 2013-14. According to official data (Table 21) unemployment rate in CMTS township is estimated as 4.17%.

Government Employee	Services	Agriculture	Livestock	Trade	Industry	Self-employed	Others
5,084	274	375	249	9,985	1,459	19,814	99,575

In the surroundings, as it has private businesses and services, it would be any relation with hotel business.

Employment

In Chan Mya Thar Si, it is graphed as the range of workable people, workers and, the jobless.

Table 19. Employment

Workforce	Employed	Unemployed	Unemployment rate
151500	124178	6230	4.17%

The graph details the percentage of the jobless is 4.17 and it would give more profit by creating job opportunities for those who work at other quarters.

3.3.14. Hotel Industry

As Mandalay is regional and international hub city with air routes, roads, railways, and inland water ways, CMTS is one of the centers of regional hotel business. There are five private owned hotels with 214 rooms. There are also one motel, three Inns, and ten guesthouses in the overall township (see Table 25).

Table 20. Hotel Industry

Hotel	Bed	No. of Motel	No. of Inn	No. of Guesthouse
Minthargyi	43	1	3	10
Shwe Htee	76	-	-	-
Wander Land	34	-	-	-
Rising Venus	31	-	-	-
Paragon	30	-	-	-
Total	214	1	3	10

In CMTS, although there has a lot of hotel industries, it would not harm other businesses as it gets a lot of foreigners who are on tour and the city is quite prosperous.

3.3.15. Electricity

There are three power sub-stations and 87 transformers for distributing electricity in CMTS Township. Data (Table 27) show that the amount of electricity distributed in the township is 26 MW which fulfills 100% of township requirement.

Table 21. Electricity

No. of substations	No. of Transformers	Required electricity (MW)	Distributed electricity (MW)	Consumed electricity
3	87	26	26	26

With the advancement of CMTS, the usage of electric power is much. The above chart shows the usage of the electric power is not over, the hotel project would affect to a point.

3.3.16. NGOs

Several NGOs and work in CMTS township. Table 29 provides NGOs and their force.

Table 22. NGOs

Myanmar Women Affair Federation	Maternal and Child Care	Veteran	Red Cross	Auxiliary Fire Service
42920	149723	510	150	460

Table 30 lists INGOs in the township, their location, and services they provide.

Table 23. INGOs

Name	Location	Service/Activities
World Vision	Myothit (3)	Healthcare
PSI	Myothit (3)	Healthcare
MARIE STOPE	Tun Dong	Healthcare

There have a lot of NGOs and INGOs, so the use of CSR fund could donate to these associations.

3.3.17. Natural Disaster

CMTS get hot and dry climate and the region is highly susceptible to fire outbreak. Since the terrain of the eastern area in the township is in low elevation, flood can be occurred in the township. Table 30 lists disaster experienced in the township.

Table 24. Disaster Experienced in CMTS

Disaster	Year	Loss of lives	Damage of building	Value of loss (Million Kyat)
Earthquake	2012	-	2	1.97
Fire outbreak	2013	-	120	1.67

The fundamental natural hazard in CMTS Township is fire hazard and in building up the hotel project, there should be up for the protections of the fire hazards.

3.3.18. Industries

Data (Table 22) reveal that there are six government-owned and 326 private-owned factories in the township. A total number of 11035 employees work in these factories.

Table 25. Factories

Township	Ownership	No. of Factory	Employees
CMTS	Government	6	1,250
	Private	326	9,785
total		332	11,035

3.3.19. Livestock and Fisheries

Livestock and fish farming also generate substantial income for people in CMTS township. Data provided in Table 23 shows that the township has a total area of 724.41 acres for fishery farms.

Table 26. Livestock and Fishery

Year	Buffalo	Bull & cow	Pig	Chicken	Duck	Goat/ sheep	Fish		
							Pond	Area (acre)	Viss
2012-13	-	1,000	3,800	6,000	-	1,078	2	724.41	981,820
2013-14	-	1,003	2,020	6,000	-	1,080	2	724.42	12,38,000

3.3.20. Economic Infrastructure

Forty one cooperative organizations have already been established in CMTS. Banking facilities are abundant and there are four private banks in the township (See Table 24). There are also seven principal markets in the overall township. Table 25 lists markets in CMTS.

Table 27. Banks

No.	Name	Location	Ownership
1.	Kanbawza Bank	Myothit (2) ward	Private
2.	Kanbawza Bank	Myothit (4) ward	Private
3.	CB Bank	Myothit (4) ward	Private
4.	Asia Green Development Bank	Myothit (3) ward	Private

Table 28. Markets

No.	Name	Location	No. of Shops
1	Mya Nandar Market	Myothit (2) ward	776
2	Myo Haung Market	Tammawaddi ward	446
3	Aung Tha Yar Market	Tun Don Ward	552
4	Manawhari Market	Kaung Mu Tong	300
5	Kan Thar Yar Market	Kan Thar Yar ward	Not designated
6	Ayar Tun Market	Maw Taung ward	Not designated
7	Myayenandar	Myayenandar ward	570

3.3.21. Transportation and Communication

Road transport is the common form of transport mode in the area. Most people rely on motorcycles, bicycles, and/or private and public buses to get around. In CMTS, there are two bus lines composed of 35 buses (Dyna, Hilux, and Light trucks) for public transport to Mandalay intra-city areas. CMTS airport is located in the township. The township has 9-mile railway lines and five railway mini-stations. CMTS has a total population of 2, 04,929 and 50.43% of total population have access to use auto and mobile phones. There are one post office and one microwave station in the township.

Table 29. Communication

Post Office	Microwave Station	Auto Telephone	Mobile Phone	Internet users
1	1	1300	102,055	66,750

4. ANTICIPATED SOCIO-ECONOMIC IMPACTS AND MITIGATION MEASURES

The proposed project will give rise to several impacts to socio-economic, both positive and negative. Anticipated environmental impacts for the proposed project will be conducted into the entire life of the project. To cover the entire life of the project, it is necessary to conduct impact assessment for three major phases as follow:

(a) Phase I: Construction Phase (during the construction period),
(b) Phase II: Operation Phase (during the operation period), and
(c) Phase III: Decommissioning Phase (after the operation period).

In this section will describe potential impacts that may result from the project construction, operation, and decommission were assessed by considering the various aspects of social receptors and mitigation measures were proposed to ensure negative impacts on the social environment are reduced and positive impacts are enhanced.

To identify and analyze the project impacts, the following methods were adopted:

- Literature reviews;
- Analogies with similar cases and studies;
- Community feedback from household surveys;
- Feedback from government and nongovernment stakeholders;
- Review of Regal Hospitality Company Limited's programs and policies; and
- Determination of concerns and expectations of the affected and interested stakeholders.

4.1. Anticipated Socio-economic Impacts and Mitigation Measures during Construction Phase

This section deals with major socio-economic impacts that are expected to occur as a result of construction activities of proposed hotel. These include:

(a) Two positive impacts (job creation and increased business opportunities for local services); and
(b) Four negative impacts (increase in traffic volume, increase in housing and accommodation, increase in crime and security, pressure on social services and utilities, and increase in fire outbreak risk).

(a) Positive Social Impacts during Construction Phase

The anticipated positive social impacts during pre-construction phase are as follow:

4.1.1. Job Creation

The construction phase of the project will last 2 years and create substantial amount of job opportunities. The construction phase of the project is estimated to employ approximately 200 people. Although many construction workers will form part of the permanent workforce of contractors, the scale of construction activities means that additional workers will be required. In other words, the project has the potential to create a significant amount of temporary employment opportunities for local residents in CMTS Township. Thus, the construction phase of the project will have temporary positive impact on local household income and livelihood, especially people for Myothit Ward (2).

4.1.1.1. Impact Significance of Job Creation without Enhancement Measure

The constructing period is just so short that nonetheless, being the jobless, the educated people who could be employed in the hotel industry. As a result, it would benefit the community to a point. Nevertheless, without upgrading the activity, there would not have any effective action even though there is less profit for that, creating job opportunity should be upgraded.

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Job creation	Potential to Increase in household income	Jobs in construction site	Positive (+)	Local (+3)	Short term (+2)	Low (+2)	Intermittent (+2)	Probable (+3)	Low (+35)

4.1.1.2. Enhancement Measures for Job Creation

Unskilled and semi-skilled job opportunities should be offered to the local communities as much as possible. Given that the communities in the vicinity of the project will be most affected by the project, it is consistent with international best-practice standards (such as the Performance Standards of the IFC) that Regal Hospitality Company Limited should encourage construction contractors and sub-contractors to use local labor force and should arrange the local people to obtain employment opportunities. This factor should be included in the agreements with such sub-contractors.

As the population of females is slightly higher than that of males in the township, employment opportunities for construction works should also be created to ensure that the local female population also has equal chance for these opportunities (Gender Equality). Where possible, labor-based construction techniques should be used. The ratio of less than 18 year and above 18 year is 1:2.01.This can be explained higher number of working age per household in the area. So, it is necessary to appoint over aged people in suitable works as much as possible.

4.1.1.3. Impact Significance of Job Creation after Enhancement Measure

The impact will become from low to Moderate after enhancement actions due to the boost in frequency and probability as follow:

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Job creation	Potential to Increase in household income	Jobs in construction site	Positive (+)	Local (+3)	Short term (+2)	Low (+2)	Continuous (+5)	Highly probable (+4)	Low to Moderate (+63)

Within the constructing period, it should be raised to upgrade job opportunity for local people.

4.1.2. Increase in Business Opportunities for Local Services

The influx of construction workers will create a market for commercial goods, food and services and thus promoting the development of the local enterprises and small business in the area. Local enterprise is expected to benefit from the construction activities of the project by supply of various construction materials including pipes and fittings, cement, aggregates, and steel reinforcement. There will be indirectly growing expansion of small business, trading and local enterprises in the community as the project activities in the region increase.

4.1.2.1. Impact Significance of Business Opportunities without Enhancement Measures

The value of net production and services in CMTS Township is over 4.8 percent. In the domestic businesses, the industry on construction eg; construction materials trading and

the construction contractors also live in CMTS. Increase in business opportunities for services will be positive benefit for local economy. The impact significance will be low as follow.

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Increase in business opportunities	Potential to increase in local economy	Construction related services and goods	Positive (+)	Local (+3)	Short term (+2)	Low (+2)	Intermittent (+2)	Probable (+3)	Low (+35)

4.1.2.2. Enhancement Measures for Increase in Business Opportunities

In the area of CMTS, there has a lot of construction industries and services and as a result, it should be negotiated with the local industries to get better benefits both for local people and. Regal Hospitality Company Limited should continue to work hand in hand with local authorities and economic organizations to develop and encourage investment in the local community to promote diversification and growth of local economy. Regal Hospitality Company Limited should have to stimulate the emergence of small business, local enterprises, and trading in the project area and should assist local people establish their small business, trading, and accommodation services in the area. Where feasible, procurement of materials, goods, food and services from local suppliers should be encouraged.

4.1.2.3. Impact Significance of Business Opportunities after Enhancement Measures

The significant of impact can be considered as low to Moderate after enhancement measures due to the increase in frequency and probability.

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Increase in business opportunities	Potential to increase in local economy	Construction related services and goods	Positive (+)	Local (+3)	Short term (+2)	Low (+2)	Very Often (+4)	Highly probable (+4)	Low to Moderate (+56)

(b) Negative Social Impacts during Construction Phase

The anticipated positive social impacts during pre-construction phase are as follow:

4.1.3 Increase Pressure on Social Services and Utilities

The duration of construction period may take approximately two years. A possible population influx due to the presence of construction workforce will increase temporary pressure on existing social services and utilities including health, food, shelter, water, transport and recreational facilities. During the construction phase, the demand for public services will be affected by increases in population. Social service facilities to be impacted due to the increase in population will be healthcare services, water, electricity, housing, and sanitary facilities among others. According to the survey, the local people concern about their garbage collective system due to the hotel project.

4.1.3.1. Impact Significance of Increase Pressure on Social Services and Utilities

There will increase in stress for waste dumping facilities during construction phase. Healthcare services will also have pressure especially on the outside of the working time. The impact will be considered as low to Moderate although it is a short term impact as follow:

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Increase pressure on local services and utilities	Public anxiety	Influx of construction workers	Negative (-)	Local (-3)	Short term (-2)	Moderate (-4)	Very often (-4)	Probable (-3)	Low to Moderate (-63)

4.1.3.2. Mitigation Measures for Pressure on Social Services and Utilities

Impact brought about by changes in population should be mitigated through the use of local labor force and provision of social facilities by Regal Hospitality Company Limited. To reduce pressure on health care facilities, Regal Hospitality Company Limited should provide healthcare services to its staffs. Alternative site and alternative way for waste disposal which does not stress on local waste dumping site should be used.

4.1.3.3 Impact Significance of Increase Pressure on Social Services and Utilities after Mitigation Measures

The impact significance of increase pressure on social services and utilities can be considered as low after enhancement measures as follow.

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Increase pressure on local services and utilities	Public amenity	Influx of construction workers	Negative (-)	Local (-3)	Short term (-2)	Moderate (-4)	Regular (+3)	Seldom (+2)	Low (+45)

4.1.4. Increase in Traffic and Road Accidents

During construction phase of the project, traffic congestion is anticipated since the construction site is situated in Myothit (1) ward between Thazin Street and Nguwar Street along the 73th Street, one of the central roads of the city. Social survey results revealed that the 73th Street is the most frequently used road by local residents. The problem may be magnified during the construction phase of the project if machinery and transportation vehicles for construction activities used the same road during local traffic time and may increase in road accident.

4.1.4.1. Impact Significance of Increase in Traffic on Social Services and Utilities before Mitigation Measures

Due to the traffic survey of vehicle movement in 73th road, there is potential to traffic due the travelling of a large volume of motorcycles. Although the construction period is short term, the impact can be considered as Moderate.

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Increase in traffic volume	Public amenity and road accident	Transportation of construction workers and materials	Negative (-)	Local (-3)	Short term (-2)	Moderate (-4)	Continuous (-4)	Highly Probable (-4)	Low to Moderate (-72)

4.1.4.2 Mitigation Measure for Increase in Traffic

Proper traffic management plan should be established and implemented during construction phase. On account of the survey, the dwellers use 73th Rd dramatically. The use of access road should avoid traffic such peak hours in 73th road for construction activities and trucks and heavy machineries for construction works should be travelled only at night.

4.1.4.3 Impact Significance of Increase in Traffic after Mitigation Measures

The impact significance of increase in traffic after mitigation measures can be considered as low as follow.

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Increase in traffic volume	Public amenity and road accident	Transportation of construction workers and materials	Negative (-)	Local (-3)	Short term (-2)	Moderate (-4)	Regular (-3)	Seldom (-2)	Low (-45)

4.1.5. Demand for Housing and Accommodation

As the proposed project will appoint about 200 workers and skilled and semi-skilled non-local construction employees migrating to the area as well as their spouses and dependents are assumed to be housed on site or accommodation units in the community. Construction phase demands housing and accommodation facilities for these migrant employees and their families.

4.1.5.1 Impact Significance of Demand for Housing and Accommodation before Mitigation Measures

According to the primary data collection, the nearby dwellers have their own compound, so it would be difficult for the construction workers to stay at CMTS Township. Due to the secondary data collection, total population of CMTS Township is 204929 and increase population rate is 0.8%, there is very low potential to impact of demand for housing and accommodation due to small number of construction workers compare to existing population. So, the impact will be considered as low as follow.

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Demand for housing and accommodation	Increase in population	Migrant workers	Negative (-)	Local (-3)	Short term (-2)	Very Low (-1)	Continuous (-5)	Probable (-3)	Low (-48)

4.1.5.2 Mitigation Measures of Demand for Housing and Accommodation

Regal Hospitality Company Limited should ensure that it has sufficient land area and accommodation facilities available in the project area to meet the housing and accommodation needs of its proposed project construction. Strict Company's policy to appoint local workers for first priority will help to reduce this impact.

4.1.5.3 Impact Significance of Demand for Housing and Accommodation after Mitigation Measures

The impact significance of demand for housing and accommodation after mitigation measures can be considered as low due to the reduce level of probability as follow.

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Demand for housing and accommodation	Increase in population	Migrant workers	Negative (-)	Local (-3)	Short term (-2)	Very Low (-1)	Regular (-3)	Very Seldom (-1)	Very Low or Negligible (-24)

4.1.6. Increase in Crime and Security

An inflow of skilled construction workers and their dependents of migrant workers from other areas may also be accompanied by possible concomitant increase in social pathologies and crime including drug and alcohol abuse, assault, theft and violence. There may be increased demand on emergency and police services due to population influx in this phase. According to the secondary data collection, the security ratio is (1:1213) and there is limited capacity for migrant construction workers.

4.1.6.1. Impact Significance of Crime and Security before Mitigation Measures

The impact will be considered as low to Moderate as follow before mitigation measures.

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Increase crime and security	Public security	Migrant construction workers	Negative (-)	Local (-3)	Short term (-2)	Moderate (-4)	Regular (-3)	Probable (-3)	Low to Moderate (-54)

4.1.6.2 Mitigation Measures Crime and Security

Unskilled job opportunities should be offered to the local communities as much as possible. Regal Hospitality Company Limited should encourage the construction contractors or sub-contractors to ensure that the local community communicates their expectations of construction workers' behavior, and formalize between the community and them.

Regal Hospitality Company Limited also needs to continue to work with the local and regional police personnel to acquire their cooperation and commitment in reducing these likely impacts. Regal Hospitality Company Limited should also collaborate with local administration members in the resolution of potential increase in crime and violence. Management of construction camp should be adequately formalized and have communication channels with local police force in order to take measures for any inappropriate behavior that may occur.

4.1.6.3 Impact Significance of Crime and Security after Mitigation Measures

After systematically control of migrant workers and continuous cooperation with local police force, the impact will be very low as follow.

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Increase crime and security	Public security	Migrant workers	Negative (-)	Local (-3)	Short term (-2)	Moderate (-4)	Rare (-1)	Very Seldom (-1)	Very Low (-18)

4.1.7. Fire Outbreak Risk

Fire is the serious problem which requires due consideration during the planning stage of the project. This impact is anticipated on considering the fact that Mandalay city experienced frequent fire outbreak due to its climate, especially during dry season. Fire outbreak may also result in loss of human life and air pollution beyond the boundary of the site. According to the secondary data collection, fire outbreak risk in CMTS Township can be considered as Category B (Likely, ARI 50) according to the disaster risk assessment. The following parameters are considered to assess the categorization of disaster risk for CMTS region.

Likelihood

The likelihood of the event occurring in Annual Recurrence Interval (ARI)

A – almost certain (ARI 10)

B – likely (ARI 50)

C – possible (ARI 100)

D – unlikely (ARI 500)

E – rare (ARI 1000)

Consequence Descriptors

The following are the potential risk scenarios of a disaster:

Insignificant Risk

- No fatalities.
- Medical treatment required.
- Small number displaced for a short period, some damage.
- Little disruption to the community.
- Some impact on the environment, with no lasting effects.
- Some financial loss.

Minor Risk

- Small number of fatalities.
- Hospitalisation required.
- Minor temporary displacement.
- Significant damage.
- Some community disruption.
- Serious impact on environment with no long term effects.
- Significant financial loss.

Moderate Risk

- Multiple fatalities.
- Numerous injuries requiring hospitalisation.
- Significant numbers displaced for short periods.
- Serious damage requiring some external assistance.
- Community functioning with difficulty.
- Severe impact on environment with long term effects.
- Serious financial loss.

Major Risk

- Numerous fatalities.
- Extensive injuries, with significant hospitalisation.
- Large numbers displaced for significant duration.
- Severe damage that requires external resources.
- Community only partially functioning.
- Severe permanent damage to the environment.
- Severe financial loss.

Catastrophic Risk

- Mass fatalities.
- Large numbers requiring hospitalisation.
- General and widespread displacement for extended duration.
- Widespread extensive damage.
- Community unable to function.
- Widespread severe permanent damage to the environment.
- Widespread severe financial loss.

4.1.7.1. Impact Significance of Fire Outbreak Risk without Mitigation Measures

CMTS faced this disaster in 2013 and suffered damage of 120 buildings and causes economic losses of approximately 1.67 million MMK. It is one of the most public concern during social survey. So the impact can be rated as low to Moderate during construction phase.

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Fire outbreak risk	Public security	Migrant workers	Negative (-)	District (-4)	Short term (-2)	High (-5)	Rare (-1)	Highly Probable (-4)	Low to Moderate (-55)

4.1.7.2. Mitigation Measures for Fire Outbreak after Mitigation Measures

Regal Hospitability Co., Ltd. already has fire fighting vehicle and fire service personnel. Fire service personnel of Regal Hospitality Company Limited should be well trained on how to prevent fire, how to use fire-fighting equipment, and emergency response actions. Regal Hospitality Company Limited should also adhere to the fire-fighting regulations of the Ministry of Home Affairs and should collaborate with regional fire brigade.

4.1.7.3. Impact Significance of Fire Outbreak Risk after Mitigation Measures

Regal Hospitality Company Limited already has its fire machine and fire-fighting force for providing fire service in the region. So, impact rating for fire outbreak risk can be reduced as low if training program of fire fighting will be continuous for workers.

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Fire outbreak risk	Public security	Migrant workers	Negative (-)	District (-4)	Short term (-2)	High (-5)	Rare (-1)	Seldom (-2)	Low (-33)

4.2. Anticipated Socio-Economic Impacts and Mitigation Measures during Operation Phase

During the operation phase, a number of both positive and negative impacts are predicted to be associated with the Project. This section deals with socio-economic impacts that are expected to occur after construction has been completed and project operation commences. These include:

- Four positive impacts (Benefits to national economy, Employment opportunities, Benefits to local economy, and improved services and community development potential), and
- Three negative impact (Pressure on community social service and utilities, Fire outbreak risk, and Traffic congestion)

4.2.1 Benefits to National Economy

The proposed development will contribute significantly to the national economy. The operation will further contribute to government revenues in terms of taxes paid by the business to the government and multiplier effect arising from its linkages to other sectors.

4.2.1.1 Impact Significance of Benefits to National Economy before Enhancement Measures

Impact significance of benefits to national economy before enhancement measures will be as follow:

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Income in government revenue	Benefit to national economy	Taxes	Positive (+)	Regional (+5)	Long term (+4)	Low (+2)	Continuous (+5)	Highly Probable (+4)	Moderate (+99)

4.2.1.2. Enhancement Measures for Benefit for National Economy

In order to ensure that the benefits are sustained, Regal Hospitality Company Limited should work hand in hand with Regional authorities, departmental officials concerned and Mandalay City Development Committee (MCDC) to improve infrastructure (roads, communications and policies) to widen the operating activities on daily business. Efficient and transparent tax collection mechanisms should be introduced and strengthened.

4.2.1.3. Impact Significance of Benefits to National Economy after Enhancement Measures

By creating responsible taxes paying system to local or national government will be great benefit to government. Hotel project will also increase foreign currency income. This positive impact will be moderate to high after enhancement measures as follow:

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Income in government revenue	Benefit to national economy	Taxes	Positive (+)	Regional (+5)	Long term (+4)	Low to Moderate (+3)	Continuous (+5)	Certain (+5)	Moderate to High (+120)

4.2.2. Employment Opportunities

It is also anticipated that despite some level of technical skills and qualification may be demanded, the operational phase will offer permanent employment opportunities for the local communities in labor and office works. With sufficient training, a large portion of skilled and semi-skilled personnel can be sourced from local communities. Increased employment will improve household income levels and livelihood of local people and is likely to increase the number of small business and creating new enterprise opportunities.

4.2.2.1. Impact Significance of Employment Opportunities before Enhancement Measures

As there is jobless percentage in CMTS Township, long term job opportunities will be great benefit to local people and impact rating will be as follow:

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Employment opportunities	Increase in household income	Jobs in hotel	Positive (+)	Local (+3)	Long term (+4)	Moderate (+4)	Continuous (+5)	Probable (+3)	Moderate (+88)

4.2.2.2. Enhancement Measures for Job Opportunities

Jobs and employment associated with the proposed hotel development as a matter of priority should be given to local communities with appropriate skills. Regal Hospitality should build local capacity by implementing relevant training programs. Local people who

have potential for required vacancies of the project should be afforded training opportunities and apprenticeship to ensure to support local community in obtaining employment opportunities. Regal Hospitality should establish a local labor desk at the project compound to identify a local labor pool. Provision of training for project operation should begin parallel with construction activities. Regal Hospitality should carry out advertising and disseminating information about employment opportunities that will be offered for local community in project operation in advance. By doing so, local people will acquire necessary skills and make preparation for their livelihood with Pullman's opportunities.

4.2.2.3. Impact Significance of Employment Opportunities after Enhancement Measures

The impact will be moderate to high due to increase in probability as follow:

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Employment opportunities	Increase in household income	Jobs in hotel	Positive (+)	Local (+3)	Long term (+4)	Moderate (+4)	Continuous (+5)	Certain (+5)	Moderate to High (+110)

4.2.3. Benefits to Local Economy

The project is expecting to deliver several direct benefits to local communities and promote local economy in terms of increased use of local resources sale including sale of goods and services to the proposed hotel development.

4.2.3.1. Impact Significance of Benefits to Local Economy before Enhancement Measures

Buying the required supplies for the hotel at local would less affect for less potentiality that will progress the region with the sector of business without any confirmation.

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Income in local revenue	Benefit to local economy	Operation of hotel	Positive (+)	Local (+4)	Long term (+4)	Low (+2)	Intermittent (+2)	Probable (+3)	Low (+50)

4.2.3.2 Enhancement Measures for Benefits to Local Economy

Regal Hospitality should consider formulation of specific strategies to link project development with local community. Local procurement of goods and services should be encouraged and given priority

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4.2.3.3. Impact Significance of Benefit to Local Economy after Enhancement Measures

Trading and services in the city play a part of local GDP, impact rating will get to low to moderate after making thoroughly confirm.

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Income in local revenue	Benefit to local economy	Operation of hotel	Positive (+)	Local (+4)	Long term (+4)	Low (+2)	Regular (+3)	Highly Probable (+4)	Low to Moderate (+70)

4.2.4. Improved Social Services and Community Development Potential

Regal Hospitality will show its sincere attitude towards local residents by actively participating in CSR activities. Regal Hospitality has CSR programs and budget allocation for community development purposes. Corporate social responsibility (CSR) is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society. Regal Hospitality is intending to use at least 0.5% of its net benefit of the project for every year in CSR activities. Detailed activity-wise allocation of the CSR budget is mentioned in Table 33. Regal Hospitality also has well-established policies and plans for skill-building, providing healthcare services, assisting education, and social-welfare activities for proposed Pullman Five Star Hotel employees. The project may provide opportunities for continued improvements in basic infrastructure and community development, provision of health care services and education and in providing skill development.

According to the household survey to some residents in No (1) and No (2) Wards, the most public need as CSR activities is construction for cannel for improve drainage system in No (1) Ward and electrification of surrounding residential areas in No (2) Ward. Allocated per cent of CSR budget of Regal Hospitability Co. Ltd. and some local requirements are as follow:

Table 30. Budget Allocation of CSR Programs

No.	Activities	Allocated per cent of CSR budget	Local people requirements	
			No (1) Ward	No (2) Ward
1.	Establishing public libraries for local community	15%	-	-
2.	Building health clinics for local community	25%	-	-
3.	Construction of roads, bridge and canals for improving drainage	20%	Yes	-
4.	Establishing day-care centers and educational foundations	20%	-	-
5.	Electrification of surrounding residential areas	20%	-	Yes
Total		100%		

4.2.4.1. Impact Rating for Improved Services and Community Development Potential

Impact rating for improved services and community development potential will be as follow:

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Improved social services	Benefit to local people	Operation of hotel	Positive (+)	Local (+4)	Long term (+4)	Moderate (+4)	Regular (+3)	Probable (+3)	Low to Moderate (+72)

4.2.4.2. Enhancement measures for Improved Social Services and Community Development Potential

This positive impact of the project can be enhanced by adjusting allocation of CSR budget and giving priority for CSR activities relevant to community immediate needs each year after discussion with representatives from local authorities, CBOs, and NGOs. According to the survey, it would be better to support the fire brigade force and the health protections team from the hotel to the local as the health aid team and the fire brigade teams are just enough in this region.

4.2.4.3. Impact Significant of Improved Social Services and Community Development Potential after Enhancement Measures

Using CSR fund systematically according to the public need and supporting to public health and fire protection will increase the benefit of improved social services and community development potential.

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Improved social services	Benefit to local people	Operation of hotel	Positive (+)	Local (+4)	Long term (+4)	Moderate (+4)	Regular (+3)	Highly Probable (+4)	Moderate (+84)

4.2.5 Pressure on Social Services and Utilities

A hotel facility is expected to accommodate a lot of people. This attribute of increasing accommodation has the potential to increase pressure on social services and utilities as follow:

No.	Local Social Services and Utilities	Public Concern
1.	The use of ground water	No
2.	The use of civil water (distribution from MCDC)	Yes
3.	The use of electricity from MEPE	Yes
4.	The use of local drainage system to Ko-Lan-Bo main drain	Yes
5.	Solid waste collection facilities	Yes

(a) The Use of Electricity

The demand may strains the existing service delivery system in one way or the other. Although the hotel intends to install its own electricity line, it will also impact on local need because the use of electricity is still a problem for the whole country.

(b) The Use of Ground Water

The total amount of water required by this development is estimated approximately 30 million gallons per year. It will also mean an increase in the demand on local water resources.

(c) Pressure on Local Waste Collective System

Due to the social survey, it would affect the waste collective system of the nearby quarters if the trash from the hotel was put away nearby. Especially it will have pressure on waste collective system of Myothit Ward (2) because the existing system of collective trash of Myothit Ward (2) is just enough.

4.2.5.1. Impact Significant for Pressure on Social Services and Utilities without Mitigation Measures

Significant of impacts on social services and utilities will be as follow:

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Electrical power consumption	Impact of high utilities consumption	Increase in buildings	Negative (-)	Regional (-4)	Long term (-4)	High (+5)	Continuous (-5)	Highly Probable (-4)	Moderate to High (-104)
Water consumption	Impact of high utilities consumption	Increase in people and buildings	Negative (-)	Local (-3)	Long term (-4)	Low (-2)	Continuous (-5)	Probable (-3)	Low to Moderate (-72)
Pressure on waste collective system	Pressure on waste disposal	Increase in people and buildings	Negative (-)	Local (-3)	Long term (-4)	Moderate (-4)	Continuous (-5)	Highly Probable (-4)	Moderate (-99)

4.2.5.2. Mitigation measures for the Use of Social Services and Utilities

(a) Mitigation Measures for Electrical Power Consumption

Reduction in energy consumption is an important consideration in a pollution prevention program and in lowering the operational cost. While energy conservation measures reduce the amount of pollution created in the production or use of energy (e.g., CO_2, NO_x, SO_x, Ash, etc.), pollution prevention measures reduce the energy requirements for waste handling and treatment.

There are several methods that can be employed to help conserve electricity and these include:

(a) Install energy and water meters to measure and control consumption throughout the facility;

(b) Implementing good housekeeping measures such as turning off equipment and lights when not in use;

(b) Use LED lights and/or lower wattage lamps;

(c) Using more efficient equipment when replacing old equipment (such as motors and heating units);

(d) Installation of computerized controllers to better regulate motor output;

(e) Installation of timers and thermostats to control heating and cooling; and

(f) Preventative maintenance of operational processes and pipes so as to improve efficiency and minimize losses.

(b) Mitigation Measures for Water Consumption

Even the project does not use the public water distribution system and get underground water; care should be taken not to share the same static water table with local community because this will affect their water availability in the long run. Therefore, water recycling for plantation and rain harvesting should be explored and implemented if found feasible. The hotel should put water conservation devices or techniques such as using water flow restrictors, low-flush toilets etc. in place. Effective garbage management and good housekeeping should be practiced on the hotel and that problems arising from the improper storage of solid waste will therefore be avoided. Training program to reduce water consumption should be provided for workers during operation of the hotel.

(c) Mitigation Measures for Pressure on Waste Disposal

The place of waste collective system should not be the same as the local waste collective system. If needed, the private place for waste disposal should be mentioned. Make sure there will be no pressure on local waste collective system.

4.2.6. Fire Outbreak Risk

Fire outbreak will increase due to the increase in number of buildings and population in CMTS Region. It may cause magnitude economic losses to buildings, public's property and high impact on natural flora and fauna.

4.2.6.1. Impact Significant for Fire Outbreak Risk without Mitigation Measures

Mandalay city experienced frequent fire outbreak due to its climate, especially during dry season. CMTS faced this disaster in 2013 and suffered damage of 120 buildings and causes economic losses of approximately 1.67 million MMK. So, the impact will be moderate to high as follow:

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Fire outbreak risk	Public security	Increase in people and buildings	Negative (-)	District (-4)	Long term (-4)	High (-5)	Intermittent (-2)	Highly Probable (-4)	Moderate (-78)

4.2.6.2. Mitigation Measures for Fire Outbreak Risk

The proposed project should be installed with modern fire hydrant system effectively fighting fires of various proportions and of all classes of fire risks. Regal Hospitality should have its fire machine and fire-fighting force for providing fire service in the region. Fire service personnel of Regal Hospitality Company Limited should be well trained on how to prevent fire, how to use fire-fighting equipment, and emergency response actions. Regal Hospitality Company Limited should also adhere to the fire-fighting regulations of the Ministry of Home Affairs and should collaborate with regional fire brigade in the prevention of fire outbreak and training local fire fighting force. As the local fire safety is not totally done with oneself, it should be managed as soon as appropriate to train fire hazards protections in accordance with fire brigade force in the area wherever possible.

4.2.6.3. Impact Significance of Fire Outbreak Risk after Mitigation Measures

Regal Hospitality Company Limited already has its fire machine and fire-fighting force for providing fire service in the region. So, impact rating for fire outbreak risk can be reduced as low to moderate if training program of fire fighting will be continuous for workers.

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Fire outbreak risk	Public security	Increase in people and buildings	Negative (-)	District (-4)	Long term (-4)	High (-5)	Rare (-1)	Probable (-3)	Low to Moderate (-65)

Even in the hotel, even outside the hotel, the potential to fire break can be less made by protecting fire hazards. However, fire hazards will not be deduced sharply as this is concerned with the whole communities.

4.2.7. Increase in Traffic Volume

Increase in traffic volume is anticipated since the propsed Pullman Mandalay Five Star Hotel is situated in Myothit (1) ward between Thazin Street and Nguwar Street along the 73th Road, one of the central roads of the city.

4.2.7.1. Impact Significant of Increase in Traffic Volume without Mitigation Measures

Social survey results revealed that the 73th Road is the most frequently- used road by local residents and traffic survey revealed that there already have potential to traffic congestion in 73th Street. So this kind of impact will be considered as moderate to high without mitigation measures as follow:

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Increase in traffic volume	Traffic congestion and road accidents	Operation of hotel	Negative (-)	Local (-4)	Long term (-4)	High (-5)	Continuous (-5)	Highly Probable (-4)	Moderate to High (-117)

4.2.7.2. Mitigation Measures

Regal Hospitality should have good traffic management plan and sufficient space for parking. This adverse impact is, therefore, minimized since the formulation of the project design that does not use the 73th street for main entrance and efficient parking system is provided into the design. However, Regal Hospitality should also collaborate with local traffic police personnel to reduce this impact and should make use of road safety sign around the 73th street. There should have enough parking garages for the cars which will park at the hotel. The vehicles that come to the hotel celebrations should be arranged not to park on the public road or out of the hotel compound.

4.2.7.3. Impact Significant of Increase in Traffic Volume after Mitigation Measures

Impact significant will be considered as moderate after mitigation measures as follow:

Components	Anticipated Impact	Sources	Impact Type	Scale	Duration	Severity	Frequency	Probability	Impact Rating
Increase in traffic volume	Traffic congestion and road accidents	Operation of hotel	Negative (-)	Local (-4)	Long term (-4)	High (-5)	Very often (-4)	Probable (-3)	Moderate (-91)

4.3. Impact Assessment for Decommissioning Phase

Generally, it tends to reverse the benefits that are got from the operation of the hotel on closing the hotel. As an example, it would have to face the cases like giving up job opportunity and losing the State currency.

4.3.1. Loss of Jobs and Revenues for the Government

In the event of the project closure, there will be potential negative impacts resulting in loss of jobs and indirect employment depending on hotel operation and of associated business enterprises as well as loss of revenues for the government.

4.3.1.1. Mitigation Measures for Loss of Jobs and Revenues for the Government

Extensive and comprehensive warning to employees to allow them to source alternative livelihood should be taken early. Regal Hospitality should prepare their employees for

forced retirement by providing applicable jobs at other hotels under the same company or other relevant jobs at different works under the same developer, if feasible. The buildings can be retained for community use or availed to private developers.

5. SOCIAL MANAGEMENT PLAN FOR PULLMAN HOTEL (MANDALAY)

The Social Management Plan (SMP) identifies the relevant responsible institutions, authorities and stakeholders to manage the negative social impacts and enhance potential benefits and to monitor these impacts to adjust mitigation strategies.

5.1. Responsibilities

The SMP has various components with the respective stakeholders involved towards the implementation of the corrective actions. Various persons and organizations have to be involved in the project. The following should be involved in the implementation of the SMP:

- Regal Hospitality Co. Ltd.,
- Construction contractors,
- Regional government authorities,
- Regional health office,
- Local NGOs/CBOs,
- Local entrepreneurs,
- Police force,
- Department of labor,
- Department of national planning, and
- Local residents from the project area, etc.

5.2. Social Management Team

To enable smooth implementation of social impact management plan, a social management team should be formed to oversee the overall management of the plan. The SMP team should be composed as follow:

(i) Corporate Social Responsibility (CSR) officer or Head of HR Department or Community Liaison Officer (CLO) of Regal Hospitability Co., Ltd.,

(ii) Health and Safety Officer, as well as other relevant employees of Regal Hospitability Co., Ltd.,

(iii) Representatives from local residents (Myothit Wards 1 and 2), and

(iv) Representatives from local CBOs and NGOs.

The SMP team should be held meeting regularly to view progress made and the problems encountered that need to be addressed. The SMP team will also serve as Regal Hospitality's grievance committee that will address grievances from the community.

5.3 Impact Mitigation and Management Plan

A list of identified impacts related to proposed Five Star Hotel project, mitigation and enhancement measures, time of mitigation, and responsible institutions are summarized in Table 32.

Table 31. Anticipated Impacts, Mitigation Measures and Responsibilities during Construction, Operation and Decommissioning Phases

No.	Identified Impact	Mitigation/Enhancement Measures	Responsible Institution/person	Time of Mitigation
1.	Job Creation	• Inform employment opportunities for local community in project operation in advance • Establish a local labor desk at the project compound to identify a local labor pool • Give employment priority to local people for skilled labor • Afford training opportunities and apprenticeship in project operation activities to ensure to support local community in obtaining employment opportunities • Sub-contractors should have to be contracted in agreement contract so as to employ the local people.	▪ Regal Hospitality ▪ Sub Contractors ▪ Department of Labor ▪ Local Communities	During construction
2.	Increase in Business Opportunities for Local Services	• Stimulate the emergence of small business, local enterprises, and trading in the project area • Assist local people establish their small business, trading, and accommodation services in the area • Encourage procurement of materials, goods, and services from local suppliers • Sub-contractors have to be made agreement in order to assist local people establish their small business, trading, and accommodation services in the area	▪ Regal Hospitality ▪ Contractors ▪ Local entrepreneurs	During construction
4.	Increase Pressure on Social Services and Utilities	• Use local labor force • Provide healthcare services to staffs and healthcare assistance programs to the local community • Explore and implement alternative measures like use of water recycling, waste disposal and use of energy savers bulb in the construction camp	▪ Regal Hospitality ▪ Contractors	During construction

No.	Identified Impact	Mitigation/Enhancement Measures	Responsible Institution/person	Time of Mitigation
5.	Construction-related Health and Safety Risks	• Contractor must take precautions and educate workers on the use of safety gears • Safety signal devices should be installed to ensure safety during construction • Effective PPE and warning measures should be taken to reduce accidents	▪ Regal Hospitality ▪ Contractors	During construction
6.	Increase in Traffic	• Establish proper traffic management • Avoid traffic peak hours for construction activities	▪ Regal Hospitality ▪ Contractors	During construction
7.	Housing and Accommodation	• Use local labor force • Ensure that it has sufficient land area and accommodation facilities within project compound	▪ Regal Hospitality ▪ Contractors	During construction
8.	Crime and Security	• Unskilled job opportunities should be offered to the local communities as much as possible • Work with the local and regional police personnel to acquire their cooperation and commitment in reducing these likely impacts • Management of construction camp should be adequately formalized and have communication channels with local police force in order to take measures for any inappropriate behavior that may occur	▪ Regal Hospitality ▪ Contractors ▪ Construction employees ▪ Police force ▪ Local authorities	During construction

No.	Identified Impact	Mitigation/Enhancement Measures	Responsible Institution/person	Time of Mitigation
9.	Fire Outbreak Risk	• The project site should be installed with modern fire hydrant system • Fire service personnel of the company should be well trained	▪ Regal Hospitality	During construction
10.	Benefits to national economy	• Work hand in hand with Regional authorities, departmental officials concerned and Mandalay City Development Committee (MCDC) to improve infrastructure (roads, communications and policies) to widen the operating activities on daily business • Efficient and transparent tax collection mechanisms should be introduced and strengthened	▪ Regal Hospitality ▪ Local authorities ▪ Department of internal revenue	During operation
11.	Employment Opportunities	• Priority should be given to local communities with appropriate skills • Build local capacity by implementing relevant training programs • Establish a local labor desk	▪ Regal Hospitality	During operation
12.	Benefit to Local Economy	• Formulate specific strategies to link project development with local community • Local procurement of goods and services should be encouraged and given priority	▪ Regal Hospitality	During operation

No.	Identified Impact	Mitigation/Enhancement Measures	Responsible Institution/person	Time of Mitigation
13.	Improved Services and Community Development Potential	• Give priority for those CSR activities relevant to community immediate needs	▪ Regal Hospitality	During operation
15.	Pressure on Social Services and Utilities	• Water recycling and rain harvesting should be explored and implemented if found feasible • Put water conservation devices or techniques in place • Effective garbage management and good housekeeping should be practiced	▪ Regal Hospitality	During operation
16.	Fire Outbreak Risk	• Install with modern fire hydrant system effectively fighting fires of various proportions and of all classes of fire risks • Fire service personnel of the company should be well trained on how to prevent fire, how to use fire-fighting equipment, and emergency response actions • Collaborate with regional fire brigade in the prevention of fire outbreak and training local fire fighting force	▪ Regal Hospitality ▪ Fire Brigade ▪ Auxiliary Fire Brigade	During operation
17.	Traffic Congestion	• Have good traffic management plan and sufficient space for parking • Collaborate with local traffic police personnel to reduce this impact whenever necessary	▪ Regal Hospitality ▪ Traffic Police Force	During operation
18.	Loss of Jobs during decommissioning	• Extensive and comprehensive warning to employees to source alternative livelihood should be taken early • prepare their employees for forced retirement by providing skills for self-employment and others with special skills should be availed jobs to other sister companies owned by the shareholders	▪ Regal Hospitality	During decommissioning

5.4. Social Monitoring Plan

There will be continuous monitoring and follow-up on the plant activities to ensure that the SMP is implemented and that its objectives are achieved. The key objectives of the monitoring program will be to:

(i) Demonstrate compliance with currently-practiced social performance standards
(ii) Track the identified impacts and the delivery of their mitigation strategies
(iii) Identify new impacts arising from changing conditions and develop responses
(iv) Enable regular stakeholder contact and feedback.

The SMP monitoring plan consists of:

(i) A list of identified impacts and issues
(ii) A monitoring strategy- how management of the impact will be monitored
(iii) Responsibility for monitoring- documenting of the party responsible for the implementation of each monitoring strategy, for example, monitoring team or third party agent
(iv) Performance indicators- informative, relevant, measure, useful, widely recognized, simple to report and easily understood.

Social monitoring is proposed for the following areas:

(i) Health and safety,
(ii) Employment and skills development, and
(iii) Changes in overall community development.

Impacts on local employment levels to include:

(i) Number of local individuals directly employed by the project;
(ii) Number of households directly employed by the project; and
(iii) Entrepreneurial activities associated with the project.

The monitoring schedule for social monitoring plan is shown in Table 33.

Table 32. Social Monitoring Plan

No.	Potential Impact	Performance Indicator	Method	Frequency of Measurement	Respons-ibility
1.	Job Creation Associated with Construction Phase	• Local labor employed as a % of total construction workforce • % of local women employed as % of total construction workforce	• Review of company's records	Annually	▪ Regal Hospitality
2.	Increase in Business Opportunities for Local Services	• Number of local business emerged in the project area • Estimates of local products sold to the project • Entrepreneurial activities associated with the project • Estimated amount of local procurement	• Routine inspection and review of company's records	Annually	▪ Regal Hospitality
3.	Increase Pressure on Social Services and Utilities	• Records of healthcare assistance including site clinic, service center, personnel, and medicine provided for construction labor force and local community	• Routine inspection and review of company's records	Annually	▪ Regal Hospitality
4.	Construction-related Health and Safety Risks	• Number of accidents and incidents	• Accidents and incidents reporting	Monthly	▪ Regal Hospitality

No.	Potential Impact	Performance Indicator	Method	Frequency of Measurement	Respons-ibility
5.	Traffic Congestion	• Number of traffic accidents and incidents • Traffic management plan in place	• Accidents and incidents reporting	Quarterly	▪ Regal Hospitality
6.	Crime and Security	• Increased cases of alcohol and drug abuse, theft, and crime in general	• Review of reported cases	Annually	▪ Regal Hospitality
7.	Benefits to National Economy	• Efficient and transparent tax collection mechanisms in place • Tax collected	• Routine inspection and review of company's records and meeting minutes	Annually	▪ Regal Hospitality ▪ Local authorities ▪ Department of internal revenue
8.	Employment Opportunities	• % of local employees as % of total operation workforce • % of local women employed as % of total construction workforce	• Review of company's records	Annually	▪ Regal Hospitality
9.	Benefit to Local Economy	• Estimates of local products sold to the project • Entrepreneurial activities associated with the project	• Review of company's records • interviews with local authorities and entrepreneurs	Annually	▪ Regal Hospitality

No.	Potential Impact	Performance Indicator	Method	Frequency of Measurement	Respons-ibility
10.	Improved Services and Community Development Potential	• CSR programs in place • Changes in overall development	• Reviews of effectiveness of CSR programs • Consultations	Annually	▪ Regal Hospitality ▪ Local community
11.	Pressure on Social Services and Utilities	• Strategies for saving water resources implemented • Effective garbage management and housekeeping practices in place	• Routine inspection	Annually	▪ Regal Hospitality
12.	Fire Outbreak Risk	• Training programs of Fire service personnel of the company implemented • Records of collaborated activities with regional fire brigade	• Reviews of training programs • Review of company's records	Quarterly	▪ Regal Hospitality ▪ Regional fire brigade
13.	Traffic Congestion	• Number of traffic accidents and incidents • Traffic management plan in place	• Accidents and incidents reporting	Quarterly	▪ Regal Hospitality

5.5. Records Keeping

Record keeping and reporting of performance is an important management tool for ensuring sustainable operation. Records should be maintained for regulatory, monitoring and operational issues. Typical record keeping requirements for the site is summarized in Table 34.

Table 33. Record Keeping Requirements

Parameter	Particulars	Frequency	Reporting
Increased in traffic	- Records of road accidents in 73th Road from Police Station (CMTS)	Monthly	To Board of Directors of Regal Hospitability Co. Ltd. through project management group
Blocking of drainage system	- Recorded Photos of drainage system along the along the drainage system to Ko-Lan-Bo main drain	Quarterly	〃
Workers' safety and health	- Log book of compliance - Employee environmental, health and safety records	Monthly	〃
Fire outbreak	- Records of fire outbreak directly or indirectly correlate with hotel project	Annually	〃

5.6. Reporting of Monitoring Results

To facilitate the monitoring process, various reporting mechanisms should be put in place such as:

- Reporting monitoring audit on a yearly basis to regional and local authorities, department of environmental conservation, and local representatives
- Disseminating monitoring results to the community via Regal Hospitality's newsletter and website

An annual reporting mechanism will be through a social audit which will review impacts and develop measures to mitigate them in the following year of project implementation. Township general administration office will also have a register for the complaints and issues raised by the community members. Results of sample measuring and analyzing will be recorded in files to monitor and audit. Monitoring will be carried out strictly as required

by the related national regulations and the monitoring results of required parameters should be reported to local authorities monthly and copies to ECD (Mandalay), MCDC (Mandalay) and representatives of local communities.

6. PUBLIC CONSULTATION AND PARTICIPATION PROCESS

Local communities should also participate in CSR development planning. This empowers local people so that they regard the development projects as their own. Community involvement in hotel construction also reduces the impact of uncertainties and stress caused by construction. Thus, bottom up planning is necessary for the achievement of sustainable development. Therefore, the local community should actively participate in the development of planning of Pullman Hotel.

Stakeholder consultations and public meetings were carried out to gain better understanding of the past and present socioeconomic conditions of the project vicinity and key social issues faced by the local people, to seek input from the public as to the ways to reduce negative impacts and to increase positive outcomes of the project, and to invite the affected and interested public into the decision-making process to foster justice, equity and collaboration.

6.1. Stakeholder Identification

The following communities, authorities and NGOs can be considered as key stakeholders who are directly or indirectly related to the hotel project.

(a) Regal Hospitability Co. Ltd. ;
(b) Local People
  - Myothit (1) Ward,
  - Myothit (2) Ward,
  - Owners of shop houses within the complex,
(c) Local Administration Office (CMTS);
(d) Environmental Conservation Department (Mandalay);
(e) Mandalay City Development Committee;
(f) MOEP (CMTS);
(g) Department of Public Health (CMTS);
(h) Fire Station (CMTS); etc.

6.2. Public Consultations

In this study, effective public consultation and participation approaches in the form of stakeholder identification, public meetings and stakeholder consultations were conducted.

Different techniques of consultation with public were used during project preparation (interviews, public meetings, group discussions, etc). Record photos during social survey are shown in Appendix I.

The following methodologies have been used for carrying out public consultation:

(a) Local communities, individuals, and owners and employees of commercial establishments who are directly or indirectly affected were given priority while conducting public consultation.
(b) Walk-through informal group consultations were held in the proposed project area.
(c) The local communities were informed through public consultation, with briefing on project interventions, including its benefits.

6.3. Focus Group Discussions

Focus group discussions were carried out with quarter chiefs and elders both from Myothit (1) and (2) Wards. Through these discussions, information was collected for consideration of PAPs (Project Affected Persons).

6.4. First Public Meeting

First public meeting was made in (4.4.2015). There were about 150 people from local authorities, communities, NGOs and INGOs, and those who are directly or indirectly affected by the proposed project are attended in this meeting. The aim of first public meeting is to announce the process and procedure of SIA team and to discuss about these things. Recorded photos for first public meeting are shown in Appendix II, attendance list are shown in Appendix III and key discussion during meeting are shown in Appendix IV.

6.5. Second Public Meeting

Second public meeting was hold in (13.9.2015) and about (145) people are attended in second public meeting. The aim of second public meeting is to announce-the anticipated socio-economic impacts of proposed projects and to discuss about mitigation measures for these impacts. Recorded photos for second public meetings are shown in Appendix V, attendance list are shown in Appendix VI and key discussion during are shown in Appendix VII.

6.6. Public Disclosure

Meeting minutes from first public disclosure (See in Appendix IV), summary of ESIA report (See in Appendix VIII) are distributed to all key stakeholders as public disclosure process. Softcopy (CD) of meeting minutes of first public meeting and summary of ESIA report are also distributed in second public meeting.

7. CORPORATE SOCIAL RESPONSIBILITY (CSR) PROGRAM

The following CSR program is proposed to Regal Hospitability Co., Ltd.

7.1. CSR Officer (or) Coordinator

Regal Hospitability Co., Ltd. should assign permanent CSR officer (or) Coordinator to closely relate with local people and to manage the contributions of CSR fund effectively. As only a monetary contribution will have a potential to some social problem within the different groups in villages and CSR officer should manage the contribution fund after the discussion with all of the groups of local people.

7.2. CSR Fund

Regal Hospitability Co., Ltd agrees to set up at least 0.5 percent of annual net profit as CSR fund and they granted annual environmental conservation and monitoring costs will not include in this CSR fund. It is important to CSR activities should be accomplished not only by financial assistance but also by technical assistance and manpower in some cases. Allocated per cent of CSR budget of Regal Hospitability Co., Ltd. are as follow:

Table 34. Budget Allocation of CSR Programs

No.	Activities	Allocated per cent of CSR budget	Most local people requirements by primary data collection	
			No (1) Ward	No (2) Ward
1.	Establishing public libraries for local community	15%	-	-
2.	Building health clinics for local community	25%	-	-
3.	Construction of roads, bridge and	20%	-	Yes

	canals for improving drainage			
4.	Establishing day-care centers and educational foundations	20%	-	-
5.	Electrification of surrounding residential areas	20%	Yes	-
Total		100%		

According to the table, the most public needs that resulted from household survey is improving drainage system within Myothit Ward (2) and electrification of Thazin road in Myothit Ward (1). Their needs are in convening with the budget allocation policy of Regal Hospitability Co., Ltd.

7.3. Proposed CSR Activities

The following are the proposed CSR activities for Regal Hospitability Co. Ltd. to retain good relationship with local communities and to ensure socially responsible project.

1) Improve to Health Care Facilities
2) Improve to Fire Fighting Capacity
3) Improve to Internal Drainage System within Myothit Ward (2)
4) Participating Government Schemes for Social Welfare
5) Cooperation with NGOs and INGOs

7.3.1. Improve to Health Care Facilities

According to social survey, public health care facilities for CMTS Township are insufficient for local people. So, health care facilities of proposed hotel project should be assessed to nearest local people with reasonable charge. Lectures, workshops as well as seminars related to health and hygiene in its premises as well as at nearby quarters should be held to create public awareness about health and hygiene.

7.3.2. Improve to Fighting Local Fighting Station

According to secondary data collection, fire fighting capacity of CMTS Township is not sufficient to additional buildings. So, Regal Hospitability Co., Ltd should extend the fire fighting facilities for Mingalar Mandalay Stadium to nearest residents.

7.3.3. Contribution to Improvement of Drainage System

According to social survey, most of the internal drainage systems within Myothit Ward (2) is blocked. It is a big problem for people in Myothit Ward (2) due to the impact of odour and potential to increase the breeding of mosquitos. So, Regal Hospitability CO. Ltd. should donate the improvement of internal drainage system with necessary technical and financial assistances.

7.3.4. Participating Government Schemes for Social Welfare

Regal Hospitability Co., Ltd. should actively participate in implementation of government schemes for welfare of the society of the CMTS region.

7.3.5. Cooperation with NGOs and INGOs

Red Cross Association, World Vision, PSI, and Marie Stope have been activating in many social activities (health and social welfare) in CMTS and the whole Mandalay Region. Regal Hospitability Co., Ltd. should cooperate with these NGOs in the activities to improve health care facilities and social welfare for the people in CMTS Region.

7.4. Declaration of CSR Program

All of the CSR activities and contribution programs should be declared to public by means of local media, company annual report or company's website on a regular basis. Audit on CSR fund should be conducted together with environmental and social monitoring audit through independent external audit team for transparency.

8. CONCLUSIONS

According to the social impact assessment and key findings from the study, the development of Pullman Hotel will have both positive and negative socio-economic impacts for local communities, especially in Myothit (1) and Myothit (2) Wards. All of the socio-economic impacts resulting from construction and operation of Pullman Hotel can be mitigated by proper mitigation measures as described in this report to acceptable levels. The beneficial economic impacts of the project can also be enhanced by developing job opportunities and CSR program. Job opportunities have the potential to boost local household incomes through insuring constant supply of salary for employees throughout

the year. Further, infrastructures will develop as a way of diversifying economic activities in the study area. This will result in an expansion in income generating activities and help improve community health thereby contributing to the achievement of the CSR program. The development of camping sites, restaurants and other leisure facilities can promote tourism and also expand the market for local products. The development of tourism will also provide employment for the growing number of unemployed people in the area. Thus, the development of hotel-based tourism has the potential to act as a catalyst for economic growth in the area. So, it can be concluded that the proposed hotel project has suitable benefits to local people together with not significant adverse impacts.

9. RECOMMENDATIONS

To better run the hotel project in the long term, it is needed to decrease the environment al and social impact while shaping the hotel project to succeed. On the other hand, it is also needed to boost the possible benefits that can have in construction and operation of hotel project. Fundamentally, the below observations should be emphasized to carry out.

(a) Avoid off-site nuisance or interference with amenity, such as increased in traffic congestion and road accidents. It is one of the most public concerns during public meetings;
(b) Provide job opportunities for local people as much as feasible and provide job training programs for local people before the announcements of job opportunities;
(c) Make sure there is no blockage along the drainage system to dispose waste water from hotel project; and
(d) Appoint CSR coordinator and declare the contribution of CSR program to pubic throughout company's website and/or other feasible ways regularly.

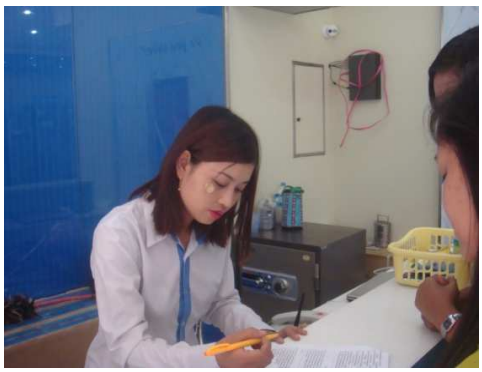
APPENDIX I

RECORDED PHOTOS DURING HOUSEHOLD SURVEYS










APPENDIX II

RECORDED PHOTOS FOR FIRST PUBLIC MEETING

APPENDIX III

ATTENDED LISTS FOR FIRST PUBLIC MEETING

Pullman Hotel လုပ်ငန်းစီမံကိန်းနှင့် ပတ်သက်၍
ရှင်းလင်းဆောင်တွင် အစည်းအဝေးတက်ရောက်သူများစာရင်း

4.4.2015

စဉ်	အမည်/[illegible]	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁	[illegible]	09. 5006189	[illegible]	Mingalar Mandalay
၂	Dr. [illegible]	09-43106929	[illegible]	SIA Team
၃	Dr. [illegible]	09451235775	[illegible]	SIA Team
၄	[illegible]	095193868	[illegible]	New Star light.
၅	[illegible]	09 33109814	[illegible]	
၆	[illegible]	[illegible]	[illegible]	[illegible]
၇	[illegible]	09·43189260.	[illegible]	"
၈	[illegible]	09·797137136	[illegible]	"
၉	[illegible]	09. 402529836	[illegible]	"
၁၀	[illegible]	09. 2010047		
	[illegible]	09 420078506	[illegible]	
	[illegible]	09.2010047	[illegible]	
	[illegible]	092010047	[illegible]	
	[illegible]	09-40 2601134	[illegible]	New Star light
	[illegible]	09. 259061676	[illegible]	[illegible]

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ရှင်းလင်းဆောင်တွင် အစည်းအဝေးတက်ရောက်သူများစာရင်း

4.4.2015

စဉ်	အမည်/[illegible]	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
.	Daw [illegible] Hla Ministry of Hotels Tourism [illegible]	66231/ 09. 402574179	[illegible]	
2.	Daw Sae Sae Aung.	09. 978080463.	[illegible]	
3.	[illegible]		[illegible]	
4.	Thazin Htwe.	09. 797113384	[illegible]	
5.	[illegible]		[illegible]	
6	[illegible]	09. 259202269	[illegible]	
7	[illegible]	09. 973505901	[illegible]	
8	[illegible]	09 256121744	[illegible]	
9	[illegible]	09 256121717	[illegible]	
10.	[illegible]	[illegible]	[illegible]	
11	[illegible]	259740400	[illegible]	
12	[illegible]	09-43146[illegible]	[illegible]	
	[illegible]			
13	[illegible]		[illegible]	
	[illegible]		[illegible]	[illegible]

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4.4.2015

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၅	[illegible]	[illegible]	[illegible]	
၆	[illegible]	[illegible]	[illegible]	
၇	[illegible]		[illegible]	
၈	[illegible]	[illegible]	[illegible]	
၉	[illegible]	[illegible]		
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၁၁	[illegible]	[illegible]	[illegible]	
၁၂	[illegible]	01 256329716	[illegible]	
၁၃	[illegible]	09979836790	[illegible]	
၁၄	[illegible] Home Co.,Ltd	09 420252192	[illegible]	
၁၅	[illegible]	33209399	[illegible]	

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4.4.2015

စဉ်	အမည်/[illegible]	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
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17	[illegible]	09-30652301	[illegible]	[illegible]
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19	[illegible]	09 91010762	[illegible]	[illegible]
20	[illegible]	09-43209509	[illegible]	[illegible]
21	[illegible]	09.31013417	[illegible]	
22	[illegible]	09.2009839	[illegible]	[illegible]
23	[illegible]	09-402705446	[illegible]	Winner, Manager
24	[illegible]	09-255560600	[illegible]	[illegible]
25	[illegible]	09-797333121	[illegible]	[illegible]
26	[illegible]	09-33046659	[illegible]	[illegible]
27	[illegible]	09-259224274	[illegible]	[illegible]
28	[illegible]		[illegible]	
30	[illegible]		[illegible]	

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4.4.2015

စဉ်	အမည် / [illegible]	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
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၂	[illegible]	-	[illegible]	
၃	[illegible]	-	[illegible]	
၄.	[illegible]	၀၉-259728533	[illegible]	
၅.	ဦး [illegible]	[illegible]	[illegible]	
၆.	ဦး [illegible]	[illegible]	[illegible]	
၇.	ဦး [illegible]	၀၉-[illegible]	[illegible]	
၈.	ဦး [illegible]	၀၉-[illegible]	[illegible]	
၉	[illegible]	09-259005534	[illegible]	
၁၀	[illegible]	09-2558449992	[illegible]	
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၁၂	ဦး [illegible]	09-8760965	[illegible]	
၁၃	[illegible]	-	[illegible]	
၁၄	[illegible]	09 25922817၁	[illegible]	

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4.4.2015

စဉ်	အမည် / [illegible]	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁	Dr. [illegible]	09-402675825	[illegible]	
၂	ဦး [illegible]	09-71222448	[illegible]	
၃	ဦး [illegible]	09-5081451	[illegible]	
၄	ဦး [illegible]	09-400031317	[illegible]	
၅	ဦး [illegible]	09-421115584		
၆	Dr. [illegible]	09-42159[illegible]	[illegible]	
၇	Dr. [illegible]	09-430130[illegible]	[illegible]	
၈	ဦး [illegible], MCDC	09-2003808	[illegible]	
၉	[illegible]	09-975[illegible]	[illegible]	
၁၀	ဦး [illegible]	09-250251390	[illegible]	
	ဦး [illegible]	09-5164049	[illegible]	
၁၂	[illegible] Escort	09 43146123	[illegible]	
၁၃	[illegible] Escort	09-31507419		
၁၄	ဦး [illegible]	09-45080080	[illegible]	
၁၅	[illegible]	09-402593456	[illegible]	

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4.4.2015

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၅	[illegible]	09·795787920	Thwe	
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4.4.2015

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4.4.2015

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၁	[illegible]	09·7022952	[signature]	[illegible] (၁)
၂	[illegible]	092560026944		
၃	[illegible]		[signature]	
	[illegible]		[signature]	[illegible] (၁)

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4.4.2015

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၁.	[illegible] (၁)	09-428322800	[signature]	
၂.	[illegible] (၁)	09-4440414380	[signature]	
၃.				

APPENDIX IV

KEY DISCUSSIONS FROM FIRST PUBLIC MEETING

စဉ်	တင်ပြဆွေးနွေးသူ / အဓိကဆွေးနွေးချက်များ
၁။	***ဦးဇင်မင်းဆွေ (Director ၊ Regal Hospitality Co. Ltd.)*** **တင်ပြ (၁)** Pullman Hotel တည်ဆောက်ခြင်းနှင့်ပက်သက်၍ မြန်မာနိုင်ငံသားပိုင် Regal Hospitability Co. Ltd.မှပိုင်ဆိုင်ပြီးနိုင်ငံခြားမှပညာရှင်များစွာ ဖြင့်ဆောက်လုပ်ခြင်းဖြစ်ကြောင်း၊ အထပ် (၁၈)ထပ်နှင့်မြေအောက်ခန်း(၁)ထပ်ပါရှိကြောင်း၊ မြေ(၄)ဧကကျော်အသုံးပြုတည်ဆောက်မည်ဖြစ်ကြောင်း၊ ပါဝင်မည့် အခန်းဖွဲ့စည်းပုံများအကြောင်း၊ အတွင်းပိုင်းဖွဲ့စည်းပုံများတွင်မြန်မာမှုများအားထည့်သွင်းထားကြောင်း၊ အခန်း (၃၅၈)ခန်းပါဝင်မည်ဖြစ်ကြောင်း၊ **တင်ပြ (၂)** ကြယ်ငါးပွင့်အဆင့်မြင့်ဟိုတယ်ဖြစ်ကြောင်း၊ ဟိုတယ်တည်ဆောက်ရန်မြေနေရာမရှင်းလင်းမှီ သစ်ပင် (၂)ပင်သာရှိကြောင်း၊ ဟိုတယ်စတင်တည်ဆောက်စဉ်ကပင်သစ်ပင်ထောင်ချီ၍ စိုက်ပျိုးခဲ့ပြီးဆက်လက်၍လည်းမြန်မာရေမြေဒေသနှင့်ကိုက်ညီသောသစ်ပင်များဆက်လက်စိုက်ပျိုးလျက်ရှိကြောင်း၊ **တင်ပြ (၃)** မြေအောက်ရေဆိုးထုတ်စနစ်၊ မြေအောက်လျှပ်စစ်သွယ်တန်းခြင်းစနစ်အစရှိသည်တို့အားလည်း ရှေ့ဆောင် စီမံကိန်းအနေဖြင့် တစ်ဆက်တစ်စပ်တည်းအကောင်အထည်ဖော်ဆောင်ရွက်သွားမည်ဖြစ်ကြောင်း၊ကိုယ်ပိုင်ဓါတ်အားခွဲစနစ်ပါရှိကြောင်း၊ရေဆိုးထုတ်စနစ်နှင့်ပက်သက်ပြီးမိုးရေနှင့်ရေဆိုးအားသတ်သတ်စီခွဲခြားစွန့်ထုတ်သွားမည်ဖြစ်ကြောင်း၊မြောင်းများထဲသို့တိုက်ရိုက်စွန့်ပစ်သွားမည်မဟုတ်ပဲ တစ်နာရီ တန်(၅၀)ကျ ရေဆိုးသန့်စင်သည့်စနစ် ဖြင့် အရင်သန့်စင်ပြီးမှ ကိုလံဘိုမြောင်းထဲသို့စွန့်ပစ်သွားမည်ဖြစ်ကြောင်းတင်ပြဆွေးနွေးသွားပါသည်။
၂။	***ဦးစိန်သောင်းဦး (Chairman, GMES Co. Ltd.)*** **တင်ပြ (၁)** ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းလုပ်ငန်းစဉ်များ လုပ်ဆောင်ရခြင်းရည်ရွယ်ချက်၊ ထိခိုက်မှုဆန်းစစ်ခြင်း လုပ်ဆောင်သွားမည့် လုပ်ငန်းစဉ်များအကြောင်း၊ ပြည်သူလူထုအားချပြရန် လိုအပ်သည့်အကြောင်း၊ စီမံကိန်းဆိုင်ရာအချက်အလက်များအပေါ်ဆန်းစစ်လျက်ရှိပြီး သုံးရေရရှိမှု၊ ရေမြောင်းထားရှိမှုအနေအထား၊ ရေဆိုးသန့်စင်မှု၊ အရည်နှင့်အစိုင်အခဲပစ္စည်းစွန့်ပစ်မှုစနစ်၊မီးဘေးလုံခြုံမှုစနစ်၊ ယာဉ်ကျော်ပိတ်ဆို့ခြင်းမှကာကွယ်ထားရှိမှုစနစ်အစရှိသည်တို့အားဆန်းစစ်လုပ်ဆောင်သွားမည်ဖြစ်ကြောင်း၊ တွေ့ရှိချက်များ၊ လျော့နည်းသက်သာအောင်လုပ်ဆောင်ရမည့်နည်းလမ်းများ၊ စောင့်ကြည့်လေ့လာရေးအစီအစဉ်များ အားနောက်တွေ့ဆုံပွဲတွင်တင်ပြသွားမည်ဖြစ်ပါကြောင်းဆွေးနွေးသွားပါသည်။ **တင်ပြ (၂)** ဆက်လက်ပြီးဟိုတယ်တည်ဆောက်ခြင်းလုပ်ငန်းကြောင့်ဖြစ်ပေါ်နိုင်သည့်ထိခိုက်မှုများအကြောင်းအနှစ်ချုပ်နှင့်ဟိုတယ်စီမံခန့်ခွဲမှုနှင့်ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးလုပ်ဆောင်ချက်အချို့ဆက်စပ်နေမှုများအကြောင်းတင်ပြဆွေးနွေးသွားပါသည်။

၃။	*ဒေါက်တာကျော်စွာတင့် (Team Leader, SIA Group)* **တင်ပြ (၁)** စက်မှုလုပ်ငန်းများတွင် လူမှုစီးပွားထိခိုက်မှုဆန်းစစ်ခြင်းလုပ်ငန်းစဉ်များလိုအပ်ပုံ၊ လုပ်ဆောင်ရမည့်အဖွဲ့အစည်းတွင်ရှိရမည့်ကျင့်ဝတ်များ၊ရရှိလာနိုင်မည့်အကျိုးကျေးဇူးများ၊ ပူးပေါင်းပါဝင်ဆောင်ရွက်ရမည့် အဖွဲ့အစည်းများစသည်ဖြင့်ဆွေးနွေးတင်ပြသွားပါသည်။ **တင်ပြ (၂)** ဆက်လက်ပြီး Pullman Hotel တည်ဆောက်ခြင်းလုပ်ငန်းနှင့်ပက်သက်၍ လူမှုဝန်းကျင် ထိခိုက်မှုဆန်းစစ်ခြင်း လုပ်ဆောင်မည့် ဧရိယာအကျယ်အဝန်း၊ ကွင်းဆင်းဆောင်ရွက်မှုများ၊ စီမံကိန်းအပေါ်သဘောထား၊ ဒေသခံလူထုစိုးရိမ်မှုများ၊လိုလားချက်များအစရှိသည်များအားဆွေးနွေးတင်ပြသွားပါသည်။

တွေ့ဆုံပွဲအတွင်းတက်ရောက်လာသူများမှဆွေးနွေးချက်များနှင့်သက်ဆိုင်သူများမှပြန်လည်ဖြေကြားချက်များ

စဉ်	ဆွေးနွေးသူ / အဓိကဆွေးနွေးချက်များ	ပြန်လည်ဖြေကြားသူ/ဖြေကြားချက်
၄။	*ဦးအောင်ကျော်စိုး (မြို့နယ်အုပ်ချုပ်ရေးမှူး၊ ချမ်းမြသာစည်မြို့နယ်)* **ဆွေးနွေး(၁)**ယခုကဲ့သို့ဒေသခံလူထုနှင့်တွေ့ဆုံသဘောထားရယူပြီးဆွေးနွေးပြီး လုပ်ဆောင်သည့်အတွက်ကြိုဆိုပါကြောင်း၊ ဟိုတယ် ရေဆိုးအားသန့်စင်ပြီးမှစွန့်ပစ်မည်ဖြစ်သော်လည်းရေဆိုးစီဆင်းရာလမ်းတစ်လျှောက်တွင်တင်ကျန်နေနိုင်သဖြင့်ရေဆိုးစွန့်လွှတ်ရာအဆုံးထိသန့်စင်စွာစွန့်လွှတ်နိုင်ရန်စီစဉ်သင့်ကြောင်း၊ **ဆွေးနွေး(၂)** ယာဉ်အရေအတွက်တိုးပွားလာနိုင်သဖြင့် ယာဉ်ကြောပိတ်ဆို့မှုကိုပါထည့်သွင်းစဉ်းစားစေလိုကြောင်းဆွေးနွေးသွားပါသည်။	*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)* **ဖြေ(၁)** စီမံကိန်းမှစွန့်ပစ်မည့်ရေဆိုးများအားသန့်စင်စက်ဖြင့်သန့်စင်ပြီးမှပြင်ပရေမြောင်းဖြင့် ပူးပေါင်းစေပြီး ကိုလံဘိုမြောင်းအတွင်းသို့ စီးဆင်းသွားစေမည်ဖြစ်ကြောင်း၊ ရက်ကွက်များအတွင်း ရေမြောင်းပိတ်ဆို့မှုများအား လုပ်ဆောင်ပေးရန်အခက်အခဲရှိပါကြောင်း နှင့် စီမံကိန်းမှရေ နှင့် ရပ်ကွက်များအတွင်းမှရေများပူးပေါင်းပြီးကိုလံဘိုမြောင်းအတွင်းစီးဆင်းရာလမ်းတစ်လျှောက်ရေစီးရေလာကောင်းစေရန်အတွက်မူစီမံဆောင်ရွက်သွားမည်ဖြစ်ကြောင်းဆွေးနွေးသွားပါသည်။ **ဖြေ(၂)**ယာဉ်ကျော်ပိတ်ဆို့မှုမဖြစ်ပေါ်စေရေးအတွက်စီမံကိန်းဝင်းအတွင်းကားပါကင်လုံလုံလောက်လောက်ထားရှိထားပါကြောင်း၊ဟိုတယ်အဝင်ဝအားလည်းယာဉ်ကြောပိတ်ဆို့မှုဖြစ်တတ်သည့် (၇၃)လမ်းမကြီးတွင် မထားရှိပဲ အနောက်ဘက်တွင်ထားရှိသွားမည်ဖြစ်ပါကြောင်း၊ ဟိုတယ်တွင်လည်း ကိုယ်ပိုင်ကားပါကင် ပါရှိသွားမည်ဖြစ်ပြီး လိုအပ်ပါက တိုးချဲ့တည်ဆောက်သွားမည်ဖြစ်ကြောင်း တင်ပြသွားပါသည်။

၅။	***ဦးအေးဝင်း (ဦးစီးအရာရှိ၊ ရေအရင်းအမြစ်အသုံးချရေးဦးစီးဌာန)*** **ဆွေးနွေး (၁)** ရေထု၊ မြေထု ထိခိုက်မှု ဆန်းစစ်ခြင်းလုပ်ငန်းများ နှင့်ပက်သက်ပြီး အသေးစိတ်ပိုမိုသိရှိလိုပါကြောင်း၊ရေနမူနာကောက်ယူမည့်အစီအစဉ်များ၊ရေဆိုးသန့်စင်သည့်နည်းစနစ်များနှင့်စောင့်ကြည့်လေ့လာသွားမည့်အစီအစဉ်များအား နောက်တွေ့ဆုံဆွေးနွေးပွဲတွင်အသေးစိတ်တင်ပြဆွေးနွေးပေးစေလိုပါကြောင်းတင်ပြဆွေးနွေးသွားပါသည်။	***ဦးစိန်သောင်းဦး (Chairman, GMES Co. Ltd.)*** **ဖြေ(၁)** ရေ၊လေ၊အသံအစရှိသည့် နမူနာများအားကောက်ယူလျက်ရှိပြီး စက်ရုံမတည်ဆောက်မှီနဂိုအရည်အသွေးဖြင့်စံသတ်မှတ်ထားရှိသွားမည်ဖြစ်ပါကြောင်း၊ ရေထုညစ်ညမ်းမှုရှိနိုင်သည့်နေရာများအားဆန်းစစ်သွားမည်ဖြစ်ပြီးစောင့်ကြည့်လေ့လာရေး အစီအစဉ်များဖြင့်စောင့်ကြည့်ထိန်းသိမ်းဆောင်ရွက်သွားစေမည်ဖြစ်ကြောင်းရေသန့်စင်ခြင်းလုပ်ဆောင်မည့်လုပ်ငန်းအသေးစိတ်အားနောက်တွေ့ဆုံပွဲတွင်တင်ပြသွားမည်ဖြစ်ကြောင်းဆွေးနွေးဖြေကြားသွားပါသည်။
၆။	***ဦးခင်မောင်ဇော် (ရုပ်ကွက် ၂ အုပ်ချုပ်ရေးမှူး)*** **ဆွေးနွေး (၁)** စီမံကိန်းမှကိုလံဘိုမြောင်းအတွင်းသို့ရေဆိုးစွန့်ထုတ်သည့်စနစ်သည် မြေအောက်ပိုက်စနစ်လား၊ မြောင်းစနစ်လားသိရှိလိုကြောင်း၊ မြောင်းစနစ်ဖြစ်ပါကရေသည်မြင့်ရာဖြစ်သောအနောက်ဘက်သို့မစီးဆင်းနိုင်သဖြင့်တောင်မြောက်အရပ်သို့မြောင်းဖောက်မှသာအဆင်ပြေနိုင်ကြောင်းဆွေးနွေးသွားပါသည်။	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** စီမံကိန်းအတွင်းတွင် မြေအောက်ပိုက်စနစ်ဖြင့် ရေဆိုးများအားစုပေါင်းပြီးရေဆိုးသန့်စင်စက်ဖြင့် သန့်စင်ပြီး မှ ပြင်ပရေမြောင်း မှတစ်ဆင့် ကိုလံဘိုမြောင်းအတွင်းသို့စွန့်ပစ်ခြင်းဖြစ်ပါကြောင်း၊ စီမံကိန်းအတွင်းမှ သန့်စင်ပြီးရေများ ကိုလံဘိုမြောင်းသို့ စီးဆင်းရာလမ်းတစ်လျှောက်တွင် ရေမြောင်းများချဲ့ခြင်း၊ ဖြောင့်ခြင်းများအားလည်းလုပ်ဆောင်ထားပြီးဖြစ်ပါကြောင်းနှင့် နောက်တွေ့ဆုံပွဲတွင် အသေးစိတ်တင်ပြသွားမည်ဖြစ်ကြောင်း နှင့် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိစေရန် ဆောင်ရွက်သွားမည်ဖြစ်ကြောင်းဆွေးနွေးသွားပါသည်။
၇။	***ဦးသိန်းကျော် (အကွက်မှူး၊ အမှတ်(၁)ရုပ်ကွက်၊ သတင်းထောက်ရုတနာပုံနွေ့စဉ်သတင်းစာ)*** **ဆွေးနွေး (၁)** မြန်မာလိုဘာသာပြန်၍ပြောကြားပေးစေလိုပါကြောင်း၊	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** ဘာသာပြန်ဆိုရန်ခက်ခဲသောစကားလုံးအချို့အားထည့်သွင်းထားမိပါကြောင်းနှင့်မရှင်းလင်းသည်များအားပြန်လည်မေးမြန်းနိုင်ပါကြောင်းဖြေကြားသွားပါသည်။

	ဆွေးနွေး (၂) ဒေသခံများအားအလုပ်အကိုင်အခွင့်အလန်းဖန်တီးပေးခြင်းအားဖြင့် ဒေသအကျိုးအတွင် တစ်ဖက်တစ်လမ်းမှ စွမ်းဆောင်ပေးစေလိုပါကြောင်းတင်ပြဆွေးနွေးသွားပါသည်။	**ဖြေ(၂)** အနီးအနားအရပ်ဒေသမှ စီမံကိန်းကိုယ်ပိုင်မီးသတ်တပ်ဖွဲ့ဝင်နှင့်လုံခြုံရေးလုပ်သားများအဖြစ် ဒေသခံအယောက် (၂၀)ကျော်အားအလုပ်ခန့်ထားပေးပြီးဖြစ်ပါကြောင်း၊ တည်ဆောက်ခြင်း လုပ်ငန်းအတွက် အင်ဂျင်နီယာ ကျောင်းဆင်း (၉၀) ကျော်အား (၁)လသင်တန်း ပေးပြီးဖြစ်ကြောင်း၊ စီမံကိန်းအတွင်းရှိ ဆိုင်ခန်းများ မှလည်း အလုပ်အကိုင်အခွင့်အလန်းများပေးလျက်ရှိပါကြောင်း၊ ဆက်လက်ပြီးကုမ္ပဏီအနေဖြင့်လည်းစံချိန်စံညွှန်းနှင့်ကိုက်ညီသူ ဒေသခံများအားလည်း အလုပ်ပေးရန်လုံးဝဝန်မလေးပါကြောင်း ဆွေးနွေးဖြေကြားသွားပါသည်။
၈။	***ဒေါက်တာမျိုးသန့်ခိုင် (ဒု-တိုင်းကျန်းမာရေးဦးစီးမှူး၊ တိုင်းကျန်းမာရေးဦးစီးဌာန*** **ဆွေးနွေး** (၁) နိုင်ငံတစ်ကာမှအဖွဲ့အစည်းများနှင့်အကြီးအကဲများလာရောက်တည်းခိုနိုင်သဖြင့် ဆေးစောင့်ရှောက်မှုပေးရန်အလွယ်တကူဆက်သွယ်နိုင်သောနေရာတစ်ခုစီစဉ်ပေးပါကကောင်းမွန်မည်ဖြစ်ပါကြောင်း ဆွေးနွေးသွားပါသည်။ **ဆွေးနွေး**(၂)ဟိုတယ်လည်ပတ်ပါကမူလစီမံကိန်းများအတိုင်းလုပ်ဆောင်ခြင်းရှိ/မရှိ ဒေသအဖွဲ့အစည်းများမှ စောင့်ကြည့် လေ့လာသွားမည်ဖြစ်ကြောင်း၊	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** မင်္ဂလာမန္တလေးစီမံကိန်းတစ်ခုလုံးအနေဖြင့်အရေးပေါ်လူနာတင်ယာဉ်ဝယ်ယူထားပြီးဖြစ်ကြောင်း၊စီမံကိန်းအတွင်းကျန်းမာရေးစောင့်ရှောက်မှုအတွက်အခန်းတစ်ခန်းလည်းစီစဉ်သွားမည်ဖြစ်ကြောင်းဆွေးနွေးဖြေကြားသွားပါသည်။ ***ဦးစိန်သောင်းဦး (Chairman, GMES Co. Ltd.)*** **ဖြေ(၂)**သစ်တောရေးရာနှင့်ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဥပဒေအရ စောင့်ကြည့်လေ့လာရေးအစီအမံများရေးဆွဲဆောင်ရွက်သွားမည်ဖြစ်ကြောင်း၊စောင့်ကြပ်ကြည့်ရှုရေးအဖွဲ့အားလည်းဖွဲ့စည်းပေးသွားမည်ဖြစ်ပြီးစောင့်ကြည့်လေ့လာရေးအတွက်ကုန်ကျစရိတ်များအားလည်း အသေးစိတ်ရေးဆွဲ တင်ပြပေးသွားမည်ဖြစ်ကြောင်းဖြေကြားဆွေးနွေးသွားပါသည်။

စာဖြင့်အကြံပြုဆွေးနွေးမှုများနှင့်ပြန်လည်ဖြေကြားချက်များ

စာဖြင့်အကြံပြုဆွေးနွေးချက်များ နှင့် သက်ဆိုင်ရာပုဂ္ဂိုလ်အသီးသီးမှ ပြန်လည်ဖြေကြားချက်များ မှာ အောက်ပါအတိုင်းဖြစ်ပါသည်။ စာဖြင့်ရေးသားမေးမြန်းအကြံပြုစာ (၃၉)စောင်အနက် မေးမြန်းထားသည့်အချက်များကိုသာ တင်ပြထားခြင်းဖြစ်ပါသည်။

စဉ်	အကြံပြုဆွေးနွေးသူ/ဆွေးနွေးချက်များ	ပြန်လည်ဖြေကြားသူ/ဖြေကြားချက်များ
၉။	***ဦးကိုကိုအေး (ညွှန်ကြားရေးမှူး၊ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန၊ မန္တလေးတိုင်းဒေသကြီး)*** **အကြံပြု(၁)** ရေခဲသေတ္တာ၊ အဲယားကွန်းနှင့်ဖရီဇာများတွင် CFC (R-11, R-12) နှင့် HCFC (R-22)အသုံးပြုခြင်းမရှိသည့်ပစ္စည်းများတပ်ဆင်ရန်၊ **အကြံပြု(၂)** EIA Procedures အရလူထုတွေ့ဆုံပွဲများမှာပြုလုပ်ရန်လိုအပ်ပါသည်။	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** အကြံပြုချက်များအတိုင်းလိုက်နာဆောင်ရွက်သွားပါမည်။ ***ဦးစိန်သောင်းဦး (Chairman, GMES Co. Ltd.)*** **ဖြေ(၂)** လူထုတွေ့ဆုံပွဲအား (၂)ကြိမ်ပြုလုပ်သွားမည်ဖြစ်ပါသည်။
၁၀။	***ဒေါက်တာမျိုးသန့်ခိုင် (ဒု-တိုင်းကျန်းမာရေးဦးစီးမှူး၊ တိုင်းကျန်းမာရေးဦးစီးဌာန)*** **အကြံပြု(၁)** Medical counter, Clinic service room/place အားအလွယ်တကူဆက်သွယ်နိုင်သည့်နေရာတစ်ခုတွင်စီမံထားရှိသင့်ပါသည်	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** အမှတ်စဉ် (၅)တွင်ဖြေကြားထားပါသည်။
၁၁။	***ဦးအောင်ကျော်စိုး (မြို့နယ်အုပ်ချုပ်ရေးမှူး၊ ချမ်းမြသာစည်မြို့နယ်)*** **အကြံပြု(၁)** ဟိုတယ်မှစွန့်ပစ်ရေများနှင့်အနီးပါတ်ဝန်းကျင်မှစီးဆင်းလာသောရေများအားနည်းလမ်း (၁) (၂) သုံး၍ ရေစီးရေလာကောင်းအောင်ဆောင်ရွက်သင့်ပါကြောင်း၊ **အကြံပြု(၂)** ဒေသခံပြည်သူများ အလုပ်အကိုင်အခွင့်အလန်းရရှိစေရန်ဆောင်ရွက်ပေး စေလိုကြောင်း၊ **အကြံပြု(၃)**ပတ်ဝန်းကျင် လူသား အရင်းအမြစ်ဖွံ့ဖြိုးရေးအတွက် စာ	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** အမှတ်စဉ် (၄)တွင်ဖြေကြားထားပါသည်။ **ဖြေ(၂)** အမှတ်စဉ် (၇)တွင်ဖြေကြားထားပါသည်။ **ဖြေ(၃)** အကြံပြုချက်များအတိုင်းလိုက်နာဆောင်ရွက်သွားပါမည်။

	ကြည့်တိုက်(သို့)ကွန်ရေတာအခန်းဆောင်ရွက်ပေးစေလိုကြောင်း အကြံပြုထားပါသည်။	
၁၂။	***ဦးကိုကိုဦး (မြို့နယ်အထောက်အကူပြုကော်မတီ)*** **အကြံပြု(၁)**တည်ဆောက်ရေးကာလတွင်လုပ်ငန်းခွင်သုံးယာဉ်များစနစ်တကျသွားလာပြီး ယာဉ်ကျော်ပိတ်ဆို့မှုမဖြစ်စေရန်အလေးထားဆောင်ရွက်ပေးပါရန်၊ **အကြံပြု(၂)**တည်ဆောက်ရေးလုပ်ငန်းခွင်တွင်လည်းဒေသခံအလုပ်သမား၊ လက်သမား၊ သံခြီသံကွေးအဖွဲ့များကို ဦးစားပေးခေါ်ယူပေးပါရန်၊	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** အကြံပြုချက်များအတိုင်းလိုက်နာဆောင်ရွက်သွားပါမည်။ **ဖြေ(၂)** ဦးစားပေးအစီအစဉ်ဖြင့်စဉ်းစားဆောင်ရွက်သွားပါမည်။
၁၃။	***ဦးအေးဝင်း (ဦးစီးအရာရှိ၊ ရေအရင်းအမြစ်အသုံးချရေးဦးစီးဌာန)*** **အကြံပြု(၁)**စောင့်ကြည့်မည့်စနစ်နှင့်စစ်ဆေးမည့်စနစ်များအားအသေးစိတ်ရှင်းလင်းပြီး ဖြန့်ဝေပေးစေလိုပါသည်။ **အကြံပြု(၂)** ကုစားလျော့ချမည့် နည်းစနစ်များအားလည်း ရှင်းပြဖြန့်ဝေပေးစေလိုပါသည်။	***ဦးစိန်သောင်းဦး (Chairman, GMES Co. Ltd.)*** **ဖြေ(၁)** အမှတ်စဉ် (၅)တွင်ဖြေကြားထားပါသည်။ **ဖြေ(၂)** အမှတ်စဉ် (၅)တွင်ဖြေကြားထားပါသည်။
၁၄။	***ဦးနန်းမြင့် (ရပ်ကွက်အုပ်ချုပ်ရေးမှူး၊ အမှတ် ၁ ရပ်ကွက်)*** **အကြံပြု(၁)**ပတ်ဝန်းကျင်နှင့်ဒေသခံများအားအကျိုးပြုသော Hotel ဖြစ်ရန်အကြံပြုလိုပါသည်။	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** ကြိုးစားဆောင်ရွက်သွားပါမည်။
၁၅။	***ဦးနေမျိုးကျော် (အကွက်မှူး၊ မြို့သစ် ၁ ရပ်ကွက်)*** **အကြံပြု(၁)** ဝန်ထမ်းများအား နိုင်ငံတစ်ကာအဆင့်မှီလစာပေးစေလိုပါသည်။	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** သတ်မှတ်ချက်များနှင့်အညီလုပ်ဆောင်ပေးသွားမည်ဖြစ်ပါသည်။

၁၆။	***ဦးမင်းမြတ်နိုး (အကွက်မှူး၊ မြို့သစ် ၁ ရပ်ကွက်)*** **အကြံပြု(၁)** ဒေသခံ ရပ်ကွက်အတွင်းရှိ ဝန်ထမ်းများအား ဦးစားပေးခန့်ထားပေးပါရန်၊	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** အမှတ်စဉ် (၇)တွင်ဖြေကြားထားပါသည်။
၁၇။	***ဦးသိန်းကျော် (အကွက်မှူး၊ မြို့သစ် ၁ ရပ်ကွက်၊ သတင်းထောက်)*** **အကြံပြု(၁)** ဟိုတယ်အတွက်လိုအပ်သောလူစွမ်းအားအရင်းအမြစ်အား ဒေသခံများထဲမှ အသုံးပြုပေးစေလိုပါသည်။	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** အမှတ်စဉ် (၇)တွင်ဖြေကြားထားပါသည်။
၁၈၊	***ဦးတင်ဦးလေး (ကွက်စိတ်မှူး၊ အမှတ် ၂ ရပ်ကွက်)*** **အကြံပြု(၁)**နန်းတည်မြို့တွင်တည်ရှိခြင်းကြောင့်မန္တလေးအငွေ့အသက်ရှူးမူမပျက်ပါဝင်သောအရပ်၊ပန်းချီကားများဖြင့်တန်ဆာဆင်ပေးပါရန်၊ **အကြံပြု(၂)**ဆက်စပ်ရပ်ကွက်များအတွင်းနိုင်ငံခြားသားများလာရောက်လည်ပတ်နိုင်ခြင်းကြောင့် လမ်းတံတားများ ကောင်းအောင်ပြုလုပ်ပေးစေလိုကြောင်းအကြံပြုပါသည်။	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** လုပ်ဆောင်ထားရှိသွားပါမည်။ **ဖြေ(၂)** ဒေသခံအာဏာပိုင်များနှင့်ညှိနှိုင်းဆောင်ရွက်သွားပါမည်။
၁၉။	***ဦးမျိုးလှိုင် (အကွက်စိတ်မှူး၊ အမှတ် ၂ ရပ်ကွက်)*** **အကြံပြု(၁)** ဟိုတယ်ဝန်းကျင်တွင်သန့်ရှင်းသန့်ရပ်စေလို	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** အကြံပြုချက်များအတိုင်းလိုက်နာဆောင်ရွက်သွားပါမည်။

၂၀။	***ဦးတင့်သောင် (အထက်တန်းရွှေ နေ၊ အမှတ် ၂ ရပ်ကွက်)*** **အကြံပြု(၁)** ရေဆိုးထုတ်ရာတွင်လမ်းကြောင်းပိတ်ဆို့မှုများမရှိစေရန်၊ **အကြံပြု(၂)** မီးဘေးလုံခြုံရေး၊ အရေးပေါ်ထွက်ပေါက်များ၊ ကိုယ်ပိုင်မီးသတ်ယာဉ်ထားရှိစေလို၊ **အကြံပြု(၃)**လမ်းပိတ်ဆို့မှုမဖြစ်ပေါ်စေရန်နှင့်ယာဉ်အန္တရာယ်မဖြစ်ပေါ်စေရေးစီမံထားရှိရန်၊ **အကြံပြု(၄)** ဒေသခံများအားအလုပ်အကိုင်အခွင့်အရေးပေးပါရန်၊	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** အမှတ်စဉ် (၆)တွင်ဖြေကြားထားပါသည်။ **ဖြေ(၂)** မီးဘေးလုံခြုံရေးအတွက်စီမံချက်ထားရှိထားပြီး၊ ကိုယ်ပိုင်မီးသတ်တပ်ဖွဲ့၊ ကိုယ်ပိုင်မီးသတ်ယဉ်ထားရှိထားပါသည်။ **ဖြေ(၃)** အမှတ်စဉ်(၄)တွင်ဖြေကြားထားပါသည်။ **ဖြေ(၄)** အမှတ်စဉ်(၇)တွင်ဖြေကြားထားပါသည်။
၂၁။	***ဦးသက်ခိုင် (အရောင်းအဝယ်)*** **အကြံပြု(၁)** အဆင့်မြင့်မီးသတ်ယာဉ်ထားရှိပေးပါရန်၊	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** အမှတ်စဉ် (၁၉)တွင်ဖြေကြားထားပါသည်။
၂၂။	***ဦးတင်ထွန်း (ယာဉ်မောင်း၊ မီးသတ်ယာဉ်)*** **အကြံပြု(၁)**မီးသတ်ယာဉ်နှင့်မီးသတ်ပစ္စည်းများပြည့်စုံစွာထားရှိပေးပါရန်၊	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** အမှတ်စဉ် (၁၉)တွင်ဖြေကြားထားပါသည်။
၂၃။	***ဦးစိုးလွင်ဦး (မီးသတ်တပ်ဖွဲ့)*** **အကြံပြု(၁)** မီးသတ်ပစ္စည်းများပြည့်စုံစွာထားရှိပေးပါရန်၊ **အကြံပြု(၂)** ကျန်းမာရေးဝန်ဆောင်မှုများလဲထားရှိပေးစေလို၊	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** အမှတ်စဉ် (၁၉)တွင်ဖြေကြားထားပါသည်။ **ဖြေ(၂)** အမှတ်စဉ် (၈)တွင်ဖြေကြားထားပါသည်။
၂၄။	***ဦးဝင်းထွန်း (မီးသတ်တပ်ဖွဲ့၊ အမှတ် ၂ရပ်ကွက်)*** **အကြံပြု(၁)** မီးသတ်ပစ္စည်းများပြည့်စုံစွာထားရှိပေးပါရန်၊ **အကြံပြု(၂)** ဟိုတယ်ဝန်းထမ်းများအားမီးသတ်သင်တန်းပို့ချပေးပါရန်၊	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** အမှတ်စဉ် (၁၉)တွင်ဖြေကြားထားပါသည်။ **ဖြေ(၂)** လိုက်နာဆောင်ရွက်သွားပါမည်။

၂၅။	***ဦးစိုးမောင် (အကွက်မှူး၊ အမှတ် ၂ ရပ်ကွက်)*** **အကြံပြု(၁)** ဟိုတယ်တည်ဆောက်ခြင်းသည်အထူးကောင်းမွန်ပါသည်။	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** ကျေးဇူးတင်ရှိပါသည်။
၂၆။	***ဦးရဲထက် (အရောင်းအဝယ်)*** **အကြံပြု(၁)** အားလုံးကောင်းမွန်ပါသည်။	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** ကျေးဇူးတင်ရှိပါသည်။
၂၇။	***ဦးမျိုးလှိုင် (အကွက်မှူး)*** **အကြံပြု(၁)** အားလုံးကောင်းပါသည်။ပတ်ဝန်းကျင်တွင်လည်းသန့်ရှင်းရန်လိုအပ်ပါသည်။	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** ကျေးဇူးတင်ရှိပါသည်။ လိုက်နာလုပ်ဆောင်သွားပါမည်။
၂၈။	***ဦးညွန့်ဝေ (အငြိမ်းစား)*** **အကြံပြု(၁)** ဟိုတယ်လုံခြုံရေး နှင့် မီးဘေးအန္တရာယ်အထူးအလေးထားဆောင်ရွက်စေလို၊	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** အမှတ်စဉ် (၁၉)တွင်ဖြေကြားထားပါသည်။
၂၉။	***ဒေါ်ခင်ရီ (မိုခို၊ NGO)*** **အကြံပြု(၁)** ဟိုတယ်အနီးတစ်ဝိုက်တွင်လည်း သန့်ရှင်းရေး နှင့် ကျန်းမာရေးအလေးထားလုပ်ဆောင်ပေးစေခြင်၊	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)** လိုက်နာလုပ်ဆောင်သွားပါမည်။
၃၀။	***ဒေါ်သန္တာအေး (အရောင်းအဝယ်၊ ဆ-၆၊ အမှတ် ၁၄)*** **အကြံပြု(၁)** သဘာဝဝန်းကျင်နှင့်လူမှုဝန်းကျင်မထိခိုက်စေရန်တာဝန်ယူလုပ်ဆောင်ပေးစေလိုကြောင်း၊	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitability ကုမ္ပဏီလိမိတက်)*** **ဖြေ(၁)**ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်လေ့လာရေးအဖွဲ့၏အကြံပြုတင်ပြချက်များအတိုင်းလိုက်နာလုပ်ဆောင်သွားပါမည်။

APPENDIX V

RECORDED PHOTOS OF SECOND PUBLIC MEETING

APPENDIX VI

ATTENDANCE LIST FOR SECOND PUBLIC MEETING

①

Pullman ဟိုတယ် တည်ဆောက်ခြင်းနှင့်ပက်သက်၍ ဒုတိယအကြိမ် လူထုတွေ့ဆုံပွဲတက်ရောက်သူများစာရင်း

နေ့စွဲ - ၁၃-၉-၂၀၁၅

စဉ်	အမည်	ရာထူး/ကိုယ်စားပြုအဖွဲ့အစည်း	ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ်	လက်မှတ်
1	[illegible]	MMC	09.798666470	
2	[illegible]	MMC	09-258[illegible]396	
3	[illegible]	MMC	09-793981641	
4	[illegible]	MMC	09-258944938	
5	[illegible]	MMC	09-265396931	
6	[illegible]	[illegible]	09-[illegible]	
7	[illegible]	[illegible]	09 43054472.	
8	[illegible]	[illegible]	[illegible]	
9	[illegible]	[illegible]	[illegible]	
10	[illegible]	[illegible]	09.[illegible]	

②

Pullman ဟိုတယ် တည်ဆောက်ခြင်းနှင့်ပက်သက်၍ ဒုတိယအကြိမ် လူထုတွေ့ဆုံပွဲတက်ရောက်သူများစာရင်း

နေ့စွဲ - ၁၃-၉-၂၀၁၅

စဉ်	အမည်	ရာထူး/ကိုယ်စားပြုအဖွဲ့အစည်း	ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ်	လက်မှတ်
11	[illegible]	MMC		
12	[illegible]	MMC		
13	[illegible]	MMC		
14	[illegible]	[illegible]		
15	[illegible]	MMC	09.253087643	
16	[illegible]	[illegible]		
17	[illegible]	mmc	09-250029185	
18	[illegible]	mmc	09-401668427	
19	[illegible]	mmc	09.974492767	
20	[illegible]	[illegible]	09/333045333	

(၃)

Pullman ဟိုတယ် တည်ဆောက်ခြင်းနှင့်ပတ်သက်၍ ဒုတိယအကြိမ် လူထုတွေ့ဆုံပွဲတက်ရောက်သူများစာရင်း

နေ့စွဲ - ၁၃-၉-၂၀၁၅

စဥ်	အမည်	ရာထူး/ကိုယ်စားပြုအဖွဲ့အစည်း	ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ်	လက်မှတ်
၂၁	Dr. ထိန်လင်း	THO, Regional Public Health Department	09 2174665	
၂၂	ဦးမြင့်ကျော်	NSL	09 49233650	
၂၃	ဝင်းသန့်ဇော်	MMC	09·36143530	
၂၄	ဦး[illegible]	security · officer	09·256329716	
၂၅	ဦး [illegible]	M I.T C	09. 43072979	
၂၆	ဦး[illegible]ဝင်းမြင့်	MITC	09 262199144	
၂၇	ဦးအောင်[illegible]	MMC	09 ·251038669	
၂၈	ဦးစိုးဦး	MMC/ [illegible]	09·798749659	
၂၉	ဦး[illegible]	MCCCC	09-256108160	
၃၀	ဦး[illegible]မြင့်ဦး	MCCCC	09-976985176	

Pullman ဟိုတယ် တည်ဆောက်ခြင်းနှင့်ပတ်သက်၍ ဒုတိယအကြိမ် လူထုတွေ့ဆုံပွဲတက်ရောက်သူများစာရင်း

နေ့စွဲ - ၁၃-၉-၂၀၁၅

စဥ်	အမည်	ရာထူး/ကိုယ်စားပြုအဖွဲ့အစည်း	ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ်	လက်မှတ်
31	ဦးဥက္ကာဆွေ	MMC	09·257111727	
32	Kyaw Zin Aung	M[illegible]C	[illegible]	
33	ဦးဉာဏ်မြင့်	ကျောင်း[illegible]	[illegible]	
34	ဦးကျော်ဆန်း		09. 4025 84325	
35	ဦးတင်ဆင့်	[illegible]	09. 2006614	
36	ဦးမင်းဇော်	[illegible]	09. 402576904	
37	ဦးသန်းထွန်း	" "	09. 256026966	
38	ဦး[illegible]	" "	09. 33841511	
39	ဦးမြင့်ဆွေ	Winner hotpot. sushi	09260423010	

(၆)

Pullman ဟိုတယ် တည်ဆောက်ခြင်းနှင့်ပတ်သက်၍ ဒုတိယအကြိမ် လူထုတွေ့ဆုံပွဲတက်ရောက်သူများစာရင်း

နေ့စွဲ - ၁၃-၉-၂၀၁၅

စဉ်	အမည်	ရာထူး/ကိုယ်စားပြုအဖွဲ့အစည်း	ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ်	လက်မှတ်
40	[illegible]	P.M. (N.S.L)		[signature]
41	[illegible]	[illegible]		[signature]
42	[illegible]	[illegible]	09402575550	[signature]
43	[illegible]	[illegible]	09.402700303	[signature]
44	[illegible]		09.[illegible]6779	[signature]
45	[illegible]		09-798477611	Aung
46	[illegible]	Actual Image	09-798977633	[signature]
47	Pet Khaing	N.S.L.	09-24562	[signature]
48	[illegible]	[illegible]	09.402632760	[signature]
49	[illegible]	[illegible]	09 4300767	[signature]
50	[illegible]	[illegible]	09 444044380	[signature]
51	[illegible]	〃	09 797184044	[signature]
52	[illegible]	〃	09 797813293	[signature]
53	[illegible]			[signature]
54	[illegible]	〃		[signature]
55	[illegible]	Cameraman	09-798977699	[signature]
56	[illegible]	〃		[signature]
57	[illegible]	〃		[signature]

စဉ်	အမည်	ရာထူး/ကိုယ်စားပြုအဖွဲ့အစည်း	ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ်	လက်မှတ်
58	[illegible]	[illegible]	09-43146384	[signature]
59	[illegible]		09-259673307	[signature]
60	[illegible]	MCCCC	09.403731650	[signature]
61	[illegible]	[illegible]	09.259228852	[signature]

စဉ်	အမည်	ရာထူး/တိုယ်စားပြုအဖွဲ့အစည်း	ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ်	လက်မှတ်
62				

EIASIA ဒုတိယအကြိမ် လူထုအစည်းအဝေးပွဲတက်ရောက်သူများစာရင်း

9

Date- .9.2015

စဉ်	အမည်	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
63				
64				
65				
66				
67	Yati Hsu Mon (Naing Group)			Mingalar Mdy.
68	Than Naing Win (MITC)			MITC.
69	U. Tin Myo Oo			S.P.T ((P.E)
70				
71				
72				
73				
74				

EIASIA ဒုတိယအကြိမ် လူထုအစည်းအဝေးပွဲတက်ရောက်သူများစာရင်း

10

Date- .9.2015

စဉ်	အမည်	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
76				
77				
78				
79	Ma Thuzar Aung	09-265338348		
80				
81		09-257663605		
82		09-259124373		
83		09-977180587		
84				
85				
86				

11

Pullman ဟိုတယ် တည်ဆောက်ခြင်းနှင့်ပတ်သက်၍ ဒုတိယအကြိမ် လူထုတွေ့ဆုံပွဲတက်ရောက်သူများစာရင်း

နေ့စွဲ - ၁၃-၉-၂၀၁၅

	စဉ်	အမည်	ရာထူး/ကိုယ်စားပြုအဖွဲ့အစည်း	ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ်	လက်မှတ်
87	1	Thet Thet Aung	Sales and Marketing	73 လမ်း x [illegible] 09254007779	[signature] 13.9.15
88	2	Tin Aung Kyaw	Environmental Consultant	4/8/6 Hlaing University Campus Parami, Yangon	[signature]
89	3	[illegible]		[illegible]	[signature]
90	4	Si Thu		[illegible]	[signature]
91	5	[illegible]		"	[signature]
92	6	[illegible]		"	[signature]
93	7	[illegible]		"	[signature]
94	8	[illegible]		"	[signature]
95	9	[illegible]		"	[signature]
96	10	[illegible]		"	[signature]

၁၂

Pullman ဟိုတယ် တည်ဆောက်ခြင်းနှင့်ပတ်သက်၍ ဒုတိယအကြိမ် လူထုတွေ့ဆုံပွဲတက်ရောက်သူများစာရင်း

နေ့စွဲ - ၁၃-၉-၂၀၁၅

စဉ်	အမည်	ရာထူး/ကိုယ်စားပြုအဖွဲ့အစည်း	ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ်	လက်မှတ်
97	[illegible]	[illegible]		[signature]
98	[illegible]	"		[signature]
99	[illegible]	"		[signature]
100	[illegible]	"		[signature]
101	[illegible]	"		[signature]
102	[illegible]	"		[signature]
103	[illegible]	"		[signature]
104	[illegible]	"		[signature]
105	[illegible]	NSL		[signature]

13

Pullman ဟိုတယ် တည်ဆောက်ခြင်းနှင့်ပတ်သက်၍ ဒုတိယအကြိမ် လူထုတွေ့ဆုံပွဲတက်ရောက်သူများစာရင်း

နေ့စွဲ - ၁၃-၉-၂၀၁၅

	စဉ်	အမည်	ရာထူး/ကိုယ်စားပြုအဖွဲ့အစည်း	ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ်	လက်မှတ်
106	၁	Aye Zaw		[illegible] 0940251136	[signature]
107	၂	Thone Myint Thein		[illegible] 09-797441850	[signature]
108	၃	ဦးမြင့်ဆွေ			[signature]
109	၄	တင်အောင်		09-25746790	[signature]
110	၅	[illegible]	ဦးစီးအရာရှိ / Planning Department	09 2033073	[signature]
111	၆	[illegible]		09-402601134	[signature]
112		[illegible]		မြို့သစ် (၃)	[signature]
113		ဦးနိုင်ဝင်းထွန်း	[illegible]	256026868	[signature]
114		[illegible]		Shophouse	[signature]
115		[illegible]	[illegible]	[illegible]	[signature]

14

Pullman ဟိုတယ် တည်ဆောက်ခြင်းနှင့်ပတ်သက်၍ ဒုတိယအကြိမ် လူထုတွေ့ဆုံပွဲတက်ရောက်သူများစာရင်း

နေ့စွဲ - ၁၃-၉-၂၀၁၅

	စဉ်	အမည်	ရာထူး/ကိုယ်စားပြုအဖွဲ့အစည်း	ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ်	လက်မှတ်
116	၇	[illegible]	[illegible]	09-8730119 M.I.T.C. [illegible]	[signature]
117	၂	ဦးတင်ထွေး	NSL.	09.5006188	[signature]
118	၃	[illegible]	Operation Manager. N.S.L	09.2012300	[signature]
119	၄	Dr. [illegible]	Myanmar Environmental Services	09-45-1235775	[signature]
120	၅	ဦးတင်[illegible]	[illegible]	[illegible]	[signature]
121	၆	[illegible]	[illegible]	[illegible]	[signature]
122	၇	[illegible]	မီးသတ်	မြို့သစ်(၂)	[signature]
123	၈	[illegible]	"	"	[signature]
124	၉	[illegible]		[illegible]	[signature]
125		[illegible]		မြို့သစ်(၂)မီးသတ်တပ်ဖွဲ့	[signature]

15

EIASIA ဒုတိယအကြိမ် လူထုအစည်းအဝေးပွဲတက်ရောက်သူများစာရင်း

Date- .9.2015

	စဉ်	အမည်	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
126	၁	ဖိုးသာ	မိုးသစ်(၂)	[signature]	
127	၂	ရှိန်ဦး	״	[signature]	
128	၃	ဟိန်းထက်ဝေ	״	[signature]	
129	၄	ဒေါ်တင်းသန္တာမြိုင်	[illegible]	[signature]	
130	၅	ဦးသိန်းတင့်	မြို့သစ်(၁)	[signature]	
131	၆	ဦးနေမျိုးကျော်	မြို့သစ်(၁)	[signature]	
132	၇	ဝေဘုန်းအောင်	မြို့သစ်(၁)	[signature]	
133	၈	[illegible]	မြို့သစ်(၁)	[signature]	
134	၉	ဦးမောင်မောင်ရှိ	မြို့သစ်(၁)	[signature]	
135	၁၀	[illegible] (M.[illegible])		[signature]	
136	၁၁	[illegible]	မြို့သစ်(၁)	[signature]	
137	၁၂	[illegible]	မြို့သစ်(၁)	[signature]	
138		[illegible]	မြို့သစ်(၁)	[signature]	
139		ကိုအောင်ဘို	မြို့သစ်(၁)	[signature]	

APPENDIX VII

KEY DISCUSSIONS DURING SECOND PUBLIC MEETING

စဉ်	တင်ပြဆွေးနွေးသူ / အဓိကဆွေးနွေးချက်များ
၁။	***ဦးတင်ငွေ (Executive Director ၊ Regal Hospitality Co. Ltd.)*** ဟိုတယ်တည်နေရာ၊ အဆင့်သတ်မှတ်ချက်မှ အစပြု၍ ပါဝင်သော အထပ်အရေအတွက် နှင့် အခန်းဖွဲ့စည်းတည်ဆောက်ထားမှုများအားဦးစွာရှင်းလင်းတင်ပြပါသည်။ ထို့ပြင် ရေဆိုးသန့်စင် စနစ်တပ်ဆင်တည်ဆောင်ထားမှု နှင့် လျှပ်စစ်ကေဘယ်ကြိုးများတပ်ဆင်ထားမှု၊ လုပ်သားခန့်အပ်ထားမှု၊ မီးသတ်စခန်း တည်ဆောက်ထားရှိမှုတို့အား ရှင်းလင်းတင်ပြသွားပါသည်။
၂။	***ဦးစိန်သောင်းဦး (Chairman, GMES Co. Ltd.)*** - သဘာဝပတ်ဝန်းကျင်ထိခိုက်မှုနှင့် လူမှုဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ငန်းစဉ်များ အကြောင်း၊ - စီမံကိန်းဆိုင်ရာ အချက်အလက်များအား ဆန်းစစ်ခြင်း၊ တည်ဆောက်ရေးကာလ နှင့် လည်ပတ်ချိန်တွင် ထိခိုက်လာနိုင်သည့် အချက်အလက်များအား ဆန်းစစ်ခြင်း၊ လက်ရှိတိုင်းတာထားသော ပတ်ဝန်းကျင်ရှိ လေထု၊ မြေထု၊ ရေထုအရည်အသွေးတိုင်းတာခြင်း လုပ်ငန်းစဉ်များနှင့် - ပတ်ဝန်းကျင်ထိခိုက်နိုင်မှု လျော့နည်းစေရန် လုပ်ဆောင်မှုများအား စောင့်ကြည့်ရမည့် အစီအမံများ အားအသေးစိတ်ဆွေးနွေးတင်ပြသွားပါသည်။
၃။	***ဒေါက်တာကျော်စွာတင့် (Team Leader, SIA Group)*** - လူမှုဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ငန်းစဉ်များအကြောင်း၊ - ဟိုတယ်တည်ဆောက်မှုကြောင့် ပတ်ဝန်းကျင်ရှိဒေသခံ လူထုအပေါ် ထိခိုက်လာနိုင်မှုများ၊ - ပတ်ဝန်းကျင်ရှိ ဒေသခံလူထု၏ စိုးရိမ်မှုများအား ကွင်းဆင်းလေ့လာရရှိမှုအချက်အလက်များ၊ - ထိခိုက်မှုများလျော့နည်းသက်သာစေရန် ဆောင်ရွက်ရမည့်နည်းလမ်းများနှင့် - ဆောင်ရွက်ချက်များအပေါ် စောင့်ကြည့်ရမည့် အစီအစဉ်များအား အသေးစိတ်ဆွေးနွေး တင်ပြသွားပါသည်။

တွေ့ဆုံပွဲအတွင်းတက်ရောက်လာသူများမှဆွေးနွေးချက်များနှင့်သက်ဆိုင်သူများမှပြန်လည်ဖြေကြားချက်များ

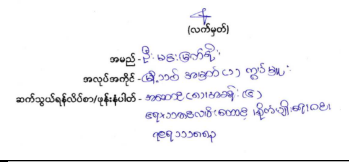
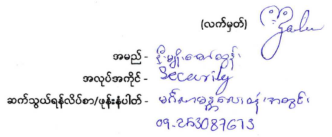
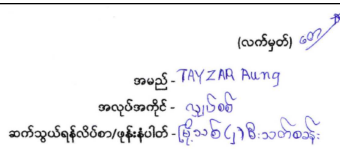
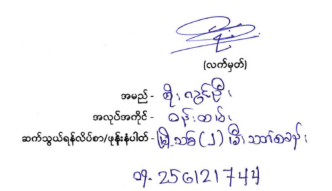
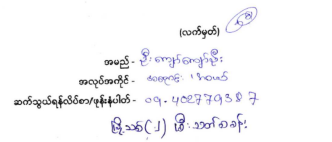
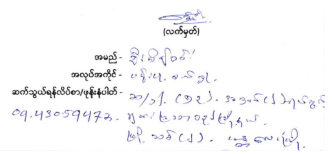
စဉ်	ဆွေးနွေးသူ / အဓိကဆွေးနွေးချက်များ	ပြန်လည်ဖြေကြားသူ/ဖြေကြားချက်
၁။	**ဦးသိန်းကျော် (ကွက်စိတ်မှူး၊ သတင်းထောက်)** - ယာဉ်ကြောပိတ်ဆို့မှုဖြေရှင်းပေးနိုင်ရန်ကားရပ်နားမှုအစီအစဉ်ဆောင်ရွက်ထားရှိမှုနှင့် ပက်သတ်၍ (၇၃) လမ်းပေါ်တွင် ရပ်နားထားသောကားများအား စီမံကိန်းဝင်းအတွင်း ရပ်နားပေးစေလိုကြောင်းဆွေးနွေးသွားပါသည်။	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)*** - စီမံကိန်း စတင်တည်ဆောက်စဉ်ကတည်းက(၅)ထပ် ကားရပ်နား ပါကင် တည်ဆောက်ထားပြီး ဖြစ်ပါကြောင်း၊ Ocean Shopping Mall ဘေးပတ်လည်တွင်လည်း ရပ်နားနိုင်ပါကြောင်း၊ Owner Parking များလည်း ထည့်သွင်း တည်ဆောက်ပေးထားပါကြောင်း၊ ဆိုင်ကယ် ပါကင်လည်းထည့်သွင်းထားပြီးရပ်နားခကောက်ခံခြင်းလည်းမရှိပါကြောင်း၊ - (၇၃) လမ်းပေါ် ရပ်နားသူများအား ကားပါကင်တွင်ရပ်နားရန် ပြောကြားသော်လည်းအချို့ကားများမှာလိုက်နာမှုမရှိပဲနှစ်ထပ်ရပ်နားမှုပင်ပြုလုပ်ကြပါကြောင်း၊ - လမ်းမဖြစ်သဖြင့် ဖြူနီကြားများရှိသော်လည်း စည်းကမ်းလိုက်နာမှု မရှိသဖြင့် ယာဉ်/လမ်းစည်းကမ်း ထိန်းသိမ်းရေးဖြင့်သာဆောင်ရွက်အရေးယူမှသာရရှိနိုင်မည်ဖြစ်ပါကြောင်း ရှင်းလင်း သွားပါသည်။
၂။	**ဒေါက်တာ ထိန်လင်း (တိုင်းကျန်းမာရေးဌာန ၊မန္တလေးတိုင်း)** - စီမံကိန်းလုပ်ငန်းစဉ် မှ ဆောင်ရွက်နေသော ကျန်းမာရေးဆိုင်ရာ လုပ်ငန်းစဉ်များ၊ လုပ်သားများ လုပ်ငန်းခွင်ကျန်းမာရေးဆိုင်ရာဆောင်ရွက်ထားရှိမှုတို့အား ဆွေးနွေးမေးမြန်းသွားပါသည်။	***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)*** - Emergency အတွက်အသုံးပြုနိုင်ရန် လိုအပ်သည်များအား နေရာတော်တော်များများတွင်(ဥပမာ- Lobby) တပ်ဆင်ထားနိုင်ရေးဆောင်ရွက်ထားပါကြောင်း၊ အရေးပေါ်လူနာတင်ယာဉ်မှာယူထားပြီးဖြစ်ပါကြောင်း၊ရောက်ရှိလာပါကဟိုတယ်အတွက်သာမက ပတ်ဝန်းကျင်ဒေသခံ များအတွက်ပါ အသုံးပြုသွားမည်ဖြစ်ပါကြောင်း ရှင်းလင်းတင်ပြသွားပါသည်။

၆။	***ဦးအောင်ကျော်စိုး (အုပ်ချုပ်ရေးမှူး၊ချမ်းမြသာစည် မြို့နယ်)*** - ၇၃ လမ်းပေါ်တွင် အချိန်တိုကာလအတွင်း အဆင့်မြင့်အဆောက်အဦးများတိုးတက်လာသဖြင့် ဝမ်းမြောက်မိပါကြောင်း၊ ဒေသခံများ၏ ပညာအရည်အချင်း နှင့် ကျွမ်းကျင်မှုအပေါ်မူတည်၍ အလုပ်အကိုင် အခွင့်အလမ်းများ ဖန်တီးပေးပါရန်၊ - စောင့်ကြည့်အဖွဲ့တွင်မြို့နယ်ထောက်/ကူကော်မတီနှင့်ဒေသခံရပ်မိရပ်ဖများအား ဦးစားပေး ထည့်သွင်;ဖွဲ့စည်းသင့်ပါကြောင်း ဆွေးနွေးသွားပါသည်။	***ဦးစိန်သောင်းဦး Chairman (GMES) Co., Ltd.)*** - စောင့်ကြည့်ရေးအဖွဲ့သည်အဆိုပြုထားခြင်းသာဖြစ်ပါကြောင်း၊မြို့နယ်အုပ်ချုပ်ရေးမှူး၏ အတည်ပြုမှုနှင့်သာ ဖွဲ့စည်းရမည်ဖြစ်ပါကြောင်း၊ ရပ်မိရပ်ဖများသာလျှင်ဒေသခံများ ၏ ခံစားမှုများအား ပိုမို သိရှိနိုင်ပြီး အုပ်ချုပ်ရေး အဖွဲ့များ မှတဆင့် ဆောင်ရွက်သွားမည် ဖြစ်ပါကြောင်း ဆွေးနွေးသွားပါသည်။ ***ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)*** - စီမံကိန်းတွင် HR Department ရှိပါကြောင်း၊ ဒေသခံများအား အလုပ်ခန့်ထားမှုများအတွက်အလုပ်လျှောက်ထားနိုင်ပါကြောင်း၊လက်ရှိခန့်ထားပေးသောသူများလည်း ရှိပါကြောင်း၊ - စောင့်ကြည့်ရေးအဖွဲ့ ဖွဲ့စည်းနိုင်ရေးအတွက် မြို့နယ်တာဝန်ရှိသူအနေဖြင့် လမ်းညွှန်မှုပြုပေးစေလိုပြီး စစ်ဆေးဆောင်ရွက်နိုင်ရန် အကောင်အထည်ဖော်နိုင်ရေး ဆောင်ရွက်ပေးစေလိုကြောင်း ဆွေးနွေးပါသည်။
	ဦးတင်ငွေ (Executive Director ၊ Regal Hospitality Co., Ltd.) - ယခုကဲ့သို့ရာသီဥတုပူပြင်းသော်လည်း လူထုတွေ့ဆုံပွဲသို့ လာရောက်ဆွေးနွေးပေးကြပါသဖြင့်ကျေးဇူးတင်ရှိပါကြောင်းနှင့်အလုပ်အကိုင်အခွင့်အလမ်းများအား HR Department တွင် လာရောက်လျှောက်ထားနိုင်ပါကြောင်း နှင့် သဘာဝပတ်ဝန်းကျင် နှင့် လူမှုဝန်းကျင်ထိခိုက်မှု မရှိစေရေး အထူး အလေးထား ဆောင်ရွက် သွားမည်ဖြစ်ပါကြောင်း ဆွေးနွေးသွားပါသည်။	

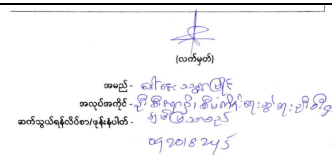
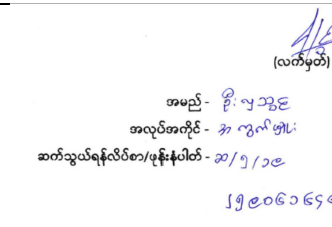
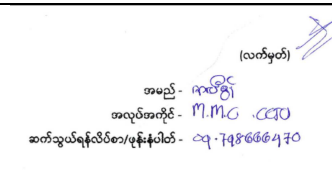
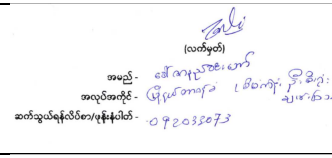
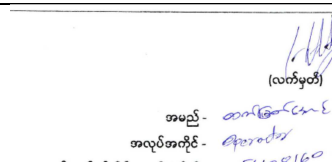
ဆွေးနွေးပွဲအတွင်းအကြံပြုစာဖြင့် ရေးသားအကြံပြုချက်များ

စာဖြင့်အကြံပြုဆွေးနွေးချက်များ နှင့် သက်ဆိုင်ရာပုဂ္ဂိုလ်အသီးသီးမှ ပြန်လည်ဖြေကြားချက်များ မှာ အောက်ပါအတိုင်းဖြစ်ပါသည်။ စာဖြင့်ရေးသားမေးမြန်း အကြံပြုစာ (၂၅)စောင်၏အဓိကကျသည့်အချက်များအားထုတ်နှုတ်တင်ပြထားခြင်းဖြစ်ပါသည်။

စဉ်	အကြံပြုချက်	အကြံပြုဆွေးနွေးသူ	ပြန်လည်ဖြေကြားသူ/ဖြေကြားချက်
၁။	- သန့်စင်ပြီးစွန့်ပစ်ရေများအားကိုလံဘိုမြောင်းအထိ ၇၃ လမ်းအရှေ့ဘက်မြောင်းအတွင်းစွန့်ပစ်ပါကကုန်ကျစရိတ်သက်သာနိုင်ကြောင်း၊	(လက်မှတ်) အမည်- အလုပ်အကိုင်- ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ်-	*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပေးမှုအားအထူးကျေးဇူးတင်ရှိပါသည်။
၂။	- ရေစီးရေလာကောင်းမွန်စေရန်၊ - ဒေသခံများအားအလုပ်အကိုင်အခွင့်အလမ်းပေးရန်၊ - ၇၃လမ်းပေါ်တွင် LED မီးများနေ့စဉ်ထွန်းပေးရန်၊ - ၇၃ လမ်းပေါ်တွင်ကားများရပ်နားခြင်းမပြုရန်၊ - ဝင်းအတွင်းလုံခြုံရေးအလေးထားပေးပါရန်၊	(လက်မှတ်) အမည်- အလုပ်အကိုင်- ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ်- 09-794786044	*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - ဟိုတယ်မှ ရေစီးထွက်ရာ မြောင်းတစ်လျှောက် ရေစီးရေလာကောင်းမွန်ရေးအလေးထားဆောင်ရွက်သွားပါမည်။ - ဒေသခံများအားဦးစားပေးခန့်အပ်သွားပါမည်။ - လမ်းမီးလင်းရေးအတွက်ဆောင်ရွက်ထားရှိပါသည်။ - ဝင်းအတွင်းလုံခြုံရေးအတွက်ဆောင်ရွက်ထားရှိပါသည်။
၃။	- ဆွေးနွေးချက်များကောင်းမွန်ပါသည်။ - လက်တွေ့အကောင်အထည်ဖော်စေလိုပါသည်။ - အန္တရာယ်များအားအလေးထားစေချင်ပါသည်။	(လက်မှတ်) အမည်- အလုပ်အကိုင်- ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ်-	*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - ဆွေးနွေးပွဲတွင် ကတိကဝတ်ပြုထားသော အချက်များအား အကောင်အထည်ဖော်ဆောင်ရွက်သွားပါမည်။
၄။	- ယဉ်ကြောပိတ်ဆို့မှုမရှိစေရန် မနော်ဟရီလမ်းနှင့်ငုရွှေဝါလမ်းများအား ၇၈ လမ်းအထိဖောက်လုပ်ရန်ဟိုတယ်စီမံကိန်းမှပူးပေါင်းဆောင်ရွက်သွားရန်၊	(လက်မှတ်) အမည်- အလုပ်အကိုင်- ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ်-	*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - ဒေသအာဏာပိုင်များနှင့်ပူးပေါင်းဆောင်ရွက်သွားပါမည်။

စဉ်	အကြံပြုချက်	အကြံပြုဆွေးနွေးသူ	ပြန်လည်ဖြေကြားသူ/ဖြေကြားချက်
၅။	- ဒေသဖွံ့ဖြိုးရေးလုပ်ငန်းများအားပြည်သူအများသိရှိစေရန် လုပ်ဆောင်ပေးသင့်ကြောင်း၊ - အလုပ်အကိုင်ခေါ်ယူမှုအားသိသာအောင်ခေါ်ယူပေးရန်၊		*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပြုချက်များအတိုင်းလိုက်နာဆောင်ရွက်သွားပါမည်။
၆။	- ဒေသခံများအားအလုပ်အကိုင်အခွင့်အလမ်းပေးစေလို၊ - ယာဉ်ကြောပိတ်ဆို့မှုယာဉ်ထိန်းရဲနှင့်ပူးပေါင်းဖြေရှင်းစေလို၊		*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပြုချက်များအတိုင်းလိုက်နာဆောင်ရွက်သွားပါမည်။
၇။	- အရေးပေါ်မီးသတ်လှေကားများထားရှိရန်၊ - ၇ဝလမ်းပေါ်ယာဉ်ကြောမပိတ်ဆို့စေရန်၊		*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပြုချက်များအတိုင်းလိုက်နာဆောင်ရွက်သွားပါမည်။
၈။	- မီးဘေးအန္တရာယ်ကာကွယ်ရေးအချက်ပေးကိရိယာများ၊ ကြိုတင်ကာကွယ်ရေးကိရိယာများထားရှိပေးစေလို၊ - လက်ရှိမီးသတ်အင်အားအား သင်တန်းများပေး၍ဒေသခံမီးသတ်တပ်ဖွဲ့များ နှင့် ပူးပေါင်း ဆောင်ရွက်သွားစေလိုပါကြောင်း၊		*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပြုချက်များအတိုင်းလိုက်နာဆောင်ရွက်သွားပါမည်။
၉။	- အထပ်တိုင်းတွင်မီးသတ်ပိုက်ထားရှိရန်၊ - အရေးပေါ်ထွက်ပေါက်ထားရှိရန်၊ - အချက်ပြစနစ်နှင့် မီးသတ်ပစ္စည်းများလဲထားရှိရန်၊		*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပြုချက်များအတိုင်းလိုက်နာဆောင်ရွက်သွားပါမည်။
၁ဝ။	- သန့်စင်ပြီးစွန့်ပစ်ရေများအား ရန်ကုန်-မန္တလေးလမ်းမကြီးအရှေ့ဘက်ကိုလံဘိုမြောင်းအတွင်းတိုက်ရိုက်စွန့်ပစ်စေလိုပါကြောင်း၊ ဒေသခံများအားအလုပ်ပေးစေလိုကြောင်း၊		*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - ဒါရိုက်တာများအစည်းဝေးဖြင့်ဆုံးဖြတ်သွားပါမည်။ - ဒေသခံများအားဦးစားပေးအလုပ်ခန့်အပ်သွားပါမည်။

စဥ်	အကြံပြုချက်	အကြံပြုဆွေးနွေးသူ	ပြန်လည်ဖြေကြားသူ/ဖြေကြားချက်
၁၁။	- တွေ့ဆုံပွဲတွင်ပြောကြားချက်များအား အားရပါကြောင်း၊ - လက်တွေ့တွင်လည်းလုပ်ဆောင်စေလိုပါကြောင်း၊	(လက်မှတ်) အမည် - အလုပ်အကိုင် - ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ် -	*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - ဆွေးနွေးပွဲများတွင် ကတိကဝတ်ပြုထားသည့် အတိုင်းလုပ်ဆောင်သွားပါမည်။
၁၂။	- တည်ဆောက်ရေးလုပ်ငန်းသုံးယာဥ်များကြောင့်လမ်းပေါ်ညစ်ပတ်မှုမရှိစေရန်၊ - အရေးပေါ်ထွက်ပေါက်များထားရှိရန်၊	(လက်မှတ်) အမည် - အလုပ်အကိုင် - ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ် -	*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပြုချက်များအတိုင်းလိုက်နာဆောင်ရွက်သွားပါမည်။
၁၃။	- မီးသတ်ဆေးဗူးများလုံလောက်စွာထားရှိရန်၊ - စီမံကိန်းဝင်းသို့လာရောက်သည့်ယာဥ်များသည်ဖောက်သည်များဖြစ်သဖြင့်တတ်နိုင်သမျှသည်းခံရှင်းလင်းပေးရန်၊	(လက်မှတ်) အမည် - အလုပ်အကိုင် - ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ် -	*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပြုချက်များအတိုင်းလိုက်နာဆောင်ရွက်သွားပါမည်။
၁၄။	- နိုင်ငံတကာအဆင့်မှီအစစအရာရာဖြစ်စေလိုကြောင်း၊ - စွန့်ပစ်ရေများအားရေမြောင်းများနိုင်/မနိုင်သိလိုပါကြောင်း၊ - စားဖိုဆောင်မှအမှိုက်များပတ်ဝန်းကျင်မထိခိုက်စေရန်မည်သို့စွန့်ပစ်မည်ကိုသိလိုပါကြောင်း၊	(လက်မှတ်) အမည် - အလုပ်အကိုင် - ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ် -	*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပြုချက်များအတိုင်းသက်ဆိုင်ရာပညာရှင်များနှင့်ညှိနှိုင်းပြီးဆောင်ရွက်သွားပါမည်။
၁၅။	- ဟိုတယ်တည်ဆောက်ခြင်းအားကြိုဆိုပါကြောင်း၊ - ဒေသခံများအားအလုပ်ခန့်ထားပေးပါရန်၊	(လက်မှတ်) အမည် - အလုပ်အကိုင် - ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ် -	*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - ဒေသခံများအားဦးစားပေးအလုပ်ခန့်သွားပေးသွားပါမည်။
၁၆။	- ဟိုတယ်အားမန္တလေး လှအင်္ဂွေအသက်များပါအောင်တည်ဆောက်ပေးရန်၊ - ၇၃လမ်းပေါ်ယာဥ်အန္တရာယ်မဖြစ်စေရေးလုပ်ဆောင် ရန်၊	(လက်မှတ်) အမည် - အလုပ်အကိုင် - ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ် -	*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပြုချက်များအတိုင်းသက်ဆိုင်ရာပညာရှင်များနှင့်ညှိနှိုင်းပြီးဆောင်ရွက်သွားပါမည်။

စဉ်	အကြံပြုချက်	အကြံပြုဆွေးနွေးသူ	ပြန်လည်ဖြေကြားသူ/ဖြေကြားချက်
၁၇။	- စက်လှေကားများအားကျွမ်းကျင်သောပညာရှင်များဖြင့် သာတပ်ဆင်ပေးပါရန်၊		*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပြုချက်များအတိုင်းသက်ဆိုင်ရာပညာရှင်များနှင့် ညှိနှိုင်းပြီးဆောင်ရွက်သွားပါမည်။
၁၈။	- အရာရာတိုင်းအားသတိဝိရီယထား၍လုပ်ဆောင်ရန်၊		*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပြုချက်အတိုင်းလိုက်နာဆောင်ရွက်သွားပါမည်။
၁၉။	- စွန့်ပစ်ရေသတ်မှတ်စံနှုန်းအောက်ရောက်မှသာစွန့်ပစ်ရန်၊ - မြောင်းအတွင်းပိတ်ဆို့ခြင်းမရှိစေရေးလုပ်ဆောင်ပေးရန်၊ - ဒေသခံများအလုပ်ကိုင်ရရှိရေးဆောင်ရွက်ပေးရန်၊		*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပြုချက်များအတိုင်းလိုက်နာဆောင်ရွက်သွားပါမည်။
၂၀။	- ငလျင်ဒဏ်ခံနိုင်အောင်ဆောက်လုပ်သင့်ကြောင်း၊		*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပြုချက်များအတိုင်းသက်ဆိုင်ရာပညာရှင်များနှင့် ညှိနှိုင်းပြီးဆောင်ရွက်သွားပါမည်။
၂၁။	- ဟိုတယ်တည်ဆောက်ခြင်းအားကြိုဆိုပါကြောင်း၊ - ဆိုးကျိုးများအနည်းဆုံးဖြစ်အောင်ဆောင်ရွက်ပေးရန်၊		*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပြုချက်များအတိုင်းလိုက်နာဆောင်ရွက်သွားပါမည်။

စဉ်	အကြံပြုချက်	အကြံပြုဆွေးနွေးသူ	ပြန်လည်ဖြေကြားသူ/ဖြေကြားချက်
၂၂။	- လုပ်သားများအန္တရာယ်ကင်းရှင်းရေးနှင့်ကျန်းမာရေးအတွက်စီမံချက်များချမှတ်ပြီးစနစ်တကျလုပ်ဆောင်ပေးရန်၊	(လက်မှတ်) အမည် - အလုပ်အကိုင် - ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ် -	*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပြုချက်များအတိုင်းသက်ဆိုင်ရာပညာရှင်များနှင့်ညှိနှိုင်းပြီးဆောင်ရွက်သွားပါမည်။
၂၃။	- ပတ်ဝန်းကျင်ရပ်ကွက်များသို့ထိခိုက်မှုမရှိစေရန်	(လက်မှတ်) အမည် - အလုပ်အကိုင် - ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ် -	*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပြုချက်အတိုင်းလိုက်နာဆောင်ရွက်သွားပါမည်။
၂၄။	- ဥပဒေဘောင်အတွင်းမှသာလုပ်ငန်းလည်ပတ်ရန်	(လက်မှတ်) အမည် - အလုပ်အကိုင် - ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ် -	*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပြုချက်အတိုင်းလိုက်နာဆောင်ရွက်သွားပါမည်။
၂၅။	- လျှပ်စစ်ဓါတ်အားသုံးစွဲရာတွင်ဒေသခံအသုံးပြုမှုအားထိခိုက်မှုမရှိစေရန်	(လက်မှတ်) အမည် - အလုပ်အကိုင် - ဆက်သွယ်ရန်လိပ်စာ/ဖုန်းနံပါတ် -	*ဦးဇင်မင်းဆွေ (ဒါရိုက်တာ၊ Regal Hospitality Co. Ltd.)* - အကြံပြုချက်များအတိုင်းသက်ဆိုင်ရာဌာနများနှင့်ညှိနှိုင်းပြီးစီမံဆောင်ရွက်သွားပါမည်။

APPENDIX VIII

SUMMARY OF SIA REPORT FOR PUBLIC DISCLOSURE

“လူမှုဝန်းကျင်ထိခိုက်မှုအနှစ်ချုပ်အစီရင်ခံစာ”

(က) ထိခိုက်မှုရှိနိုင်မည့် နယ်နမိတ်အားသတ်မှတ်ခြင်း

ထိခိုက်မှုနယ်နမိတ်အားသတ်မှတ်နိုင်ရေးအတွက် စီမံကိန်းတာဝန်ရှိသူများ၊ ရပ်ကွက်အုပ်ချုပ်ရေးမှူးများ၊ နှင့် တွေ့ဆုံ ဆွေးနွေးပြီး ဟိုတယ်တည်ဆောက်ရေးလုပ်ငန်းစဉ်ကြောင့်ထိခိုက်မှုရှိနိုင်မည့်လူမှုစီးပွားနယ်ပယ်အား သတ်မှတ်ခဲ့ပါသည်။ နယ်နမိတ်သတ်မှတ်ချက်အနေ ဖြင့် ဘိလပ်မြေစက်ရုံအား ဗဟိုပြု၍ ၂ ကီလိုမီတာပတ်လည်အတွင်းရှိ ကျေးရွာများပါဝင်ကာ အဓိကအားဖြင့် မြို့သစ် (၁)ရပ်ကွက်၊ မြို့သစ်(၂) ရပ်ကွက် အတွင်းရှိလူနေအိမ်များနှင့် မင်္ဂလာမန္တလေးဝင်းအတွင်းဆိုင်ခန်းများအား သတ်မှတ်ခဲ့ပါသည်။

(ခ) သတ်မှတ်နယ်နမိတ်များအတွင်းသို့ကွင်းဆင်းဆောင်ရွက်ခြင်း

သတ်မှတ်ထားရှိသောနယ်နမိတ်များဖြစ်သည့် မြို့သစ် (၁) ရပ်ကွက်၊ မြို့သစ်(၂) ရပ်ကွက်အတွင်းရှိ လူနေအိမ်များနှင့် မင်္ဂလာမန္တလေးဝင်းအတွင်းရှိ ဆိုင်ခန်းများ အတွင်းသို့ လူမှုစီးပွားကျွမ်းကျင်သူများ ပါဝင်သည့်အဖွဲ့ ကွင်းဆင်းဆောင်ရွက်ခဲ့ပြီး လူမှုစီးပွားအခြေအနေများအား စစ်တမ်းကောက်ယူခြင်း၊ ဟိုတယ်တည် ဆောက်ခြင်းကြောင့် ပတ်ဝန်းကျင်လူထုအပေါ် ထိခိုက်မှုရှိနိုင်သည်များနှင့်စီမံကိန်းအပေါ် လူထုသဘောထားအမြင်များအား စစ်တမ်း ကောက်ယူခဲ့ပါသည်။ ထိုသို့ ကောက်ယူရာတွင် သက်ဆိုင်ရာ ရပ်ကွက်များ မှ အုပ်ချုပ်ရေးမှူးများနှင့် ညှိနှိုင်းဆောင်ရွက်ခဲ့ပြီး ရပ်ကွက်အကွက်မှူး များ ပူးပေါင်းပါဝင်သောအဖွဲ့ဖြင့် ကွင်းဆင်းလုပ်ဆောင်ခဲ့ပါသည်။

(ဂ) ပထမအကြိမ်လူထုတွေ့ဆုံပွဲ

ပထမအကြိမ် လူထုတွေ့ဆုံပွဲအား (၂၉.၃.၂၀၁၅) ရက်နေ့တွင် ဟိုတယ်တည် ဆောက်ရေးဝင်းအတွင်းရှိ ရှင်းလင်းဆောင်ခန်းမတွင် ပထမအကြိမ်လူထုတွေ့ ဆုံပွဲပြုလုပ်ခဲ့ပြီး မြို့နယ်အုပ်ချုပ်ရေးမှူး၊ အထောက်အကူပြုအဖွဲ့ဝင်များ၊ ဒေသ ဆိုင်ရာအာဏာပိုင်များ၊ ရပ်ကွက်အုပ်ချုပ်ရေးမှူးများ၊ အကွက်မှူးများ၊ ရပ်မိရပ်ဖများ စုစုပေါင်း အင်အား(၁၅၀)ခန့် တက်ရောက်ခဲ့ပါသည်။ ဟိုတယ် တည်ဆောက်ရေး တာဝန်ရှိ သူများမှတည်ဆောက်ရေးလုပ်ငန်းစဉ်များအကြောင်းရှင်းလင်းပြောကြားခြင်း၊ပတ်ဝန်းကျင်ထိခိုက်မှုလေ့လာဆန်းစစ် ရေးအဖွဲ့မှ လေ့လာဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ငန်းစဉ်များနှင့် ကွင်းဆင်း ဆောင်ရွက်မှုမှရရှိသည့် လူထုသဘောထားများ နှင့် ဒေသခံလူထု စိုးရိမ်မှုများ အား ဆွေးနွေးတင်ပြကြပါသည်။ တက်ရောက်လာသူများမှ သိရှိလိုသည်များ အား မေးမြန်းကြပြီး လုပ်ငန်းရှင်ဘက် မှ သိရှိလိုသမျှ ရှင်းလင်းဖြေကြား ခဲ့ပါသည်။ အဓိကအားဖြင့် ဟိုတယ်လုပ်ငန်းကြောင့်လမ်းပိတ်ဆို့နိုင်မှု၊ ဟိုတယ်မှရေဆိုးထုတ်လွှတ်မှု၊ ဒေသခံများ၏ အလုပ်အကိုင် အခွင့်အလမ်းအစရှိသည်များ အား အဓိကထားဆွေးနွေးခဲ့ကြပါသည်။ လုပ်ငန်းရှင်ဘက်မှလည်း ဒေသခံလူထု လိုလားချက်များအား အလေးထား လုပ်ဆောင်သွားမည်ဖြစ်ကြောင်း ကတိပြုပြောကြားခဲ့ပါသည်။

(ဃ) လူမှုစီးပွား ထိခိုက်မှုရှိနိုင်သည်များအား လေ့လာဖော်ထုတ်ခြင်း နှင့် လျော့နည်းသက်သာစေမည့်နည်းလမ်းများရှာဖွေခြင်း၊

ဆက်လက်ပြီး တည်ဆောက်ခြင်းလုပ်ငန်းစဉ်များကြောင့် ဖြစ်ပေါ်လာနိုင်သည့် လူမှုစီးပွား ထိခိုက်မှုများအားကျွမ်းကျင်သူများမှ စနစ်တကျရှာဖွေဖော်ထုတ်ခဲ့ပြီး အဆိုပါအချက်များထဲမှ အဓိကကျသည့် ထိခိုက်နိုင်မှုများ နှင့် လျော့နည်း သက်သာရန် လုပ်ဆောင်ရမည့် နည်းလမ်းများအား အောက်ပါအတိုင်း တင်ပြ အပ်ပါသည်။

စဉ်	အကျိုးကျေးဇူး (သို့) ထိခိုက်နိုင်မှုများ	သက်ရောက်မှု အမျိုးအစား	အကျိုးကျေးဇူးပိုမိုရရှိစေရန် (သို့) လျော့နည်းသက်သာရန်ထိန်းသိမ်းလုပ်ဆောင်ရန်လိုအပ်မှုရှိ/မရှိ	အကျိုးကျေးဇူးပိုမိုရရှိစေရန် (သို့) လျော့နည်းသက်သာရန်ထိန်းသိမ်းလုပ်ဆောင်ရမည့်နည်းလမ်းများ
၁။	အလုပ်အကိုင်အခွင့်အလမ်း	အကျိုးကျေးဇူး	အကျိုးကျေးဇူးမြှင့်တင် ပေးရန်လိုအပ်	- ဒေသခံများဦးစားပေးခန့်အပ်ရန်နှင့် အနိမ့်ဆုံးခန့် အပ်မည့်ဒေသခံအလုပ်သမားသတ်မှတ် ထားရှိရန်၊ - လိုအပ်ပါကဒေသခံများအား သင်တန်းပေးခန့် အပ်ရန်၊ - ကျား/မခွဲခြားခန့်ထားခြင်းမပြုရန်၊ - တစ်ဆင့်ခံလုပ်ငန်းများနှင့် သဘောတူစာချုပ် များတွင်အထက်ပါအချက်အား ထည့်သွင်း ချုပ်ဆိုပေးရန်၊
၂။	ဒေသဝင်ငွေ တိုးတက်ခြင်း	အကျိုးကျေးဇူး	အကျိုးကျေးဇူးမြှင့်တင်ပေး ရန်လိုအပ်	- တည်ဆောက်ခြင်းနှင့် လည်ပတ်ခြင်းလုပ်ငန်းစဉ် များအတွက်လို အပ်မည့် ပစ္စည်းများ၊ အသုံးအဆောင်များ၊ ဝန်ဆောင်မှုများ အား ဒေသတွင်းမှသာ ဝယ်ယူအသုံးပြုရန်၊ - လိုအပ်ပါက ဝန်ဆောင်မှုများအတွက် ရန်ပုံငွေ/မတည်ငွေများ တည်ထောင်ပေးရန်၊ -တစ်ဆင့်ခံ လုပ်ငန်းများ သဘောတူ စာချုပ်များတွင် အထက်ပါအချက်အားထည့်သွင်းချုပ် ဆိုပေးရန်၊
၃။	ဆက်စပ်စီးပွားရေးလုပ်ငန်းများ တိုးတက်ခြင်း	အကျိုးကျေးဇူး	အကျိုးကျေးဇူးမြှင့်တင်ပေး ရန်လိုအပ်	-ဆက်စပ်လျက်ရှိသည့်ဒေသတွင်းစီးပွားရေးလုပ်ငန်းများတိုးတက်ရန် လက်တွဲကူညီသွားရေး ပေါ်လစီချမှတ်ဆောင်ရွက်ရန်၊ -တစ်ဆင့်ခံလုပ်ငန်းများတွင်လည်းအဆိုပါအချက်အားလိုက်နာလုပ်ဆောင်နိုင်ရေး သဘောတူ စာချုပ်များတွင်ထည့်သွင်းချုပ်ဆိုရန်၊

၄။	နိုင်ငံဝင်ငွေ တိုးတက်ခြင်း	အကျိုးကျေးဇူး	အကျိုးကျေးဇူးမြှင့်တင် ပေးရန်လိုအပ်	- ဒေသအာဏာပိုင်များ လမ်းညွှန်မှုများအတိုင်းအတိအကျလိုက်နာ ပူးပေါင်းဆောင်ရွက်ရန်၊ - ဒေသဖွံ့ဖြိုးမှုလုပ်ငန်းများ ပါဝင်ကူညီဆောင်ရွက်ပေးရန်၊ - တာဝန်သိ/တာဝန်ယူမှုရှိသော အခွန်ပေးဆောင် ခြင်းစနစ်တည် ဆောက်ကျင့်သုံးရန်၊
၅။	ဒေသတွင်းကျန်းမာရေး စောင့်ရှောက်မှု၊ရေမီး၊ အမှိုက်သိမ်းစနစ်အသုံးပြု မှုအပေါ် သက်ရောက်မှု ရှိခြင်း	ထိခိုက်မှု	ထိခိုက်မှုလျော့ချလုပ်ဆောင်ရန် ပေးလိုအပ်	- ကိုယ်ပိုင်ကျန်းမာရေးဝန်ဆောင်မှုပေးရန်၊ - ဒေသခံများ သုံးစွဲသည့်ရေနှင့် လျှပ်စစ်မီးအားတိုက်ရိုက်သုံးစွဲခြင်း နှင့်အမှိုက်စွန့်ပစ်မှုအသုံးပြုခြင်းမရှိသည့် နည်းလမ်းရှာဖွေသုံးစွဲရန်၊ - ရေအသုံးပြုမှု၊ လျှပ်စစ်ဓါတ်အား အသုံးပြုမှု ချွေတာသုံးစွဲရန်၊
၆။	ယာဉ်အသွားအလာနှင့် ယာဉ်ထိခိုက်မှု တိုးလာနိုင်ခြင်း	ထိခိုက်မှု	ထိခိုက်မှုလျော့ချလုပ်ဆောင်ရန် ပေးလိုအပ်	- သင့်တော်သည့် ယာဉ်အသွားအလာ ထိန်းချုပ်မှု စနစ်ထားရှိရန်၊ - လမ်းပေါ် တွင်သတိပေးဆိုင်းဘုတ်များနှင့် အရှိန်လျော့စနစ်များ တပ်ဆင်နိုင်ရန်ဒေသဆိုင်ရာ အာဏာပိုင်များနှင့်ညှိနှိုင်းဆောင်ရွက် ရန်၊ - ကားပါကင်လုံလောက်စွာထားရှိရန်၊ - လမ်းမပေါ် တွင်ကားရပ်နားခြင်းမပြုရေးရှင်းလင်းလုပ်ဆောင်သွား ရန်၊ - အရှိန်လျော့မောင်းနှင်ရန်နှင့် လူရှင်းသည့် အချိန်သွားလာရန်၊

၇။	ဒေသတွင်းလူနေအိမ်များပိုမိုလိုအပ်လာခြင်း	ထိခိုက်မှု	ထိခိုက်မှုလျော့ချလုပ်ဆောင်ရန် ပေးလိုအပ်	- ဒေသခံများအားဦးစားပေးခန့်အပ်ရန်၊ - ရပ်ဝေးဒေသမှအလုပ်သမားရှိပါကဟိုတယ်ဝင်းအတွင်းအဆောင်လုံလောက်စွာစီစဉ်ပေးရန်၊
၈။	ခိုက်ရန်ဖြစ်မှုများ နှင့် ဒေသလုံခြုံရေး	ထိခိုက်မှု	ထိခိုက်မှုလျော့ချလုပ်ဆောင်ရန် ပေးလိုအပ်	- ဒေသခံများဦးစားပေးခန့်အပ်ရန်၊ - ဒေသယဉ်ကျေးမှုနှင့် လူနေမှုဓလေ့များအတိုင်း လိုက်နာနိုင်ရန် အလုပ်သမားများအားအသိပညာ ပေးရန်၊ - ဒေသအာဏာပိုင်များနှင့် ပူးပေါင်းဆောင်ရွက် ဖြေရှင်းရန်၊ - တစ်ဆင့်ခံလုပ်ငန်းများ သဘောတူစာချုပ်များ တွင်အထက်ပါအချက်အား ထည့်သွင်းချုပ်ဆိုရန်၊
၉။	မီးဘေးအန္တရာယ်	ထိခိုက်မှု	ထိခိုက်မှုလျော့ချလုပ်ဆောင်ရန် ပေးလိုအပ်	- အဆင့်မြင့်မီးသတ်စနစ်များတပ်ဆင်ရန်၊ - ကိုယ်ပိုင်မီးသတ်တပ်ဖွဲ့ထားရှိရန်၊ - အလုပ်သမားများအား ပုံမှန်မီးသတ်သင်တန်းပေးရန်၊ - ဒေသခံမီးသတ်တပ်ဖွဲ့နှင့် စဉ်ဆက်မပြတ်ပူးပေါင်းဆောင်ရွက်ရန်၊

(c) လူမှုစီးပွားစောင့်ကြည့်လေ့လာရေးအစီအစဉ်များ

စောင့်ကြည့် လေ့လာလုပ်ဆောင်သွားရမည့် အချက်များအနေဖြင့် အောက်ဖော်ပြပါ လုပ်ငန်းစဉ်များအား လုပ်ဆောင်ရန်အကြံပြုတင်ပြထားပါသည်။

စဉ်	စောင့်ကြည့်ရမည့် အကြောင်းအရာ	အကျိုး ကျေးဇူး (သို့) ထိခိုက်မှု	စောင့်ကြည့်ရမည့်နည်းလမ်း	စောင့်ကြည့် ရမည့် အကြိမ်
၁။	အလုပ်အကိုင်ရရှိမှု အခြေအနေ	အကျိုး ကျေးဇူး	- ဒေသခံအလုပ်ခန့် အပ်ထားမှုရာခိုင်နှုန်း၊ - အမျိုးသမီး အလုပ်ခန့်အပ်ထားမှုရာခိုင်နှုန်း၊	လစဉ်
၂။	ဒေသတွင်း လုပ်ငန်းများ ဖွံ့ဖြိုးမှု အခြေအနေ	အကျိုး ကျေးဇူး	- ဒေသတွင်း အသေးစားနှင့် အလတ်စား လုပ်ငန်း များဖွံ့ဖြိုး မှုအခြေအနေ၊ - ဒေသတွင်းမှ ဝယ်ယူသည့် ပစ္စည်းများ နှင့် အသုံးပြုခဲ့သည့် ဝန်ဆောင် မှုများ အခြေအနေ၊	၆လ တစ်ကြိမ်
၃။	နိုင်ငံစီးပွား အထောက်အပံ့ ပေးနိုင်မှု	အကျိုး ကျေးဇူး	- အခွန်ပေးဆောင်မှု မှတ်တမ်းများ၊ - ဒေသအကျိုးပြုလုပ်ငန်းများ၊	နှစ်စဉ်
၄။	တာဝန်သိ လူမှုဖွံ့ဖြိုးရေး အစီအစဉ်များ	အကျိုး ကျေးဇူး	- ဒေသတွင်း လူမှုဖွံ့ဖြိုးရေးလုပ်ဆောင်မှု မှတ်တမ်းများ၊ - ရန်ပုံငွေအသုံးပြုမှု မှတ်တမ်းများ၊ - ဒေသခံ လူထု လိုလားချက်များဖြည့် ဆည်းပေးနိုင်မှု အခြေအနေ၊	၃လ တစ်ကြိမ်
၅။	ယာဉ်ပိတ်ဆို့မှု	ထိခိုက်မှု	-၇၃လမ်းပေါ် ယာဉ်အသွားအလာမှတ်တမ်းများ၊ -၇၃လမ်းပေါ် ယာဉ်မတော်တဆမှတ်တမ်းများ၊ - ယာဉ်အသွားအလာ ထိန်းချုပ်မှုစနစ်တိုးခဲ့၊ ပြုပြင်ထိန်းသိမ်းမှု မှတ်တမ်းများ၊	လစဉ်

၆။	ဒေသခံလူထု လုံခြုံရေး	ထိခိုက်မှု	-ဟိုတယ်အလုပ်သမားနှင့်သက်ဆိုင်သည့် ရဲမူခင်း ပြစ်မှု မှတ်တမ်းများ၊ -မတော်တဆဖြစ်ရပ် မှတ်တမ်းများ၊	လစဉ်
၇။	ဒေသသယံဇာတများ သုံးစွဲမှု	ထိခိုက်မှု	- လစဉ်ရေသုံးစွဲမှုမှတ်တမ်း - လစဉ်လျှပ်စစ်သုံးစွဲမှု မှတ်တမ်း - အမှိုက်စွန့်ပစ်သည့်ပမာဏ နှင့် စွန့်ပစ်သည့်နေရာ	လစဉ်
၈။	မီးဘေးအန္တရာယ်	ထိခိုက်မှု	- ဟိုတယ်နှင့်တိုက်ရိုက်(သို့)သွယ်ဝိုက်သက်ဆိုင်သည့် မီးဘေး မတော်တဆဖြစ်ရပ်မှတ်တမ်းများ၊ - အလုပ်သမားများအားမီးဘေးကာကွယ်ရေးသင်တန်း ပေးမှုမှတ်တမ်းများ၊ -ဒေသခံမီးသတ်အဖွဲ့နှင့်ပူးပေါင်းဆောင်ရွက်မှု မှတ်တမ်းများ၊	လစဉ်

(စ)စောင့်ကြည့်လေ့လာရေးအဖွဲ့ ဖွဲ့စည်းပေးခြင်း

စောင့်ကြည့်လေ့လာရေးအဖွဲ့အားကုမ္ပဏီမှ တာဝန်ရှိသူများအပြင် ပတ်ဝန်းကျင် ထိန်းသိမ်းရေးဦးစီးဌာနမှ တာဝန်ရှိသူများ၊ ဆက်စပ်လျက်ရှိသည့် ဌာနဆိုင်ရာ အချို့မှတာဝန်ရှိသူများ၊ ရပ်ကွက်များ မှ တာဝန်ရှိ ပုဂ္ဂိုလ်များဖြင့်ဖွဲ့စည်းထားရှိရန်နှင့်လိုအပ်သလိုပူးပေါင်းဆောင်ရွက်သွားရန်လုပ်ငန်းရှင်အားအကြံပြုထားရှိပါသည်။

၄။ ဒေသခံလူထုအလုပ်အကိုင်အခွင့်အလမ်းရရှိနိုင်မှုအတွက်အစီအစဉ်များ

အလုပ်အကိုင်အခွင့်အလမ်းရရှိမှုအနေဖြင့် ဟိုတယ်တည်ဆောက်ခြင်း နှင့် လည်ပတ်ခြင်းလုပ်ငန်းစဉ်များတွင် သတ်မှတ်အရည်အချင်းကိုက်ညီမှုရှိပါက ဒေသခံများအား ဦးစားပေး ခန့်ထားပေးမည်ဖြစ်ကြောင်း ပထမအကြိမ်လူထုတွေ့ဆုံပွဲတွင် လုပ်ငန်းရှင်ဘက်မှ ကတိကဝတ်ပြု ပြောကြားခဲ့ပြီးဖြစ်ပါသည်။

၅။ တာဝန်သိလူမှုဖွံ့ဖြိုးရေးအစီအစဉ်များ

လူမှုဖွံ့ဖြိုးရေး အစီအစဉ်များအနေဖြင့် နှစ်စဉ် အခွန်ဆောင်ပြီး အမြတ်ငွေများထဲမှ (၀.၅) ရာခိုင်နှုန်း မှ (၂) ရာခိုင်နှုန်း အထိ နှစ်စဉ် သုံးစွဲသွားမည်ဖြစ်ကြောင်း လုပ်ငန်းရှင်ဘက်မှ အဆိုပြု ပြောကြားထားပါသည်။

Health Impact Assessment Report for Pullman Hotel (Mandalay)

Reported by:

Socially Responsible Partner

Social and Health Impact Assessment Group

November, 2015

Contents

ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
CSW	Commercial Sex Worker
CMTZ	Chanmyatharzi Township
ESHMP	Environmental, Social and Health Management Plan
HIA	Health Impact Assessment
HIR	Health Impact Rating
HIV	Human Immunodeficiency Virus
HNA	Health Needs Assessment
HRA	Occupational Health Risk Assessment/
Hazard	Identification and Risk Assessment
HSE	Health, Safety and Environment
HMP	Health Management Plan
HRA	Occupational Health Risk Assessment
NGO	Non Governmental Organization
SIA	Social Impact Assessment
SIP	Social Investment Plan
TB	Tuberculosis
TOR	Terms of Reference
WHO	World Health Organization

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1. EXECUTIVE SUMMARY

1.1 Introduction

Health Impact Assessment (HIA) is a systematic approach to predicting and managing the potential positive and negative health effects of proposed project on local communities and the wider society. This HIA was conducted by Socially Responsible Partner (SRP) Social and Health Impact Assessment Group, and the potential impact of the proposed project on physical activity and social cohesion were assessed.

1.2 Objectives of HIA

HIA provides a systematic analysis of the potential community health impacts as well as developing options for maximizing the positive health impacts, minimizing the negative impacts and enhancing health equity/reducing health inequalities.

HIA makes a distinction between the potential health impacts of investment in the construction and operation of proposed hotel project and the potential health and wellbeing impacts from social investments and community development programs associated with the project.

1.3 Scope of the Study

This study involves an initial assessment of the potential health impacts of a project, and the number and range of people likely to be affected. The range of people likely to be affected are considered as the whole CMTZ Township by secondary data collection, and in Myothit Ward (1) and (2) by primary data collection.

Scoping sets the boundaries and terms of reference for the HIA and how detailed it should be. Scope of the HIA follows by a more detailed community health impact based on the ground fieldwork, social surveys, focus groups and discussions with key informants such as community health and development workers and local health/public health officials.

This study also involves developing a baseline assessment and community profile with a particular focus on existing health and wellbeing problems and assets. Initially, a detailed understanding of the project, its aims and objectives is developed. This is followed by a desk-based community health and wellbeing profile using existing local demographic, social, economic, environmental and health information from Public Health Department (CMTZ).

1.4 Steps in the HIA Process

HIA for Pullman Hotel (Mandalay) was conducted by scoping; identification and assessment of potential health impacts; mitigation and management as shown in Table 1.1.

Table 1.1. Stages Involved in Conducting HIA for Pullman Hotel

No.	Stage of Health Impact Assessment	Purposes	Outcomes
1.	Scoping	To determine the scope of the HIA to be undertaken.	Outlines of how the HIA will be conducted including the time, resources and activities required.
2.	Identification and assessment of potential health impacts	To identify and assess the potential health outcomes.	Document that describes the potential health outcomes of the proposed hotel project.
3.	Mitigation	To minimize and remedy for potential health impacts.	Set of mitigation measures to prevent, reduce and minimize for potential impacts of proposed hotel project.
4.	Management and Monitoring	To manage the effectiveness of the HIA and monitor health outcomes.	Document that manage and monitor the HIA process and other outcomes.

1.5 Health Profile and Baseline Information

This section of the HIA provides a high level overview of the existing health conditions in CMTZ Township. Secondary data from the CMTZ Township were collected from Public Health Department of CMTZ Township and primary data were collected from nearest residents especially in Myothit Ward (1) and (2) as follow:

1.5.1 Health and Wellbeing Profile by Secondary Data Collection

The following are the key community profiles and health data for CMTZ Township from Public Health Department of CMTZ Township.

1.5.1.1 General Conditions

Chanmyatharzi is amongst the fastest growing regions in Mandalay and has an estimated resident population of 208447 with an annual growth rate of 2.9% (2005 - 2010).

1.5.1.2 Health Care Facilities

Basic health services in Chanmyatharzi townships have improved over the last three years mainly due to an increase in both recurrent and capital budgets. As a result, more facilities have been built (there are more secondary health center and station hospitals have been upgraded) and more health staff is available. In addition, most of them mentioned that the health facilities are better equipped, that there is an improvement in the supply of medicines (essential drugs), and that the costs of health care for citizens has gone down and that preventive health care has improved. General health care facilities in CMTZ are shown in Table 1.2, 1.3 and 1.4.

Table 1.2. Health Care Facilities of CMTZ Township

No.	Health Facilities	Quantity
1	Teaching Hospital (300) bedded	1
2	MCH	1
3	Urban health center	1
4	Secondary health center	4
5	School health center	1
6	Pirate clinic	108

Table 1.3 shows sanction and appointed health men power in 2014.

Table 1.3. Health Men Power

Category	Dr	THN	HA(1)	LHV	MW	PHS1	PHS2
Sanction	6	1	1	7	18	1	6
Appointed	6	1	1	7	18	0	6
Vacant	0	0	0	0	0	1	0

Table 1.4. Health Care Services

No. of Doctors	Ratio	No. of Nurses	Ratio	No. of Healthcare Assistant	Ratio
106	1:1917	23	1:8835	1	1:203208

The community health care is show in Table 1.5. The rate of general clinic attendance is yearly more increased it shows that public has trust in health care system and the government is supporting in medicament.

Table 1.5. Community Health Care

	2012	2013	2014
General clinic attendance	3.3%	4.35%	4.6%
Referral cases	0.95%	0.38%	0.31%

1.5.1.3 Nutrition and Immunization Services

Maternal and child health, nutrition and immunization services for the reduction of maternal and child mortality are shown in Table 1.6 and 1.7.

Table 1.6. Nutrition (sentinel surveillance)

	2012	2013	2014
Under weight children (Neonate)	0.2%	0	0
Under weight children (< 5 yr)	6.7%	4.5%	1.7%

Table 1.7. Expanded Programmed on Immunization

Percent	2012	2013	2014
BCG	97%	94%	95.6%
DPT3	86%	0	0
OPV3	88%	84.6%	92.8%
PENTA	0	75.3%	92.8%
Measles	89%	93.6%	94.8%
TT2	93%	89%	97.6%

1.5.1.4 Common Diseases

According to secondary data available, the two common diseases found in the area are Malaria and Tuberculosis. The incidence of HIV/AIDS is also found in the area and the cases significantly decrease in 2013. Common diseases in CMTZ Township in 2014 are shown in Table 1.8, 1.9, 1.10 and 1.11.

Table 1.8. Common Diseases

Sr. No.	Disease	Incidence
1.	Malaria	82
2.	Diarrhoea	14
3.	TB	60
4.	Stomach Ailment	27
5.	Hepatitis	1

Table 1.9. HIV/AIDS

2012		2013	
Infected	Dead	Infected	Dead
121	39	13	7

Table 1.10. Common Diseases in DUNS

Disease	2014	
	Morbidity	Mortality
ARI	321	0
Diarrhoea	311	0
TB	265	3
Dysentery	9	0

Table 1.11. Malaria

Percent	2012	2013	2014
% of malaria cases (OPD)	0.09%	0	0
Case fatality rate	0	0	0

1.5.1.5 Communicable Diseases

Morbidity and mortality from communicable diseases such as tuberculosis, HIV/AIDS, malaria, dengue haemorrhagic fever (DHF) and some neglected tropical diseases are shown in Table 1.12 and 1.13.

Table 1.12. Tuberculosis

Outcome	2012	2013	2014
New case detection rate	86.4%	85.2%	127%
Treatment success rate	85%	85%	86%
Cured	129	137	145
Complete	10	14	7
Died	11	8	9
Failure	7	12	11
Defaulter	5	5	4
Transfer out	2	2	1

Table 1.13. AIDs / STI Prevention and Control

Percent	2012	2013	2014
VDRL (+) rate in primigravida	0	1%	0.3%

Item	2012	2013	2014
Prevalence per 10000 population	0.2	0.2	0.09
New CDR per 10000 population	2.5	2.5	0.95

Table 1.14. Leprosy

Percent	2012	2013	2014
Rate of general clinic attendance	3.3%	4.35%	5.42%
% of referral cases	0.95%	0.38%	0.31%

Table 1.15 Prevention and Control of Common Childhood diseases (<5 yrs children)

Percent	2012	2013	2014
% of <5 diarrhoea with severe dehydration	3.4%	1.6%	0.9%
% of <5 children with cough & difficult breathing	0.84%	0.7%	0.48%
% of <5 children with severe pneumonia	0.02%	0.02%	3.13%

1.16 Environmental Health

Some health care facilities related to environmental health are shown in Table 1.16, 1.17 and 1.18.

Table 1.16. Environmental Health

Percent	2012	2013	2014
Cov: of sanitary latrine (Urban)	83.7%	87.5%	84.4%
Cov: of sanitary latrine (Rural)	0	0	0
Cov: of sanitary latrine (Total)	83.3%	87.5%	84.4%

Table 1.17. Reproductive Health

	2012	2013	2014
% of home delivery health staff	23.4%	24.9%	26.5%
% of home delivery AMW	0.12%	0.02%	0
% of home delivery at RHC (delivery room)	0	0	0.09%
Low birth weight %	0.2%	0.1%	0
Rate of referral %	7.5%	4%	3.5%
Avg: No of attendance AN	3	3	3
Avg: No of attendance PN	3.3	3	4
AN care coverage	78%	81%	86.3%

Table 1.18. School Health

Percent of	2012	2013	2014
Cov: of school examination	100%	100%	100%
Cov: of student examination	95.5%	94%	99.8%
Cov: of school with sanitary latrine	94%	97%	100%
Cov: of school with safe water supply	100%	100%	100%

1.5.1.7 Health Care Services Indicator

Important health care services indicators are shown in Table 16, 17 and 18.

Table 1.19. Health Impact Indicators

In Health Service Covered Area	2012	2013	2014
Popu: growth rate %	1.02	1.28	1.28
IMR/1000 live births	11.22	5.4	7.2
U5MR/1000 live births	15.3	7.8	9.3
MMR/1000 live births	0.24	0	0

Table 1.20. Hospital Service and Administrative Indicators

Item	2012	2013	2014
Total no. of outpatients	4500	8700	9631
Total no. of inpatients	0	0	0
Total no. of delivery	4098	4224	4280
Total no. of abortion	15	5	9
Total no. of dead	1561	1629	1663

1.5.2 Health and Wellbeing Profile by Primary Data Collection

The following are the primary data collection of health conditions of local people especially in Myothit Ward (1) and (2) by household survey.

1.5.2.1 Health Care Service

Relatively adequate public health facilities are available in the project area. There are one 300-bed hospital and 200-bed orthopedic hospital in the township. There are also 327-bed Sangha hospital and 4 rural healthcare centers. According to household survey results, the private sector is also important in public health care in the area as private clinics were found to be major healthcare service providers that the largest portion of respondents usually consulted.

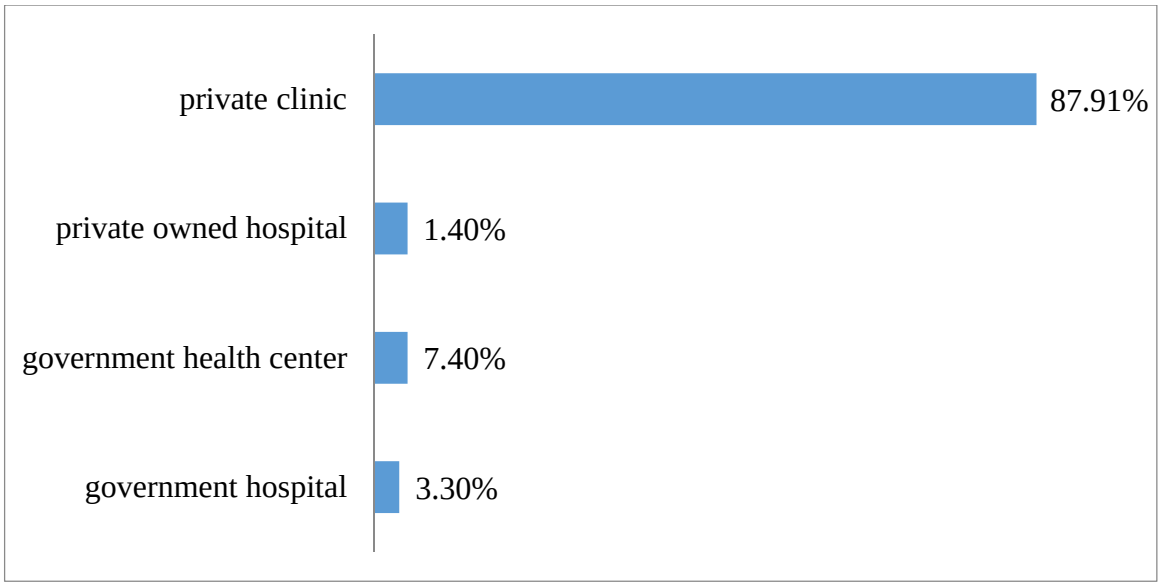

Figure 1.1 Health Care Service Providers

1.5.2.2 Common Diseases

According to official statistics, the most common major health problem faced in the township was malaria followed by Tuberculosis. According to household survey results, only two cases were reported in the project area despite there were 82 cases of malaria in 2013-14 in the overall township. There was also small number of cases of Tuberculosis in the area. Five incidences of dengue hemorrhagic fever were reported by respondents in the household survey. According to field survey, mortality rate of children under 5 year seemed to be significant in the surveyed area. The most frequently reported health problems in the survey were miscellaneous diseases such as flu (seasonal), sore throat, nose irritation, and asthma.

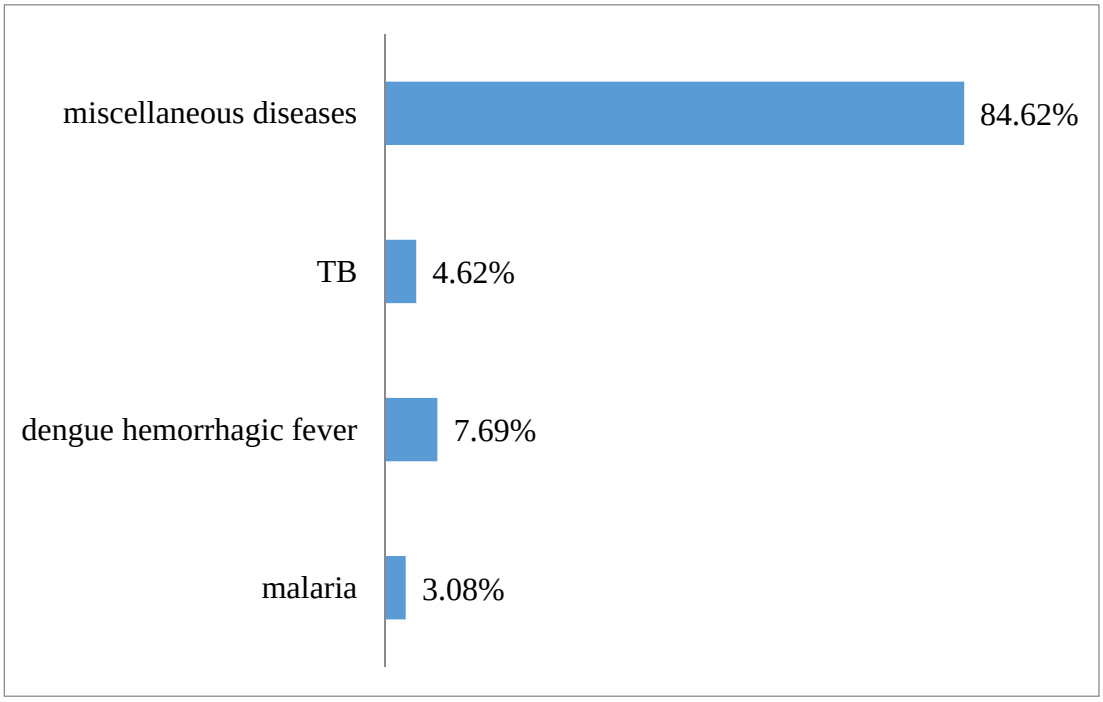

Figure 1.2 Common Diseases by Household Survey

1.5.2.3 Mosquitoes Net Usage

Regarding mosquitoes net usage, 97.96% of household always use and insignificant portion of sample sometimes use and do not use the net.

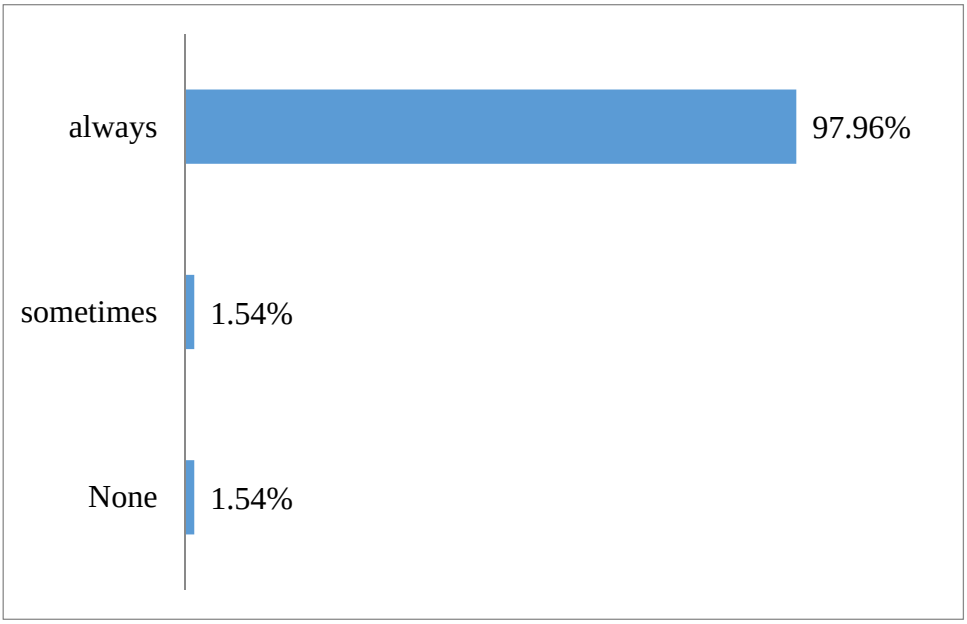

Figure 1.3 Mosquitoes Net Usage

2. HEALTH IMPACT ASSESSMENT

HIA for Pullman Hotel (Mandalay) will be conducted into the following stages.

2.1 Health Impact Assessment Methodology

Table 2.1 shows a Health Impact Significance Rating Methodology of SRP Group.

Table 2.1 Health Impact Significance Rating Methodology

	Likelihood of Occurrence of Health Impact		
	Low	Medium	High
Magnitude of Health Impact	Unlikely to occur	Likely to occur sometimes	Likely to occur often
None	No significance	No significance	No significance
Low	Very Low	Low	Medium
Medium	Low	Medium	High
High	Medium	High	Very High

When analyzing health impacts, it is important to consider the magnitude, likelihood and public health significance of the potential impacts. This analysis involves expert judgement based on a consideration of the evidence gathered and its applicability to the local context and the specific project. There is no universally agreed formula for assessing public health significance, although assessments are mostly based on a subjective judgement about the magnitude of the potential health impacts (size of the affected population and scale of the positive or negative health impact); its likelihood of occurrence; and the degree of confidence in the impact actually occurring (based on scientific and other evidence of the health impact occurring in similar circumstances elsewhere).

Distributional, health equity and inequality impacts are analyzed by examining how particular sub-groups within a population, particularly vulnerable groups, are likely to be affected by the project. The scoping and community profiling steps are likely to have already identified potentially vulnerable groups through existing local information on these individuals/groups or through community surveys and meetings with key informants e.g. community leader, community health worker or local NGO.

Health equity/inequality impacts occur when the projects benefits and harms are unevenly distributed. This includes where the risk is equally distributed, such as air pollution, but the impact is disproportionate – affecting particularly children, older people and those with existing ill health.

Analysis of health impacts involves systematically determining the range of potential impacts, their relative importance and where, when and how likely they are to occur. The information for the HIA were obtained from the primary data collection (household survey), literature review, community profile and Chanmyatharzi Health Data from Pubic Health Department (Chanmyatharzi) as well as knowledge and expertise of the HIA Consultant of SRP Group.

2.2 Segments for HIA

As health related impacts during pre-construction and decommissioning phases will not significance due to short-term and low probability, HIA for Pullman Hotel (Mandalay) will only be conducted into the following phases.

(a) Phase I: Construction Phase; and
(b) Phase II: Operation Phase.

2.3 Anticipated Health Impacts and Mitigation Measures

Most industrial projects can result in marked changes in these factors, both positive and negative. Therefore, one of the most important tasks in HIA is to analyze how the positive and negative health impacts are likely to be distributed within and across local communities. The following health related impacts are considered in the assessment of health impact for Pullman Hotel (Mandalay).

(a) Infectious Diseases (Malaria, HIV and influenza);
(b) Chronic diseases (Heart disease, cancer, bronchitis, and asthma);
(c) Nutritional disorders (Malnutrition, vitamin deficiencies and obesity); and
(d) Mental health and wellbeing (Depression, stress and anxiety).

2.3.1 Anticipated Health Impacts during Construction Phase

The following will be the potential health impacts of the development of Pullman Hotel (Mandalay) during construction phase.

2.3.1.1 Increase Infection of Air-borne Diseases

Construction activities will expose the laborers and the general public to bronchial and other respiratory tract diseases. An influx of large groups of workers can also lead to overcrowded conditions where air-borne diseases such as tuberculosis, influenza and meningitis can spread easily.

Significant of Impact

As infection of Acute Upper Respiratory Infection (321 persons in 2014), Diarrhea (311 persons in 2014) and TB (265 persons in 2014) are continuously increased in CMTZ. Moreover, rate of severe pneumonia in children under 5 year is continuously increased 0.02% in 2012, 0.02% in 2013 and 3.13% in 2014). So, impact rating for air-borne diseases will be considered as medium as follow:

Who will affected?	Magnitude/Consequence of impact			Likelihood/Probability of impact			Health Impact Significance Rating		
	Low	Medium	High	Unlikely to occur	Likely to occur sometimes	Likely to occur often	Low	Medium	High
People in nearest residents	-	√	-	-	√	-	-	√ (HIR 2)	-

2.3.1.2 Increase Malaria Carrying Mosquitoes

The proposed project can create habitats where malaria carrying mosquitoes or schistosomiasis snails can flourish such as through the creation of wastewater pits which can serve as a breeding ground for some insect vectors.

Significant of Impact

Most of the drainage systems within the nearest resident (especially in Myothit Ward 2) are blockage and there already have potential to increase in mosquitoes breeding rate. Although infection of malaria cases in CMTZ is continuously decreased (0.09% in 2012,

0% in 2013 and 0% in 2014), impact rating for increase in water borne diseases will be considered as medium due to cumulative effect as follow:

Who will affected?	Magnitude/Consequence of impact			Likelihood/Probability of impact			Health Impact Significance Rating		
	Low	Medium	High	Unlikely to occur	Likely to occur sometimes	Likely to occur often	Low	Medium	High
Nearest residents	-	√	-	-	√	-	-	√ (HIR 2)	-

2.3.1.3 Increase Risk of Sexually Transmitted Infections

During construction phase, the improved economic status of the area and the influx of new people, living away from their families, can also lead to an increased risk of sexually transmitted infections such as HIV/AIDS, gonorrhoea and chlamydia. Major outbreaks of infectious diseases can have a devastating effect not only on or near the hotel site but also on local communities.

Significant of Impact

Impact rating for sexually transmitted infection can be considered as low due to the decreased in infection rate from 2012 to 2014 in CMTZ Township during construction phase.

Who will affected?	Magnitude/Consequence of impact			Likelihood/Probability of impact			Health Impact Significance Rating		
	Low	Medium	High	Unlikely to occur	Likely to occur sometimes	Likely to occur often	Low	Medium	High
Local people	√	-	-	-	√	-	√ (HIR 1)	-	-

2.3.1.4 Reduce Diseases Infected from Rats

The proposed project will remove the rats inside or near the project site due to the site clearing activities during construction phase. It will also reduce the diseases infection from rats.

Significant of Impact

Rats are one of the impact sources of public and environmental health and so impact rating for this positive impact can be rated as medium.

Who will benefit?	Magnitude/Consequence of impact			Likelihood/Probability of impact			Health Impact Significance Rating		
	Low	Medium	High	Unlikely to occur	Likely to occur sometimes	Likely to occur often	Low	Medium	High
People in nearest residents	√	-	-	-	-	√	-	√ (HIR 1)	-

2.3.2 Anticipated Health Impacts during Operation Phase

The following will be the potential health impacts of the operation of Pullman Hotel (Mandalay).

2.3.2.1 Increased Chronic Diseases

Projects can also bring changes that affect people's lifestyles (e.g. diet, level of physical activity, smoking, alcohol and drug consumption) that increase their risk of chronic illnesses such as heart disease, diabetes, and cancer and can also affect the mental health status of the local population. This can be through increased incomes as well as the increased availability of tobacco and alcohol. Alongside infectious diseases, cardiovascular diseases (heart disease and strokes) are one of the leading causes of death, ill health and disability worldwide.

Significant of Impact

Even small changes in these chronic disease risk factors can have significant long term effects on local community health and wellbeing. So, this kind of impact can be rated as medium.

Who will affected?	Magnitude/Consequence of impact			Likelihood/Probability of impact			Health Impact Significance Rating		
	Low	Medium	High	Unlikely to occur	Likely to occur sometimes	Likely to occur often	Low	Medium	High
Local people in CMTZ	-	√	-	-	√	-	-	√ (HIR 2)	-

2.3.2.2 Increase Risk of Sexually Transmitted Infections

Increased risk of sexually transmitted infections such as HIV/AIDS, gonorrhoea and chlamydia will be continued during operation phase. Major outbreaks of infectious diseases can have a devastating effect not only on or near the hotel site but also on local communities. Moreover, the influx of large groups of, generally, male workers can sometimes lead to social unrest which may include violence and sexual assault in CMTZ region. Similarly, an increase in commercial sex workers (CSW) can have significant, long term, negative individual and community health and wellbeing impacts.

Significant of Impact

According to the nature of Hotel business, demand for prostitution may increase, leading to long term psychosocial harm for those forced into the sex industry, as well as increased transmission of sexually transmitted infections and other social harms associated with commercial sex work. So, impact can be rated as medium.

Who will affected?	Magnitude/Consequence of impact			Likelihood/Probability of impact			Health Impact Significance Rating		
	Low	Medium	High	Unlikely to occur	Likely to occur sometimes	Likely to occur often	Low	Medium	High
Local people in CMTZ	-	√	-	-	√	-	-	√ (HIR 2)	-

2.3.2.3 Nutritional Disorders

Obesity and micronutrient deficiencies can co-occur when calorie intake is high and the food eaten is low in essential vitamins and minerals. This is a particular risk in regions of rapid economic development, where the influx of cash income into a subsistence economy can disrupt traditional patterns of food production, food distribution, land access and water use.

Significant of Impact

This kind of impact can be considered as very low due to low probability and low consequence.

Who will affected?	Magnitude/Consequence of impact			Likelihood/Probability of impact			Health Impact Significance Rating		
	Low	Medium	High	Unlikely to occur	Likely to occur sometimes	Likely to occur often	Low	Medium	High
Local people in CMTZ	√	-	-	√	-	-	√ (HIR 1)	-	-

2.3.2.4 Health, Social Care and Public Services

Proposed hotel project may also place additional pressures on local health, social care and public services (including emergency services) due to the increase in population that they can bring, particularly if they also cause disruption and lead to new, or exacerbate existing, health and social problems. These can be overwhelmed by local people demanding to be treated in them if existing private local health services are seen to be inaccessible or expensive.

Pressure on local water resources may occur because the project uses local water for its own processes and workers at the expense of local community's sanitation systems and access to clean drinking water. This in turn can lead to the spread of water borne diseases such as typhoid and cholera (bacterial); hepatitis A and polio (viral); schistosomiasis and guinea worm (parasites); and amoebiasis and giardiasis (protozoal).

Significant of Impact

As the general clinic attendance percent is continuously increased since 2012 in CMTZ Township, there will be high impact on community health care facilities due to increased in number of hotel workers.

Who will affected?	Magnitude/Consequence of impact			Likelihood/Probability of impact			Health Impact Significance Rating		
	Low	Medium	High	Unlikely to occur	Likely to occur sometimes	Likely to occur often	Low	Medium	High
Local people in CMTZ	-	-	√	-	√	-	-	-	√ (HIR 3)

2.3.2.5 Increase Road Accidents

The operation of proposed hotel will increase traffic in 73th Main Road and there will be road accidents during local traffic time. It will also pressure on local health care facilities.

Significant of Impact

There have potential to traffic congestion in 73th Main Road and most of the people in nearest residents are frequently used this road. This type of impact will be considered as high.

Who will affected?	Magnitude/Consequence of impact			Likelihood/Probability of impact			Health Impact Significance Rating		
	Low	Medium	High	Unlikely to occur	Likely to occur sometimes	Likely to occur often	Low	Medium	High
Local people in CMTZ	-	-	√	-	√	-	-	-	√ (HIR 3)

2.3.2.6 Improved Mental Health

Access to jobs, income, goods and services can enhance mental health and wellbeing and reduce stress. Having a sense of control over one's life is crucial for mental wellbeing, so proposed hotel project can improve mental health by reducing poverty, increasing self-esteem and empowering local communities.

Significant of Impact

Job opportunity for local people is one of the most public concerns and it will be great benefit for mental health to nearest residents. Impact can be rated as medium due to the low jobless percentage of CMTZ Township.

Who will affected?	Magnitude/Consequence of impact			Likelihood/Probability of impact			Health Impact Significance Rating		
	Low	Medium	High	Unlikely to occur	Likely to occur sometimes	Likely to occur often	Low	Medium	High
People in CMTZ	√	-	-	-	√	-	-	√ (HIR 3)	-

2.3.2.7 Leisure and Recreation

There can be positive health effects on local leisure and recreational activities because of the changes that a project brings. Of particular interest, from a public health perspective, are changes to levels of physical activity.

Significant of Impact

Small daily changes in walking, cycling or sporting activity within the project area can have significant effects on a range of health outcomes including heart disease, certain cancers and mental wellbeing.

Who will affected?	Magnitude/Consequence of impact			Likelihood/Probability of impact			Health Impact Significance Rating		
	Low	Medium	High	Unlikely to occur	Likely to occur sometimes	Likely to occur often	Low	Medium	High
People in CMTZ	-	√	-	-	-	√	-	-	√ (HIR 2)

Table 2.2. Impact Significant Rating for Construction Phase

No.	Pathway of health impact	Nature of health impact	Who is negatively affected?	Who benefits?	Health Impact Significance Rating			Mitigation/ Enhancement Required
					Low	Medium	High	
1.	Increase infection of Air-borne Diseases	Negative	Local people in nearest residents	-		√ (HIR 2)		Yes
2.	Increase malaria carrying mosquitoes	Negative	Local people in nearest residents	-		√ (HIR 2)		Yes
3.	Increase Risk of Sexually Transmitted Infections	Negative	Local people in CMTZ Township	-	√ (HIR 1)			Yes
4.	Reduce Diseases Infected from Rats	Positive	-	Local people in nearest residents		√ (HIR 1)		No

Table 2.3. Impact Significant Rating for Operation Phase

No.	Pathway of health impact	Nature of health impact	Who benefits? Who is negatively affected?	Health Impact Significance Rating			Mitigation/ Enhancement Required
				Low	Medium	High	
1.	Increase chronic diseases	Negative	Local people in CMTZ Township		√ (HIR 2)	-	Yes
2.	Increase Risk of Sexually Transmitted Infections	Negative	Local people in CMTZ Township		√ (HIR 2)		Yes
3.	Nutritional disorders	Negative	Local people in nearest residents	√ (HIR 1)			Yes
4.	Health, Social Care and Public Services	Negative	Local people in nearest residents			√ (HIR 3)	Yes
5.	Increase in road accidents	Negative	People travelling on 73th main road			√ (HIR 3)	Yes
6.	Improved mental health	Positive	Local people in nearest residents		√ (HIR 3)		No
7.	Leisure and recreation	Positive	Local people in CMTZ Township			√ (HIR 2)	Yes

HIR = Health Impact Rating

3. DEVELOPMENT OF MITIGATION AND ENHANCEMENT MEASURES

Identifying potential enhancements and mitigations is an important part of the HIA process. These should be based on the analysis of the significance of the potential health impacts and the acceptability and wishes of local communities. Enhancement measures aim to promote health, prevent disease and address present and future needs of the project and local communities. Mitigation and enhancement measures should be evidence-based, where possible, and developed in consultation with affected communities, NGOs, local government and local health and social care agencies.

Mitigations and enhancements should be chosen on the basis that they are:

(i) Implementable
(ii) Proven to work
(iii) Socially and culturally acceptable to the affected community
(iv) Cost effective.

Tables 3.1 and 3.2 show mitigation and enhancement measures relevant to proposed hotel project.

Table 3.1. Key Mitigation and Enhancement Measures for Construction Phase

No.	Potential Health Impact	Mitigation/Enhancement Measures	Responsibility
1.	Increase infection of air- borne diseases	- Pre-employment health checks & treatment. - Partner with government and NGO services to prevent air-borne diseases program. - Implement TB control program for workers.	Construction service providers
2.	Increase malaria carrying mosquitoes	- Ensure that there is no stagnant pools of water during the construction phase. - Ensure to improve existing drainage system within or near the Myothit Ward (2). - Provide local people with impregnated mosquito nets and/or better access to malaria prophylaxis and treatment.	Construction service providers
3.	Increase Risk of Sexually Transmitted Infections	- Provide information and education to workers about safe sex and etc. - Implement HIV control program for workers.	Construction service providers in cooperation with Public Health Department (CMTZ)
4.	Reduce diseases infected from rats	- Make sure there is no habitation for rats during site clearing	Construction service providers

Table 3.2. Key Mitigation and Enhancement Measures for Construction Phase

No.	Potential Health Impact	Mitigation/Enhancement Measures	Responsibility
1.	Increase Chronic Disease	- The potential increase in chronic disease risk factors may be at least partially minimized through support for NGOs and local health and social care services in delivering health promotion that emphasises moderation and the long term adverse effects of substance abuse; and - Working with the local police service to regulate black market economies and what may be Regally sold to workers.	Regal Hospitability Co., Ltd
2.	Increase Risk of Sexually Transmitted Infections	- Utilize opportunities to provide information and education to enable people to make informed choices about nutrition, safe sex, etc. - Many of these can be mitigated through good planning and working closely with local communities, NGOs, local government and health and social care agencies.	Regal Hospitability Co., Ltd in cooperation with Public Health Department (CMTZ)
3.	Nutritional disorders	- Provide healthy food in the canteen, leisure facilities that promote active recreation.	Regal Hospitability Co., Ltd
4.	Health, Social Care and Public Services	- Provide own medical facilities and services available to the project workforce. - Develop a good baseline profile of the existing health and wellbeing status of local communities and the capacity of local health services is critical in minimizing any potential pressures on local public services.	Regal Hospitability Co., Ltd

		- Ensure partnership with local health, social care and NGO welfare services in order to develop a plan to manage demand, enhance service capacity (medical supplies, equipment and personnel), and most importantly, develop and implement preventative public health measures. - Extent health care facilities of hotel to local communities.	
5.	Increase road accident	- Provide safe crossing points on busy roads and slow down at the entrance and exit of main entrances. - Reduce traffic speeds at entrance to main road.	Regal Hospitability Co., Ltd in cooperation with local police force
6.	Leisure and recreation	- Design the project to enhance or lead to a positive health impact affected communities as a whole are included from the start e.g. health promotion programs, access to green space, hygienic and well ventilated worker accommodation, training and development of employees, and social investment program for affected communities.	Regal Hospitability Co., Ltd

4. HEALTH IMPACTS MONITORING PROGRAM

Any monitoring program should monitor both the positive and negative community health impacts and provide an early warning system that health problems are occurring at community level. Some changes such as the prevalence of infectious diseases can be easier to monitor than project-related chronic disease and the economic and social benefits of the project that lead to positive health and wellbeing impacts.

An in-depth baseline assessment of a community's health and wellbeing that may be conducted as part of an HIA, or a separate HNA, will provide an effective baseline from which a monitoring program can judge whether it is the project or other factors that are causing beneficial or harmful effects on local communities.

Table 4.1 and 4.2 shows proposed monitoring parameters for Pullman Hotel (Mandalay) during construction and operation phases.

Table 4.1 Monitoring Parameters for Pullman Hotel (Mandalay)

No.	Health Issues	Project Stage	Action	Monitoring	Responsibility
1.	Particulate air emissions	Construction	Use of best available technology	Sampling of ambient air quality and monitoring of control measures	Construction contractors
2.	Mental health and wellbeing	Operation	Dialogue and communication on the project and its potential benefits as well as potential negatives and how these will be managed	Management of planning and consent process	Regal Hospitability Co., Ltd
3.	Traffic injury	Construction and operation	Use of traffic management entrance and exit to public road	Inspection of road plans and monitoring of speeds, community complaints and incidents on roads	Regal Hospitability Co., Ltd
4.	Social capital and community cohesion	Construction and operation	Ensure that disruption of exiting lifestyles and community routines are minimized and social investment made for safe crossing points along roads, education facilities and local jobs	Degree of community acceptance and support for the project	Regal Hospitability Co., Ltd, NGOs, Local communities

4.1 HIA Monitoring Team

Aspects of the monitoring program may be commissioned through independent agencies to maintain the trust of local communities. The independence of the monitoring program can be further enhanced by creating a HMP Steering or Advisory Group with a range of stakeholders to help oversee its effectiveness and transparency. HIA monitoring team of the proposed hotel project should be the same or similar members of monitoring team of EIA and SIA. The HIA team could, and ideally should, involve:

(i) project planners,
(ii) managers,
(iii) engineers,
(iv) health and safety advisors,
(v) community health and development workers,
(vi) public health officials and/or community representatives.

4.2 Evaluation of the Health Impacts

A public health evaluation of a project involves asking whether the project achieved its overall aims and objectives in a way that protected and enhanced the health and wellbeing of local communities. An evaluation of the project and its potential impacts on local communities' health and wellbeing should be undertaken at regular intervals, e.g. every three years, by an independent agency or consultancy as part of an adaptive project management process. As with the monitoring program, a steering or advisory group made up of a range of stakeholders can enhance the credibility, effectiveness and value of the evaluation.

4.3 Reporting

The findings and recommendations of a monitoring and evaluation processes should be written up in summary form and reported to BOD of Regal Hospitability Co., Ltd and local authority. The recommendations should be reviewed by the project team, the HIA Steering or Advisory Group, local government, health and social care agencies and community representatives. Where feasible the findings should form part of the project information that is made public.

4.4 Stakeholder and Community Involvement

Stakeholders are those individuals and groups that are affected by, or express an interest in, the project. Stakeholder and community involvement is concerned with developing two-way dialogue and information/knowledge exchange between the HIA specialist, project team, key stakeholders and local communities. However, stakeholders and communities do not always have the time to be involved throughout the process and are likely to engage to a greater or lesser degree as time and interest permits.

5. PROPOSED HEALTH CARE FACILITIES FOR LOCAL PEOPLE

The design of new buildings, other facilities and landscaping for the scheme have all been carefully considered to ensure that the potentially positive health impacts of the local residents. The following are the proposed health care facilities as one portion of the CSR program to improve public health.

5.1 Extend Health Care Facilities

The health care facilities of proposed Hotel should be protracted to local people with the lowest price as much as possible. According to the HIA survey, most of the private health center are inaccessible and expensive for most of the people and public health care center of CMTZ Township is usually crowded all through out of the working hours. So, health care facilities of proposed hotel should be accessible outside of the working hours (17:00 to 19:00) for local people will be great benefit to improve public health especially for people lived in Myothit Ward (2). Own ambulance of proposed hotel should also be provided for local people in emergency cases.

5.2 Facilities for Public Relaxation

The new landscaped within the hotel project should be open space for use by residents in the scheme. The design of the open space should encourage interaction between residents of the new apartments by providing seating in a pleasant and tranquil setting. The new seating should be arranged to parents to watch toddlers and young children enjoying the play facilities. It will also improve the mental and health conditions of local residents.

5.3 Planting

The landscape strategy during construction and operation of proposed hotel should include the planting of new trees. The location of the new trees should be carefully considered to help prevent overheating by providing shade for the main roads, seating areas and the surface car parking spaces to reduce heat stress.

6. CONCLUSION

This HIA report will provide the developer to identify the positive and negative health effects of the proposed project on physical activity and social cohesion and to a lesser extent on access to healthy food as well as to make recommendations to maximize these effects and to minimize any potential negative health effects.

According to the health impact assessment, the proposed hotel project will have both positive and negative impacts on public health. All of the anticipated health impact can be minimized to acceptable levels with proposed mitigation measures.

On the positive side, small improvements in health determinants can have significant beneficial effects on vulnerable individuals and groups. Moreover, findings from the HIA showed that the Pullman Hotel Project had the potential to benefit the health of residents and visitors by increasing opportunities for physical activity and social cohesion as well as increase in local health care facilities.

7. RECOMMENDATIONS

A set of recommendations was developed that highlighted the initiatives that support health and included ways to maximise health benefits. The aspects of the Pullman Hotel project that were considered to have the impacts on public health and therefore should be considered for initial implementation included the following:

- All of the mitigation and enhancement measures described in this report should be implemented by Regal Hospitability Co., Ltd.
- Improvements to open space and recreation areas (including installation of picnic areas) will provide greater opportunity for physical activity as well as provide a meeting place to allow improved social cohesion for local people.
- Adequate toilet facilities for workers and proper sewage treatment system should be provided.

- Physical activity ranks as one of most important factor in chronic disease prevention in Myanmar. Physical activity has been shown to reduce the risk of coronary heart disease mortality, non-insulin-dependent diabetes mellitus and colon cancer and to relieve symptoms of depression and anxiety (Commonwealth Department of Health & Family Services, 1998; US Department of Health and Human Services, 1996). So recreational facilities and place for physical activities for customer, workers and local people will help to maintain good health condition for all.
- Regular supply of medicines and medical equipment at the health facility were cited as the most important challenges for further improvement in the quality of health services.

The HIA process provides a useful framework for bringing the developer and the health care facilities of Pullman Hotel (Mandalay) together to think about the impact of hotel construction on public health. It is important to use HIA early in the hotel planning process to inform policy decision-makers on the potential impact of their policy or plan on health.

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