Amata International Company Limited

Amata Garden Resort, Inle

Inital Environmetal Examination (IEE) Report

eguard ENVIRONMENTAL SERVICES

Revised on June, 2017

AMATA INTERNATIONAL CO., LTD

Initial Environmental Examination (IEE) Report

Amata Garden Resort Hotel

By E Guard Environmental Services, 2015

Revised on November 2016

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Abbreviation and Acronyms Used in this IEE Report

ASEAN	Association of South East Asia Nations
BMP	Biodiversity Management Plan
BOT	Built Operate Transfer
CFC	Chlorofluorocarbon
CSR	Corporate Social Responsibility
ECC	Environmental Compliance Certificate
ECD	Environmental Conservation Department
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EU	European Union
FD	Forest Department
GWP	Global Warming Potential
HRD	Human Resource Development
HSE	Health, Safety and Environment
IEE	Initial Environmental Examination
IEMA	Institute of Environmental Management and Assessment
INGOs	International Non-Government Organizations
IRR	Internal Rate of Return
MA TV system	Master Antenna Television system
MEPE	Myanmar Electricity Power Enterprise
MIC	Myanmar Investment Commission
MOECAF	Ministry of Environmental Conservation and Forestry
MOEP	Ministry of Electric Power
NGOs	Non-Government Organizations
NSTM	Nyaung Shwe Township Municipal
ODSs	Ozone Depletion Substances
PM	Particulate Matters
PPE	Personal Protective Equipment
SEZ	Special Economic Zone
TSP	Total Suspended Particulates
USD	United States Dollar
USGS	United States Geological Survey
VOCs	Volatile Organic Compounds
WHO	World Health Organization

Name and Address of Institution Submitting the Report

Name of Proposal

The name of the proposal is "**Initial Environmental Examination (IEE) for Amata Garden Resort Hotel.**" which is located at Plot number (44), Thaleoo Village, Ingingone Village, Nyaungshwe Township, Taunggyi District, Southern Shan State.

Proponent and Address

AMATA INTERNATIONAL COMPANY LIMITED

Address	:	No.10, Inya Yeik Tha Road, Mayangone Township, Yangon, Myanmar
Tel/Fax #	:	(95) 1-657050/657690/665126, (95) 1-657050

1. Executive Summary

The E Guard Environmental Services has carried out this Initial Environmental Examination (IEE) in August and September 2014 for the proposed Amata Garden Resort hotel at the Plot number (44), Ingingone Village, Thalaeoo Village, in Inle Lake Wildlife Sanctuary, east bank of Inle Lake, Nyaungshwe Township, Taunggyi District, Southern Shan State, the Republic of the Union of Myanmar. Amata International Company Limited which will invest MMK 14,400 million on the proposed hotel project is 100% local investment, aiming to carrying out construction and operation of hotel services at the above-mentioned address.

In accordance with the paragraph 19 of the terms and conditions of the MIC permit, dated 9th April 2014, the Amata International Company Limited has to submit the Initial Environmental Examination (IEE) report together with Environmental Management Plan (MEP) to the Environmental Conservation Department (ECD), the Ministry of Natural Resources and Environmental Conservation (MONREC). Thus this IEE including EMP was prepared and submitted in conformity with the provisions of Myanmar Environmental Conservation Law, 2012, Environmental Conservation Rules (2014) and general guidelines promulgated by the Environmental Conservation Department (ECD) of MOECAF.

The proposed hotel site is located at the Inle Wildlife Sanctuary. Main power source of the hotel is electricity from the national grid with two backup generators for emergency use. Proposed hotel project consists of three main steps, from environmental conservation point of view, construction, operation of hotel services and decommissioning of hotel after its lifespan.

The construction phase will take 24 months including 6 months of preliminary survey. Operation of hotel services will take 50 years and can be extended for another two times after which the hotel is supposed to be dismantled. The hotel project has planned to use and install up-to-date machines and equipment during construction and operation phases. The hotel shall abide by international norms and standards, Myanmar Hotels and Tourism Law and other related laws, rules and regulations of relevant ministries.

The proposed hotel project has planned to create job opportunity for 252 local people and other people from the region who can improve their professional skills and make themselves valuable human resources in hotel and tourism industry, through its capacity building process. In all phases

of the project, a few low impacts are observed where as no significant impacts and unsustainable situations are identified. Only (29) non-significant environmental impacts are found out. During construction phases, there is a low significant impact for discharging sewage and litter into the Inle Lake. Mitigation measures are to practice NO littering and discharging sewage into the Inle Lake policy having alternative proper waste management system such as waste collection, segregation and disposal.

During operation phase, there is environmental impact with low significance which is water resource depletion due to domestic water consumption from the tube well. Mitigation measures are installing water meter and water saving equipment for control of water use. There is also low significant environmental impact due to discharging of sewage and litter to the nearby Inle Lake which must be mitigated by adopting no waste discharge to Inle Lake policy, installing sewage treatment plant and developing proper waste segregation and disposal system. During the operation phase, there is a potential discharge to environment such as detergent, liquid chlorine/tablets, cleaning agents due to the use of chemical products for cleaning, laundry, swimming pool and Spa. This must be addressed by using secondary containment to avoid accidental leakage and spill and a wise choice of environmental friendly products (e.g. phosphate free detergent). In addition, there is a low significance impact which is noise and atmospheric emission due to transportation of delivered supplies and visitors to hotel which must be taken care of by conducting regular noise and air monitoring survey, use of proper PPEs and regular boats engine maintenance.

Regarding health and safety impacts, there will be numbers of risks such as car/boat accidents during transportation, use of equipment and machines, probable electric shock hazard, fires and safety hazards such as falls from height, slips, trips and falls, falling objectives, manual handling, repetitive strain injuries etc… during the construction, operation and decommissioning phases. There are preventive measures already planned to reduce the risk of fire and also the machines and equipment to be provided are new with modernized technology including machine guards. Therefore the probability of accidents and electrical shocks are low. There are a number of actions to be done to mitigate the risks such as providing safety awareness training, first aid, free medicine, transport to the nearest hospitals in case of emergency, and personal protective equipment such as safety gloves, helmets, goggles, earmuffs etc.

There will be one Health, Safety and Environment (HSE) Coordinator appointed for the following program strategy of "Plan, Do, Check, Act" for potential health, safety and environmental issues. It is expected that the proposed project have only minor impacts on Physical, Biological and Socio-economic Environment. All of the impacts are local in nature and can be easily mitigated through adequate mitigation measures and regular monitoring during the Construction, Operation and Decommissioning Phases of the project. The EMP is prepared to address these potential impacts through appropriate mitigation, management and monitoring measures. The Environmental Management Plan (EMP) which is designed as an environmental management and health and safety framework for all three phases of Amata Garden Resort hotel is prepared in chapter 11. The environmental management practices, procedure and responsibilities are well defined herein to fully comply with the existing environmental policies, laws, rules and instructions of the Republic of the Union of Myanmar. This plan can be divided into four parts as follows:

- Environmental Management Plan (EMP)
- Corporate Social Responsibility Plan (CSR)
- Environmental Monitoring Plan (EMP)
- Biodiversity Management Plan (BMP)

The Environmental Management Plan (EMP) identifies the activity, objective, mitigation and enhancement measures, estimated cost and responsible person or unit. The Environmental Monitoring Plan (EMP) has to find out environmental concerns, management activities, timing, cost and responsible person and unit. The main purpose of the Corporal Social Responsibility (CSR) plan is to secure social well-being of the hotel guest, employees and their family members, better community living and transparent and friendly relationship with neighboring communities. Opinions, feedbacks, desires and needs of local people recorded in the public hearing/public consultation meetings are well addressed and incorporated in formulation of EMP and CSR. The Biodiversity Management Plan (BMP) identifies the biodiversity management area, objective, management activities, timeframe, cost estimate and responsible person or unit so as to ensure the protection of biodiversity resources interact with the hotel.

This IEE has, in brief, systematically and scientifically explored all possible positive and negative environmental impacts of the proposed hotel project and identified the monitoring and mitigation measures on negative impacts which could be happened in the three phases of the project.

အကျဉ်းချုပ် အစီအရင်ခံစာ

E Guard Environmental Services သည် ဤကနဦးပတ်ဂန်းကျင်ဆန်းစစ်ခြင်းကို ၂၀၁၄ခုနှစ် ဩဂုတ်လတွင် အကွက်အမှတ် (၄၄)၊ အင်ကြင်းကုန်းကျေးရွာ၊ သလဲဦးကျေးရွာ၊ အင်းလေးကန်၏ အရှေ့ဘက်ကမ်း၊ အင်းလေးကန် တောရိုင်းတိရစ္ဆာန်ထိန်းသိမ်းရေးစခန်းအတွင်း၊ ညောင်ရွှေမြို့နယ်၊ တောင်းကြီးခရိုင်၊ ရှမ်းပြည်နယ်တောင်ပိုင်း၊ ပြည်ထောင်စု သမ္မတမြန်မာနိုင်ငံတော်တွင် အမတ အပြည်ပြည်ဆိုင်ရာ ကုမ္ပဏီလိမိတက်မှ တည်ဆောက်ရန် ရည်ရွယ်ထားသော အမတဥယျာဉ်အပန်ဖြေနားနေစခန်း ဟိုတယ် (Amata Garden Resort hotel) အတွက် ဆောင်ရွက်ထားခြင်းဖြစ်သည်။ အမတ အပြည်ပြည်ဆိုင်ရာ ကုမ္ပဏီလိမိတက်သည် ဟိုတယ်ဆောက်လုပ်ခြင်းအတွက် မြန်မာကျပ် ၁၄၄၀၀ သန်းရင်းနှီးမြှုပ်နှံမှု ပြုလုပ်မည်ဖြစ်ပြီး ဟိုတယ်လုပ်ငန်းဆောက်လုပ်ခြင်းနှင့် လည်ပတ်ခြင်းပြုလုပ်နိုင်ရန် ရည်ရွယ်ထားပါသည်။

မြန်မာရင်းနှီးမြှုပ်နှံမှုကော်မရှင်၏ ခွင့်ပြုမိန့်ပါ အပိုဒ် (၁၉) တွင်ဖော်ပြချက်များအရ အမတအပြည်ပြည်ဆိုင်ရာ ကုမ္ပဏီလိမိတက် အနေဖြင့် ကနဦးပတ်ဂန်းကျင်အစီအရင်ခံစာ (IEE) အား ပတ်ဂန်းကျင်စီမံအုပ်ချုပ်မှု အစီအစဉ် (EMP) နှင့် အတူ ပတ်ဂန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန(ECD)၊ သယံဇာတနှင့် သဘာဂပတ်ဂန်းကျင် ထိန်းသိမ်းရေး ဂန်ကြီးဌာန (MONREC)သို့ တင်ပြရမည်ဟု ပါရှိသည်။ ထို့ကြောင့် EMP ပါဂင်သော IEE ကို MONREC ၏ပတ်ဂန်းကျင်ထိန်းသိမ်ဒေးရး ဦးစီဌာန (ECD) မှ ထုတ်ပြန်ထားသော မြန်မာပတ်ဂန်းကျင်ထိန်းသိမ်းရေးဥပဒေ (၂၀၁၂)၊ ပတ်ဂန်းကျင်ထိန်းသိမ်ရေး နည်းဥပဒေ (၂၀၁၄) များနှင့်အညီ ပြင်ဆင်ထားပြီး တင်ပြထားပါသည်။

အဆိုပြုစီမံကိန်းဇရိယာသည် အင်းလေးကန် တိရစ္ဆာန်ထိန်းသိမ်းရေးစခန်းတွင် တည်ရှိပါသည်။ ဟိုတယ်၏ အဓိကလျှပ်စစ်ဓါတ်အားကို မဟာဓါတ်အားလိုင်းမှ ရယူမည်ဖြစ်ပြီး အရေးပေါ်မီးစက် နှစ်လုံအားလည်း ထားရှိမည်ဖြစ်သည်။ ပတ်ဂန်းကျင်ထိန်းသိမ်းရေးအမြင်ဘက်မှကြည့်မည်ဆိုပါက အဆိုပြုစီမံကိန်းတွင် အဓိက အဆင့်ကြီး (၃) ဆင့်ပါ ဂင်ပါသည်။ ၄င်းတို့မှာ ဆောက်လုပ်ခြင်း၊ လုပ်ငန်းလည်ပတ်ခြင်းနှင့် ဟိုတယ်၏ သက်တမ်းပြည့်ပြီးဖျက်သိမ်းခြင်း တို့ဖြစ်သည်။

ဆောက်လုပ်ခြင်းအဆင့်သည် အကြိုလေ့လာခြင်း (၆) လ အပါအဂင် ဆောက်လုပ်ခြင်း ဆိုင်ရာလုပ်ငန်းများ အတွက် (၂၄) လ ကြာမြင့်မည်။ ဟိုတယ်လုပ်ငန်းလုပ်ဆောင်ရန်အတွက် နှစ် (၅၀) ကြာမြင့်မည်ဖြစ်ပြီး နောက်ထပ် နှစ်ကြိမ်တိုးမြင့်နိုင်ပါသည်။ အဆိုပြုဟိုတယ်သည် ခေတ်မှီစက်ကိရိယာများနှင့် ပစ္စည်းများကို တပ်ဆင်ပြီး ဆောက်လုပ်ရေးကာလနှင့် ဟိုတယ်လုပ်ငန်း လည်ပတ်စဉ်တွင် အသုံးပြုရင် စီစဉ်ထားပါသည်။

အဆိုပြုဟိုတယ်သည် နိုင်ငံတကာ စံချိန်စံညွှန်းများ၊ မြန်မာဟိုတယ်နှင့်ခရီးသွားဥပဒေနှင့် အခြား ဆက်စပ်လျက်ရှိ ဂန်ကြီးဌာနများ၏ ဥပဒေများ၊ နည်းဥပဒေများနှင့် လုပ်ထုံးလုပ်နည်းများအား ကြင့်သုံး လိုက်နာရမည်ဖြစ်သည်။

ယင်းအဆိုပြုဟိုတယ် စီမံကိန်းသည် ဒေသခံပြည်သူများနှင့် အခြားဒေသရှိ လူများမှ ၂၅၂ ဦးအား အလုပ်အကိုင်အခွင့်လမ်းရရှိနိုင်ရန် စီစဉ်ထားပြီး ၎င်းတို့သည် သူတို့၏ လုပ်ငန်းကျွမ်းကျင်စေရန်နှင့် တန်ဖိုးရှိသော ဟိုတယ်နှင့် ခရီးသွားလုပ်ငန်းများအတွက် လူသားအရင်းအမြစ်များဖြစ်လာစေရန် စွမ်းရည်မြှင့် တင်ရေး အစီအစဉ်များလည်း စီစဉ်ထားပါသည်။ လုပ်ငန်းစဉ်အဆင့်တိုင်းအတွင် အနည်းငယ်သော ထိခိုက်မှုများအား တွေ့ရပြီး သိသာထင်ရှားမှုမရှိသော သက်ရောက်မှုများနှင့် ဆက်လက်တည်မြဲရန်မသင့်သော သက်ရောက်မှုများအား သတ်မှတ်ဖော်ပြထားပါသည်။ သိသာထင်ရှားမှုမရှိသော ပတ်ဂန်းကျင်ဆိုင် သက်ရောက်မှု (၂၉)ခုအား တွေ့ရှိခဲ့ရပါသည်။ ဆောက်လုပ်ရေးကာလတွင် သိသာထင်ရှားမှု အနည်းငယ်ရှိသော သက်ရောက်မှုများအနေဖြင့် ရေဆိုးနှင့် စွန့်ပစ်အမှိုက်သရိုက်များကို အင်းထဲသို့စွန့်ပစ်ခြင်း တွေ့ရှိခဲ့ပါသည်။ ယင်းသက်ရောက်မှုအား လျော့ချရေးနည်းလမ်းအဖြစ် အမှိုက်သရိုက်နှင့် ရေဆိုးအား အင်းထဲသို့ မစွန့်ပစ်ရန်နှင့် စွန့်ပစ်ပစ္စည်းများ စုထားခြင်း၊ အမျိုးအစားခွဲခြားခြင်းနှင့် စွန့်ပစ်ခြင်းစသည်တို့ ပါဂင်သော စွန့်ပစ်ပစ္စည်း စီမံခန့်ခွဲရေးအစီအစဉ်အား အသုံးပြုရန်ဖော်ပြထားပါသည်။

လုပ်ငန်းလည်ပတ်နေစဉ် ကာလတွင် အဂီစိတွင်းမှ ရေကို တစ်နှိုင်တစ်ပိုင် သုံးစွဲမည်ဖြစ်သောကြောင့် ရေအရင်း အမြစ်လျော့နည်းလာမှုအပေါ် အကျိုးသက်ရောက်မှု နည်းစေမည်ဖြစ်ပါသည်။ ရေသုံးစွဲမှုပမာဏ လျော့ချရန်အတွက် အသုံးပြုမည့်နည်းလမ်းများမှာ ရေမီတာတပ်ဆင်ခြင်းနှင့် ရေသုံးစွဲမှုထိန်းချုပ်သော ကိရိယာများတပ်ဆင်အသုံးပြုခြင်း တို့ဖြစ်ပါသည်။ ကန်ထဲသို့ စွန့်ပစ်ပစ္စည်းများ စွန့်ပစ်ခွင့်မရှိသော အင်းလေးကန်မူဂါဒအရ မိလ္လာအညစ်အကြေးများနှင့် အမှိုက်များစွန့်ပစ်ခြင်းကို လျော့ချရမည်ဖြစ်သောကြောင့် မိလ္လာအညစ်အကြေးများ ပြန်လည်ခွဲခြားသန့်စင်သောစက်များ တပ်ဆင်ခြင်းနှင့် သင့်လျော်သော အမှိုက်အမျိုး အစားခွဲခြားသတ်မှတ်၍ စွန့်ပစ်သောနည်းများ အသုံးပြုရသဖြင့် ပတ်ဂန်းကျင်အပေါ် အကျိုးသက်ရောက်မှုကို လျော့နည်းစေပါသည်။ လုပ်ငန်းလည်ပတ်နေစဉ်ကာလအတွင်း အညစ်အကြေးချတ်ဆေး၊ ကလိုရင်းအရည်/ ဆေးပြားများ၊ သန့်ရှင်းရေး၊ လျော်ဖွပ်ရေး၊ ရေကူးကန်နှင့် Spa လုပ်ငန်းများတွင် ဓာတုပစ္စည်းများအသုံးပြု၍ သန့်ရှင်းရခြင်းတို့ကြောင့် ပတ်ဂန်းကျင်သို့ စွန့်ထုတ်မှုများ ဖြစ်ပေါ်စေနိုင်ပါသည်။ ထိုကဲ့သို့ အညစ်အကြေးများစိမ့်ထွက်ခြင်းနှင့် စီးဂင်ခြင်းမျိုး မဖြစ်ပေါ်စေရန် သိုလှောင်ကန်များအသုံးပြုခြင်းနှင့် ပတ်ဂန်းကျင်အပေါ် ထိခိုက်မှုနည်းသောပစ္စည်းများ ရွေးချယ်အသုံးပြုခြင်းအားဖြင့် ဖြေရှင်းမည်ဖြစ်ပါသည်။ ထို့အပြင် ပစ္စည်းများ သယ်ယူပို့ဆောင်ခြင်းနှင့် ဇည့်သည်များလာရောက်ခြင်းတို့ကြောင့် ဆူညံမှုနှင့် လေထုညစ်ညမ်းမှုများ စသည့်သိသာထင်ရှား မှုနည်းသည့် အကျိုးသက်ရောက်မှုများကို ဆူညံသံနှင့် လေထုပုံမှန်တိုင်းတာခြင်း၊ သင့်လျော်သော ကာကွယ်ရေးကိရိယာများ အသုံးပြုခြင်းနှင့် စက်များပုံမှန် စစ်ဆေးခြင်းများ ဂရုစိုက်လုပ်ဆောင်မည် ဖြစ်ပါသည်။

ကျန်းမာရေးနှင့် ဘေးကင်းလုံခြုံရေးအကျိုးသက်ရောက်မှု အနေဖြင့် ဆောက်လုပ်ခြင်း၊ လုပ်ငန်းလည်ပတ်ခြင်းနှင့် ပြန်လည်ဖျက်သိမ်းခြင်း ကာလများအတွင်း သယ်ယူပို့ဆောင်ရေးတွင် အသုံးပြုသော ကား/စက်လှေများ မတော်တဆမှုများဖြစ်ခြင်း၊ စက်ကိရိယာများအသုံးပြုခြင်း၊ မာတ်လိုက်ခြင်း၊ မီးဘေးနှင့် အမြင့်မှ ပြုတ်ကျခြင်း၊ လုပ်ငန်းခွင်မတော်တဆမှု၊ ပစ္စည်းများပြုတ်ကျခြင်း၊ ပစ္စည်းသယ်ခြင်း၊ ပင်ပန်းပြီး ကိုယ်ခန္ဓာနာကျင်ခြင်းစသည့် ဘေးကင်းမှုဆိုင်ရာ အန္တရာယ်များကို တွေ့ရှိနိုင်ပါသည်။ မီးဘေးအန္တရာယ်နှင့် စက်ပစ္စည်းများကြောင့် ဖြစ်လာမည့် အန္တရာယ်များကို လုံခြုံရေးစက်များပါဝင်သည့် ခေတ်မှီနည်းပညာများ အသုံးပြုကာ လျော့ချရန် စီစဉ်ထားပြီးဖြစ်ပါသည်။ ထို့ကြောင့် မတော်တဆမှုများနှင့် မာတ်လိုက်မှုများ ဖြစ်နိုင်ချေများလည်း လျော့နည်းလာမည် ဖြစ်ပါသည်။ ထိုအန္တရာယ်များ လျော့နည်းစေရန် ဘေးကင်းရေးပညာပေး သင်တန်းများ၊ ရှုးဦးသူနာပြုစုနည်းများ၊ အခမဲ့ဆေးဝါးများနှင့် အရေးပေါ်အခြေအနေတွင် အနီးဆုံးဆေးရုံသို့ အမြန်ဆုံးပို့ဆောင်နိုင်ရန် စီစဉ်ထားခြင်း၊ မိမိကိုယ်ကို ကာကွယ်နိုင်မည့် လက်အိတ်၊ဦးထုပ်များ၊ မျက်မှန်များ၊ နားကာများဝတ်ဆင်ခြင်း များ လုပ်ဆောင်နေပါသည်။

ဖြစ်နိုင်ချေရှိသော ကျန်းမာရေး၊ ဘေးကင်းလုံခြုံရေးနှင့် ပတ်ဝန်းကျင်ဆိုင်ရာ ပြဿနာများကို စီစဉ်၊ ဆောင်ရွက်၊ စစ်ဆေး၊ အရေးယူဟူသော ဗျူဟာဖြင့်ဆောင်ရွက်ရန်အတွက် ကျန်းမာရေး၊ လုံခြုံရေးနှင့် ပတ်ဝန်းကျင်ဆိုင်ရာ တာဝန်ခံတစ်ယောက် ထားရှိမည်ဖြစ်သည်။ လျာထားစီမံကိန်းသည်ပတ်ဝန်းကျင်အပေါ် ခန္ဓာဇီဝနှင့် လူမှုစီးပွားရေးဆိုင်ရာ အကျိုးသက်ရောက်မှု နည်းစေရန် ရည်ရွယ်ထားပါသည်။ အကျိုးသက်ရောက်မှု အားလုံးသည် စီမံကိန်းဇရိယာ အတွင်းသာ ဖြစ်ပေါ်နိုင်ပြီး ဆောက်လုပ်ရေး၊ လုပ်ငန်းလည်ပတ်ခြင်းနှင့် ဖျက်သိမ်းခြင်းဟူသော အဆင့်သုံးဆင့်လုံးတွင် လုံလောက်သော လျော့ချရေးနည်းလမ်းများဖြင့် ပုံမှန်စောင့် ကြည့်စစ်ဆေးခြင်းအားဖြင့် လွယ်ကူစွာ လျော့ချနိုင်မည် ဖြစ်သည်။ ဖြစ်နိုင်ချေရှိသော ဆိုးကျိုးများကို ပြည့်စုံသော လျော့ချရေး၊ စီမံခန့်ခွဲရေးနှင့် စောင့်ကြည့်စစ်ဆေးခြင်း နည်းလမ်းများဖြင့် ဖြေရှင်းရန် EMP ရေးဆွဲ ထားသည်။ Amata Garden Resort ဟိုတယ်၏ လုပ်ဆောင်မည့်ကာလသုံးခုအတွက် ပတ်ဝန်းကျင်ဆိုင်ရာ စီမံခန့်ခွဲမှု၊ ကျန်းမာရေးနှင့် လုံခြုံရေးတို့ကို ထည့်သွင်းရေးဆွဲထားသော ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုဆိုင်ရာစီမံချက် (EMP) ကို အခန်း(၁၁)တွင် ဖော်ပြထားပါသည်။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုလုပ်ဆောင်ချက်များ၊ လုပ်ထုံးလုပ်နည်းများနှင့် တာဝန်များကို ပြည်ထောင်စုသမ္မတ မြန်မာနိုင်ငံတော်၏ တည်ရှိဆဲ ပတ်ဝန်းကျင်ဆိုင်ရာ မူဝါဒများ၊ ဥပဒေများ၊ နည်းဥပဒေများနှင့် လမ်းညွှန်ချက်များနှင့် အညီ သတ်မှတ်ထားပါသည်။ ထိုစီမံချက်ကို အောက်ပါအတိုင်း အပိုင်း (၄) ပိုင်း ခွဲခြားနိုင်သည်။

- ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (EMP)
- လူမှုရေးဆိုင်ရာတာဝန်ယူမှုအစီအစဉ် (CSR Plan)
- ပတ်ဝန်းကျင်စောင့်ကြည့်စစ်ဆေးခြင်းအစီအစဉ် (EMoP)
- ဇီဝမျိုးစုံမျိုးကွဲစီမံခန့်ခွဲမှုအစီအစဉ် (BMP)

ပတ်ဝန်းကျင်ဆိုင်ရာစီမံခန့်ခွဲမှုအစီအစဉ် (EMP) မှာ စီမံကိန်းကြောင့် ပတ်ဝန်းကျင်ပေါ်တွင် ကျရောက်နိုင်သော လုပ်ဆောင်မှုများ၊ ရည်ရွယ်ချက်များ၊ လျော့ချမှုများနှင့် ကောင်းမွန်အောင် ပြုလုပ်သော နည်းလမ်းများ၊ ခန့်မှန်းကုန်ကျစရိတ်နှင့် တာဝန်ရှိသူများကို သက်မှတ်ပေးထားသည်။ ပတ်ဝန်းကျင် စောင့်ကြည့်စစ်ဆေးခြင်း (EMoP) သည် ပတ်ဝန်းကျင်ဆိုင်ရာ အကြောင်းအရာများ၊ စီမံအုပ်ချုပ်ရေး လုပ်ဆောင်ချက်များ၊ အချိန်ကာလ၊ ကုန်ကျစရိတ်နှင့် တာဝန်ရှိသူများကို သတ်မှတ်ပေးသည်။ CSR သည် အပန်းဖြေစခန်းရှိဧည့်သည်များ၊ အလုပ်သမားများနှင့် ၄င်းတို့၏ မိသားစုများအကြား ပိုမိုကောင်းမွန်ပြီး ပွင့်လင်းသော အဖွဲ့အစည်းဖြစ်စေပြီး အချင်းချင်းပိုမိုရင်းနှီးသောဆက်ဆံရေးမျိုးဖြင့် လုံခြုံစိတ်ချမှုရှိစေရန် ရည်ရွယ်ပါသည်။ ဒေသခံပြည်သူများနှင့်တွေ့ဆုံဆွေးနွေးခြင်း အစည်းအဝေးတွင် ပြောကြားခဲ့သော ဒေသခံများ၏ အမြင်များ၊ အကြံပြုချက်များ၊ ဆန္ဒများနှင့် လိုအပ်ချက်များကို EMP နှင့် CSR ရေးဆွဲရာတွင် ထည့်သွင်းစဉ်းစားပြီး ဖော်ပြထားသည်။ BMP သည် ဟိုတယ်အပေါ် အကျိုးရှိစေသော ဇီဝမျိုးစုံမျိုးကွဲများထိန်းသိမ်းရေးအတွက် ဇီဝမျိုးစုံမျိုးကွဲစီမံခန့်ခွဲခြင်း ဇရိယာ၊ စီမံခန့်ခွဲရေး လုပ်ဆောင်ချက်များ၊ ကာလသတ်မှတ်ခြင်း၊ ခန့်မှန်းကုန်ကျစရိတ်နှင့် တာဝန်ရှိသူများကို သတ်မှတ်ပေးသည်။

အနှစ်ချုပ်ဆိုသော် IEE အစီရင်ခံစာသည် စီမံကိန်း၏ဖြစ်နိုင်ချေရှိသည့် သဘာဝပတ်ဝန်းကျင် အကျိုးဆက်များကို သိပ္ပံနည်းကျရှာဖွေပြီးနောက် စီမံကိန်းကာလ (၃)ခု တစ်လျောက် ဖြစ်ပေါ်နိုင်သည့် ဆိုးကျိုးများကို စောင့်ကြည့်စစ်ဆေးခြင်းနှင့် လျော့ချရေးနည်းလမ်းများ သတ်မှတ်ပေးခြင်း ဖြစ်သည်။

2. Introduction

As mentioned in the paragraph 19 of the terms and conditions of the MIC permit, the IEE report has to be submitted to the Environmental Conservation Department (ECD), the Ministry of Environmental Conservation and Forestry (MOECAF) in order to get the Environmental Compliance Certificate (ECC).

This report describes the findings of the Initial Environmental Examination (IEE) and Environmental Management Plan (EMP) of Amata Garden Resort hotel to be constructed and operated at the plot number 44, Ingingone Village, Thalaeoo village the east bank of Inle Lake falling in Inle Wildlife Sanctuary, Nyaungshwe Township, Taunggyi District, Southern Shan State by Amata International Company Limited. without any financial assistance from foreign company. The aim of this report is to identify the major environmental impacts which can occur in construction and operation phases of hotel project joined with the effective measures to reduce the adverse impacts, if any. In addition, it also reveals day- to- day safety, health care, social welfare

management and biodiversity management plans to be completed by the proposed hotel throughout its lifespan.

2.1 Background History of Inle Lake

1. The Inle Lake, the second largest fresh water lake in Myanmar, is situated at an altitude of 884 m above sea level in a N-S striking graben zone than 100 km long. The N-S striking mountain chain in the west (east of Heho) rise about 270 m and those in the east (Taunggyi) about 400 m above the level of the Inle Lake. It is about 23 km long and 6.4 meter wide. It depth varies considerably between the dry season (up to 4 m) and rainy season (up to 7 m). The mean surface temperature of the very clear water was 21.7 degree Centigrade towards the end of dry season, and the bottom temperature was 20 degree centigrade (ANNANDALE 1923).
2. The lake is renowned for its beauty and serenity, and has been attracting visitors for hundreds of years. It is site of two famous pagodas, Phaung Daw Oo and Ah Lo Taw Pauk, which date back 800 years, as well as many pagodas and stupa fields in the lake environs. Inle is one of three key tourism destinations in Myanmar, alongside Mandalay and Pagan, and attracts over 250,000 visitors annually, including both international and national visitors on pilgrimage. The Pagoda festival in October is a major draw-card, and the culture of *Intha* people is of particular interest, with the unique leg-rowing fishermen, and the floating garden agriculture (hydroponic cultivation) as well as artisan crafts of silk, weaving, silver smiths and lotus cloth.
3. However, the Inle Lake and its catchment area have been experiencing severe environmental and physical degradation due to several human, natural and anthropogenic factors. As a result, the submergence area which was once 257.03 km2 (2005) has shrunk to 239.83 km2 (2010). The deepest lake of the part measured at 6.6m is now a mere 3.9m deep; and the shallowest part once 3.9m is now 1.9m deep. The lake is elliptical in shape. Nowadays, the north south axis is approximately 18 km and east west is approximately 5 km in length. The nearest airport is Heho which is approximately 50 km from Nyaungshwe and 30 km south west of Taunggyi, the capital of Shan State. The water surface area of Inle Lake was known to be around 271 sq.km; its length from north to south was 57.94 km and its breadth from west to east was 12.88 km. A survey of the lake dimensions conducted by the Survey and Land Records Department in 2007 revealed that the lake area had decreased at an alarming rate.
4. The total lake area was reduced to 163.17 sq.km, of which only 62.16 sq.km remained as open water surface area. Of the remainder, 38.85 sq.km was floating agriculture garden. 33.67 sq.km

wild floating vegetation and peat marshes, 7.77 sq.km human habitat and 20.72 sq.km of land based agriculture on land that had encroached into the lake. The length from north to south measured only 17.7 km and its width from west to east a mere 6.44km, indicating that the loss of total lake area was 106.19 sq.km; the decrease in length was 24.14 km and width 6.44 km. The deepest part of the lake, which was once known to have been 6.1 m, is now a mere 3.66 m; and the shallowest part, which was once around 3.66 m, is 1.83 m. The reasons for the shrinkage of lake and its becoming shallower are mainly attributed to the upstream soil erosion, and general watershed issues, coupled with the impact of floating gardens.

5. The Inle Lake Wildlife Sanctuary was established in November 1, 1985 by order of the Socialist Government for fuller legal protection of native and migratory birds and biodiversity conservation in general, with the extent of 640.97 km^2. The Wildlife Sanctuary Warden's office was established at Nyaungshwe in 1990. The world renowned and has been designated as an **ASEAN Heritage Site**. In 1998, Inle Lake was named as one of the representatives of the Earth 200's most valuable eco-regions and declared as one of the fresh water biodiversity hotspots by the World Conservation Monitoring Centre (WCMC). Its connection to the Saga lake and Mobye reservoir makes it's into a wetland spreading over a length of 100 km. The lake is also home to the revered Phaung Daw Oo Pagoda and Intar people residing at the stilt house on the lake, famous for their tradition of rowing boats with leg.
6. Inle Lake is home to nine indigenous fish species including the locally priced *Inle cypris (*the inle carp, locally known as "nga- phein") Sawbwa genera that are endemic to Inle Lake and are not known to be found in any part of the world. There are 16 sub- species that thrive in the inflows of streams that discharge into the lake. The lake also provides one of the large fishery resources within the Shan State, supporting livelihoods of a large human population living the lake and along its fringes. Inle Lake with its associated wetlands supports a wealth of biodiversity and provides important habitats for migratory water birds within the East Asian Flyway from Siberia to Australia. The eastern ***Sarus crane*** is also endemic to the Inle region. Inle Lake also serves as a habitat for a wide diversity of native and migratory bird species. A 10.36 sq.km area on the northern fringe of the Sanctuary area has been demarcated as a Bird Preservation Area, where around 25,000- 30,000 birds consisting of about 270 species, both native and migratory species, congregate during the cold season months. There are 527 tree species, 12 water plant species, more than 270 bird species, 43 fish species, 3 tortoise species,

93 butterfly species, about 30 reptiles and 217 orchids recorded by the Environmental and Wildlife Conservation division, Forest Department. According to the Criteria of the International Union for Conservation of Nature- IUCN's list of vulnerable species; seven bird species (including the *Sarus crane*) that inhabit Inle Lake, are listed as being threatened with extinction.

2.2 Background History of the Land

The Amata International Company Limited will occupy 17.48 acres of the land to construct hotel and it is located on field No. 44, Holding No. 35/1, N7, N2, N3, 37, 38, 39, 67, 39, and 68 in Ingyin Gone Village, Thale Oo Village Tract, Nyaung Shwe Township, Taung Gyi District, Southern Shan State, Republic of the Union of Myanmar. This land is totally fall in Inle Wildlife Sanctuary which is one of the famous birds' sanctuaries in Myanmar and UN list of Biosphere sites (UNESCO's Man and the Biosphere-MAB) as well. This land is belonging to the Forest Department, Ministry of Natural Resources and Environmental Conservation (MONREC), Myanmar.

Actually, the Amata International Company Limited acquired the land totally 26.22 acres from U Sai Tun Mya, a reputable local businessman in 2011. He has been owned this land since 2005 and he bought the land from the farmer who grew sugarcane on this land. Amata International Company Limited applied only 17.48 acres for hotel and 8.74 acres of the land will be leave as wetland as the land is adjacent with the lake. The sale agreement with Amata and U Sai Tun Mya was made on 17th January 2011.

On 2011 March, U Win Aung, Managing Director, Amata International Company Limited applied for land use change for the land which he proposed for operation of hotel in Inle to Shan State Peace and Development Council. As per his request, the council permit the proponent to change land from the farm land to other development use according to the provision of Land Nationalization Act (1953), Section 39.

On September 19th 2014, hold a commission meeting with Myanmar Investment Commission (MIC) and Amata International Company Limited in order to issue the permit to run international standard hotel services in Inle Lake. As the meeting's result, the permit was issued to the Amata

International Company Limited to run hotel services according to Chapter (7), Section (12-B) of Myanmar Citizen Investment Law.

Concerning with the land acquisition, there is no need to make resettlement actions or compensation to anyone neither by government nor by proponent as no settlers on that areas.

3. Scope of the IEE study

In the scope of this study, its includes the identification of proposed project plan, installation of facilities and equipment, water supply, waste management, operation of hotel services and its requirements, health, safety and corporate social responsibility measures of proposed hotel and analyzing and each component from environment, safety and health care point of view. Full consideration of the potential impacts of the performances in all three phases of the project: construction phase, operation phase and decommissioning phase has been properly included and carried out in this study. An Environmental Management Plan (EMP) describing comprehensive measures to reduce the unwanted and adverse impacts is attached in this report based on potential environment, safety and health impacts findings. The E Guard Environmental Services based in Yangon has contracted with the and Amata International Co., Ltd in order to conduct the study taking full responsibility and send an E Guard specialist team in which environmental, health, safety, and social experts are included to perform necessary field measurements. This team has carried out preliminary scoping, field survey, assessment and analysis of the project activities and compilation of this report. A field observation using checklist, quantitative and qualitative data collection was carried out by interviews and discussions with responsible persons of Amata International Co., Ltd in August and November. Secondary data collection was necessarily carried out in order to obtain bio-physical, environmental, climatic and socio-economic information concerning with the proposed hotel site and its surrounding. Baseline environmental data was collected using up to date measuring devices by which evaluation was conducted on any significance of potential impacts in December. And suitable mitigation measures on those impacts were identified to be able to put under acceptable limits which is extremely important because the proposed hotel site is totally located in Inle Lake Wildlife Sanctuary. E Guard Environmental Services met local communities living near the proposed hotel site and carried out public consultation process creating a chance to local public and related stakeholders to express their opinions, suggestions and needs during IEE and EMP formulation of the project.

4. Review on Existing Environmental Protection Laws and Regulations

The Environmental Conservation Law (2012) is the major governing law and the Environmental Conservation Department (ECD) and the Ministry of Environmental Conservation and Forestry (MOECAF) are the prime governing bodies of the law enforcement. In addition, the Constitution (2008), the National Environmental Policy (1994), Environmental Conservation Rules and Regulation (2014) and The Protection of Wildlife and Protected Areas Law (1994) are also included to be abided in the process of environmental impact assessment (EIA) and initial environmental examination (IEE). The above-mentioned existing national laws, rules and regulations of the Republic of the Union of Myanmar to be abided by the project proponents/ investors on mitigating negative environmental impacts are compiled and presented in Table 1.

It is equally important for this project proponent (Amata International Co., Ltd.) which shall also comply with Myanmar Hotel and Tourism Law (1993), regulations and The Social Security Law (2012).

Table 1: Relevant Environmental Laws and Regulations of Myanmar

Laws and Regulations	Description
National Environmental Policy (1994)	To achieve harmony and balance between socio-economic, natural resources and environment through the integration of environmental considerations into the development process enhancing the quality of the life of all its citizens.
Constitution 2008	
Sec.45	The Union shall protect and conserve natural environment.
Sec.390 (b)	Every citizen has the duty to assist the Union carrying out the environmental conservation
Environmental Conservation Law, 2012	
Objectives Section 3	(c) to enable to emerge a healthy and clean environment and to enable to conserve natural and cultural heritage for the benefit of present and future generations; (d) to reclaim ecosystems as may be possible which are starting to degenerate and disappear;

Laws and Regulations	Description
	(e) to enable to manage and implement for decrease and loss of natural resources and for enabling the sustainable use beneficially;
Provisions of Duties and Powers relating to the Environmental Conservation of the Ministry: Section 7	(a) To specify categories and classes of hazardous wastes generated from the production and use of chemicals or other hazardous substances in carrying out industry, agriculture, mineral production, sanitation and other activities; (b) To prescribe categories of hazardous substances that may affect significantly at present or in the long run on the environment; (c) To promote and carry out the establishment of necessary factories and stations for the treatment of solid wastes, effluents and emissions which contain toxic and hazardous substances; (j) To prescribe the terms and conditions relating to effluent treatment in industrial estates and other necessary places and buildings and emissions of machines, vehicles and mechanisms; (m) To lay down and carry out a system of EIA and SIA as to whether or not a project or activity to be undertaken by any Government department, organization or person may cause a significant impact on the environment; (o) To manage to cause the polluter to compensate for environmental impact, cause to contribute fund by the organizations which obtain benefit from the natural environmental service system, cause to contribute a part of the benefit from the businesses which explore, trade and

Laws and Regulations	Description
	use the natural resources in environmental conservation works.
Environmental quality standards Section10.	The Ministry may, with the approval of the Union Government and the Committee, stipulate the following environmental quality standards: (a)suitable surface water quality standards in the usage in rivers, streams, canals, springs, marshes, swamps, lakes, reservoirs and other inland water sources of the public; (b) water quality standards for coastal and estuarine areas; (c) underground water quality standards; (d) atmospheric quality standards; (e) noise and vibration standards; (f) emissions standards; (g) effluent standards; (h) solid wastes standards; (i) Other environmental quality standards stipulated by the Union Government.
Monitoring Section13.	The Ministry shall, under the guidance of the Committee, maintain a comprehensive monitoring system and implement by itself or in co-ordination with relevant Government departments and organizations in the following matters: (a) the use of agro-chemicals which cause to impact on the environment significantly; (b) transport, storage, use, treatment and disposal of pollutants and hazardous substances in industries;

Laws and Regulations	Description
	(c) disposal of wastes which come out from exploration, production and treatment of minerals, industrial mineral raw materials and gems; (d) carrying out waste disposal and sanitation works; (e) carrying out development and constructions; (f) Carrying out other necessary matters relating to environmental pollution.
Environmental Conservation Law, 2012: Responsibilities of project proponent/business owner for reducing environmental impact	
Section 14.	A person causing a point source of pollution shall treat, emit, discharge and deposit the substances which cause pollution in the environment in accord with stipulated environmental quality standards.
Section 15	The owner or occupier of any business, material or place which causes a point source of pollution shall install or use an on-site facility or controlling equipment in order to monitor, control, manage, reduce or eliminate environmental pollution. If it is impracticable, it shall be arranged to dispose the wastes in accord with environmentally sound methods.
Environmental Conservation Rules, 2014	
Rules 58	The Ministry shall form the EIA Report Review Body with the experts from the relevant Government departments, organizations.
Rules 59	The Ministry may assign duty to the Department to scrutinize the report of EIA prepared and submitted by any organization or person relating to EIA and report through the EIA Report Review Body.

Laws and Regulations	Description
Rules 61	The Ministry may approve and reply on the EIA report or IEE or EMP with the guidance of the Committee.
Myanmar Hotel and Tourism Law (1993)	
Section 3 (b)	To enable tourists to observe Myanmar culture heritage and natural scenic beauty
Section 3 (c)	To prevent destruction and damage of Myanmar cultural heritage and natural scenic beauty, due to the hotel tourism industry
Section 3 (e)	To develop technical relating to hotel and tourism industry and to open up more employment opportunities
Order for Licensing of Hotel and Lodging-House Business (1st September 2011): Annexure (A); The minimum standard requirements for the Hotel business	
Location and Building	Location of the hotel must be suitable for hotel business and the environment must be healthy and hygienic; The building must be in the safety condition and separate with its own stair-case The hotel must be adequately lit and ventilated
Bedroom	All bedrooms must be adequately lit and ventilated; All bedrooms must be built to ensure privacy and safety; All bedrooms must be kept free from mosquitos, flies and insects; Electric fan or air-conditioner or heater and blanket etc... must be arranged according to the climate of the place;
Bathroom and Toilet	A bathroom must be hygienic and adequately lit and ventilated; Shall have toilet, a hand-basin, mirror, shower and bathtub; Shall have water-purified system and hot water/cold water. A toilet must be hygienic and adequately lit and ventilated;

Laws and Regulations	Description
Hotel Restaurant and Hotel Dining Room	Food and beverage provided must be fresh, clean and hygienic; Restaurant and Dining room must be kept clean and hygienic and provide the protective system from mosquito, fly and any insects; Dining room and kitchen must be separate.
Kitchen	Arrangements must be made to keep the kitchen clean, hygienic, adequately lit and ventilated ad to protect from insects and free from bad smell; Food and beverage provided must be fresh, clean and hygienic; Kitchen equipment, crockery and cutlery of the restaurant must be clean and hygienic; A system must be made to provide a sufficient supply of hot and cold running water; Areas for cooking place, washing dishes and for food must be placed separately; A system must be made for disposal of leftover food rubbish. There must be adequate store room and refrigerator connected with the kitchen; Finished foods must be stored as warmer for fresh and not poison.
Security and Fire prevention arrangements	Shall provide arrangement for security of guests and their properties; Shall arrange fire preventive planning in accordance with stipulations of relevant departments; Shall rehearse trainings for fire security services

Laws and Regulations	Description
	If the building is over 3-storeyed shall install emergency exit. The emergency stair must be strong for use actually. Shall arrange prevention and security of worksite for staffs.
The Social Security Law (2012)	
Section 53 (a)	The employers and workers shall co-ordinate with the Social Security Board or insurance agency in respect of keeping plains for safely and health in order to prevent employment injury contracting disease and decease owing to occupation and in addition to safety and educational work of the workers and accident at the establishment;
Myanmar Citizens Investment Law (2013)	
Law No (18)	The Pyidaungsu Hluttaw passed a new citizen investment law on July 29, 2013 by No. 18 of law with the objectives of a. Supporting the main objectives of the national economic development plan; b. Safeguarding the citizen obtained, should obtain economic enterprise and Opportunities; c. Developing employment opportunities; d. Acquisition of high technology and development of manufacturing business by high technology; e. Production materials by using local resources; f. Establishing import substituted goods; g. Promotion and expansion of exports; h. Emerging the business of production and service involving large capital; i. Developing modern industrial businesses; j. Developing small and medium industrial businesses;

Laws and Regulations	Description
	k. Revealing less energy consuming businesses; l. Causing to rise renewable source of energy, such as new Biomass energy, new energy exploration and exploitation; m. Developing private and cooperative sector; n. Developing regionally; o. Participating widely in monetary market; p. Participating investments in local development work, by emigrant citizen, intellectuals, intelligentsias, entrepreneurs; q.Developing intellectual property manufacturing and services;

5. Description of the Project

The Amata International Company Limited has leased the plot number 44, Ingingone Village, Thalaeoo Village, the east bank of Inle Lake falling in Inle Wildlife Sanctuary, Nyaungshwe township, Taunggyi district, Southern Shan State from the Forest Department for initial 50 years in order to carry out the Hotel business. The authorized capital for the project is 14400 million MMK. This project is a 100% local investment. The project's target business involves mainly hotel services. The project will provide employment opportunities for local people.

5.1. Type of the Project

The Amata International Company Limited of the Republic of the Union of Myanmar proposed its investment of 100% local on building Amata Garden Resort hotel, with the authorized capital of 14,400 million MMK, on 17.48 Acre leased land, at plot number44, Ingingone Village, Thalaeoo village the east bank of Inle Lake falling in Inle Wildlife Sanctuary, Nyaungshwe township, Taunggyi district, Southern Shan State. The main objective is to construct and operate international standard hotel with the lease of maximum period of 50 years followed by extending another 10 years two times.

5.2. Requirement of IEE

The investors have to properly submit this Initial Environment Examination (IEE) report as a preliminary environment impact assessment on proposed hotel carried out by third party (E Guard Environmental Services) in order to be reviewed and made comments and suggestions by Environmental Conservation Department (ECD) of the Ministry of Environmental Conservation and Forestry (MOCAFE).

5.3. Location of the Proposed Project

Amata Garden Resort hotel is located at near Maingthauk Village, Nyaungshwe Township, Taunggyi District, Southern Shan State, The Republic of the Union of Myanmar, at the coordinates of 20° 34.275 N and 96°56.611 E covering total area of 7.07 ha, falling in Inle Lake Wildlife Sanctuary. About 2% of hotel area is in the lake and approximately 98% is on the land. The hotel is quite close to Inle East Reserved forest in the east. Floating gardens and vast area of marsh land can be viewed in the west side, about 150 meters, from the hotel. A main road starting from Nyaungshwe to Loikkaw, Kayar State passes through east side of the compound of the proposed hotel providing easy access to Nyaungshwe, Shwenyaung, Heho and Taunggyi. The neighboring hotels are Amazing Ingingone Resort in the north and Inle Garden Hotel in the south.

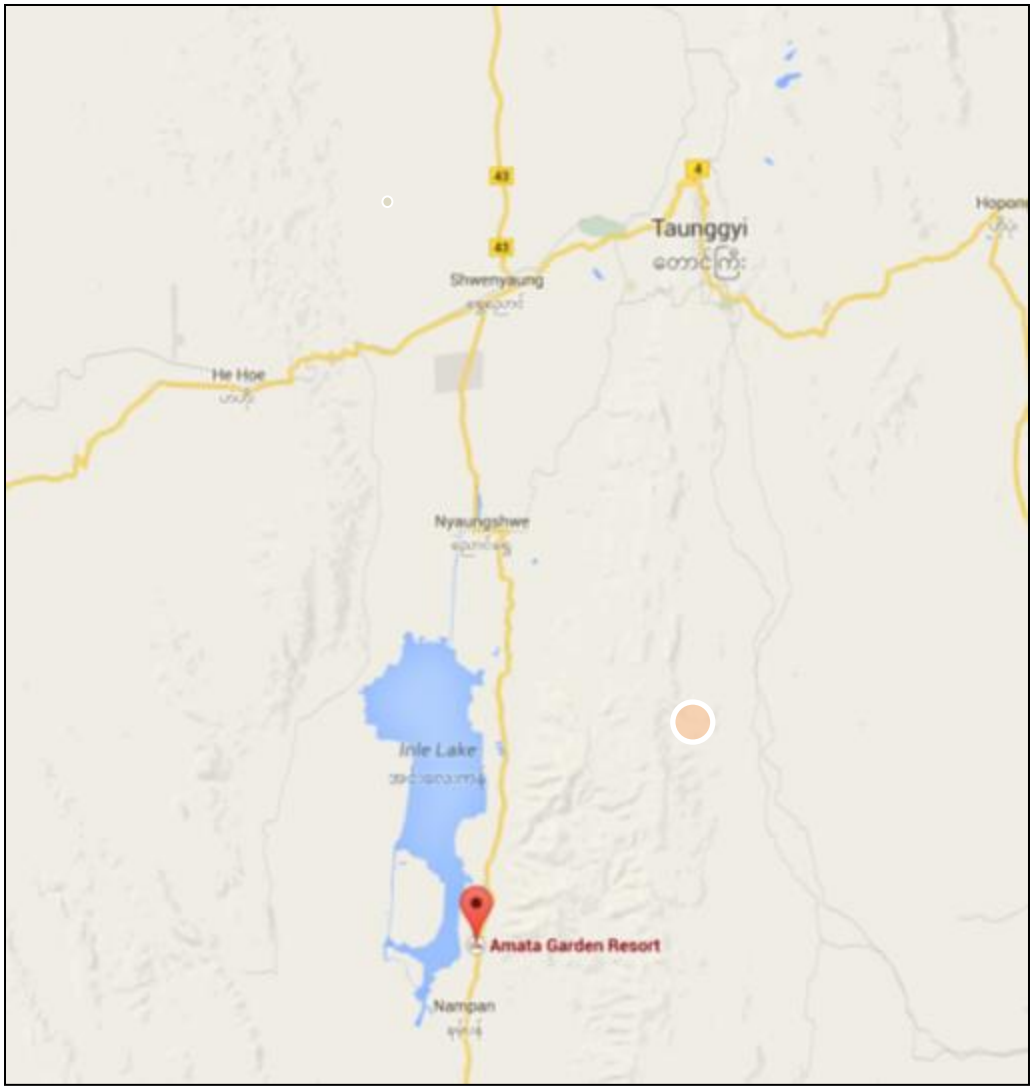


Figure 1: Location map of the proposed project area

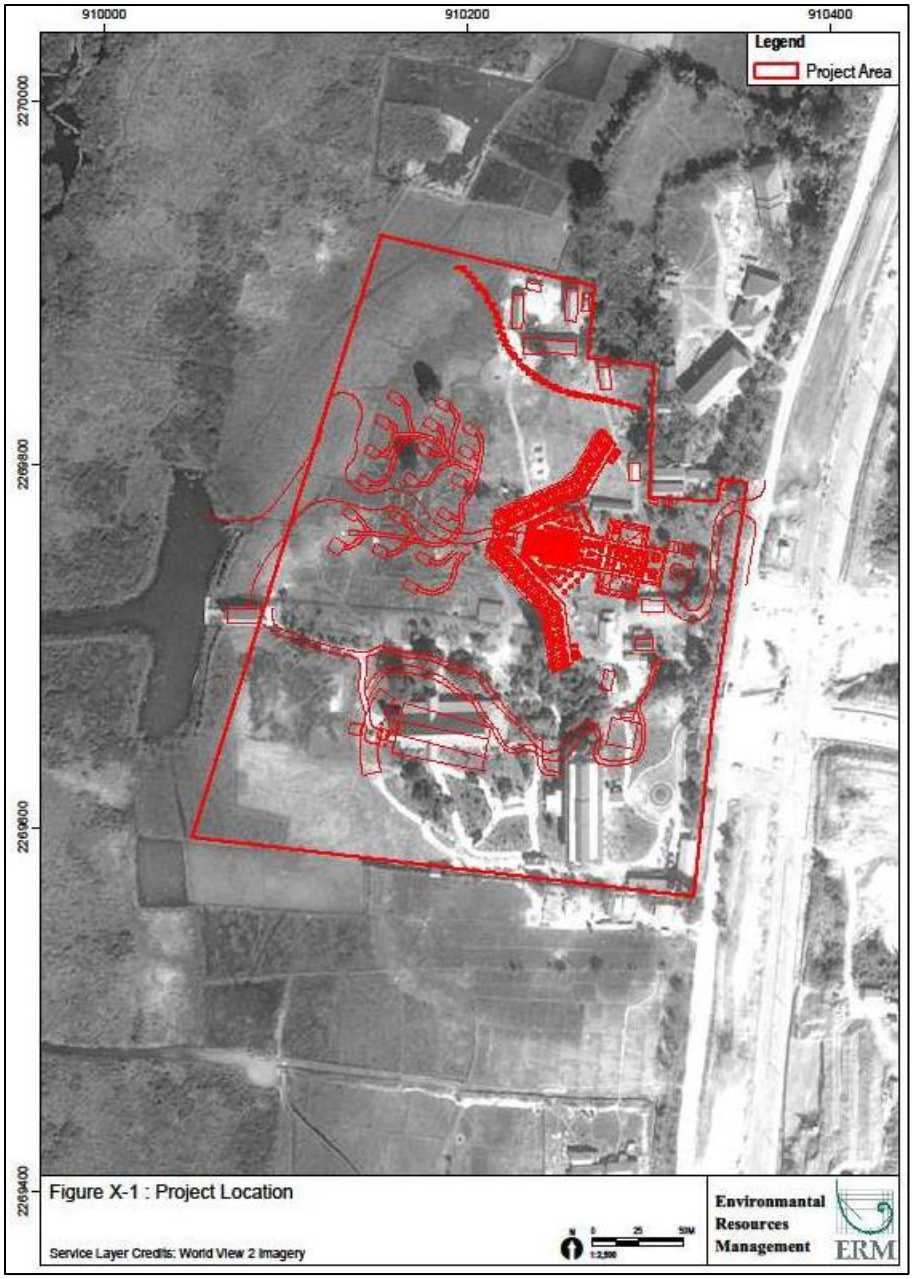
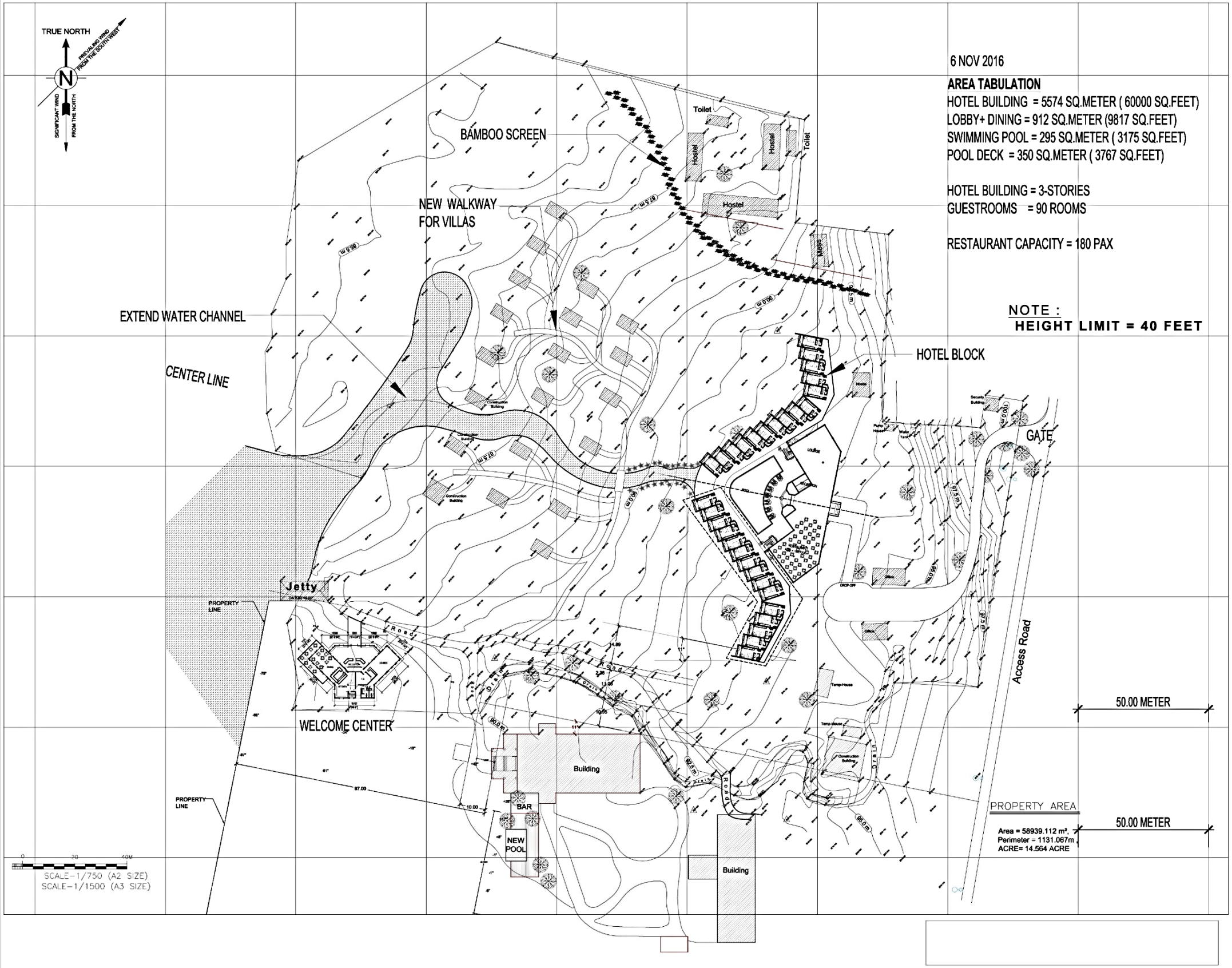


Figure: Location map with Layout Plan



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AREA TABULATION

HOTEL BUILDING = 5574 SQ.METER (60000 SQ.FEET)
LOBBY+ DINING = 912 SQ.METER (9817 SQ.FEET)
SWIMMING POOL = 295 SQ.METER (3175 SQ.FEET)
POOL DECK = 350 SQ.METER (3767 SQ.FEET)

HOTEL BUILDING = 3-STORIES
GUESTROOMS = 90 ROOMS

RESTAURANT CAPACITY = 180 PAX

NOTE :
HEIGHT LIMIT = 40 FEET

LOCATION SURVEY TOPOGRAPHY

LEGENDS

- : MAIN ROAD
- : BUILDING
- : LIGHT POST
- : SURVEY POINT
- : WELL
- : GATE
- : TREE
- : FENCE
- : DRAINAGE
- : HEIGHT POINT

CONTOUR INTERVAL=0.5M

NOTES

1. ALL DIMENSIONS, COORDINATES AND ELEVATIONS SHOWN ON THIS DRAWING ARE IN FEET UNLESS OTHERWISE NOTED.
2. REFERENCE TO ALL SITE ELEVATIONS SHALL BE REFERENCED TO M.S.L ±0.00.
3. ALL COORDINATES REFER TO BASE ON UTM COORDINATES SYSTEM.

PROPERTY AREA

Area = 58939.112 m²,
Perimeter = 1131.067m ,
ACRE= 14.564 ACRE

ISSUE FOR APPROVAL	FINAL SUBMIT DWG	11/06/2014
Revision/Issue	Drawing Memo	Date

CHALLENGER
SURVEY SERVICES CO.,LTD

Rm-7B,Bld-55,Mingalar Street,Hledan,Kamayut Tsp,Yangon.
MOBILE: +95 9421729620,+95 9449000263

DATA COLLECTOR :	:NIKON(JAPAN)TOTAL STATION-DTM-322
SURVEYORS :	:U THI HA AUNG
SURVEYED DATED :	:08/JUNE/2014
DATA PROCESSED :	:10/JUNE/2014
PROCESSED BY :	:AUTODESK LAND DESKTOP V-2009
DRAWN BY :	:NYI SOE SHWE
CHECKED BY :	:CSS CO.,LTD.
APPROVEDED BY :	:(YCDC)

PROJECT-TOPOGRAPHY OF EXTENSION AREA	SURVEYED BY CSS CO.,LTD
SUBCONTRACTOR -	
MAIN CONTRACTOR -	

Figure: Detail Lay Out Master Plan

5.4. Present Status of Hotel

At present, Amata Garden Resort hotel construction work is underway as the land lease agreement has been signed with the Forest Department, Ministry of Environment and Environmental Conservation Department (MOECAF) for initial 50 years. A guard house and a store have been constructed inside the project site and security guards are assigned. In addition, the developer also purchased about 2.43 ha of land next to its hotel compound for phase 2. Construction of 60 units 3 storey main building, tube well and wastewater treatment plant, staff dormitory, laundry, store, transformer and generator house are completed at the time of field observation by E Guard .Environmental Services.

5.5. Project Components

Construction Phase Activities

As investor planned, 2 main building, 60 Bangalore typed hotel rooms, 1 restaurant are scheduled to be built on total leased area within 24 months period right away after 6 months of land preparation period. A tube well is drilled for drinking and washing. Construction division of Amata International Co., Ltd will take care of constructing all buildings. All building materials are wood and brick. Hotel buildings are planned to be equipped with up-to-date electrical and communication system, MA TV system, fire protection system (Fire extinguishers are to be kept in all buildings.), water supply and sanitation system and air conditioning and ventilation system. As some area of proposed hotel site being fallen on the lake, a small jetty is built providing enough space for boats. For air conditioning system, environmental friendly refrigerants should be applied like HFC (R410A) instead of HCFC (R22).

Water Supply Development

The main water supply is from the tube well. This well water is pumped to the water treatment facility that is housed in the service support center located in the eastern side of hotel compound. The water treatment system is installed so as to meet the requirements of Nyaungshwe Township Municipality. The treatment media for this treatment plant is sand, activated carbon and liquid chlorine. The treated water is to be stored in the overhead distribution tank and supplied non-portable water for garden, fire fighting, W/C units and Laundry.

Site 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 a waste contractor. During construction, temporary toilets will be provided for use on the site. The type of waste generated during the operation are personal left over, food residues (organic wastes), glasses, tins, bottles, packing materials, papers, stationeries, damaged/ expired devices or appliances and others. After waste collection, wastes are segregated and disposed in waste bins. Then, they are sent to dump sites approved by Nyaungshwe Township Municipality.

Material Transportation

Site clearance and construction of the hotel will require transportation of materials to and from the site and this will generate a significant amount of traffic, especially trucks, on the main road. This will exacerbate traffic congestion in the area along the transport routes and potentially cause a deterioration of air quality due to dust and exhaust fumes. These are issues that can be mitigated to some extent as discussed below in Section 8.

Wetland Protection

The developer is aware of the ecological role of wetlands as 100% of hotel area has been fallen in Inle Wildlife Sanctuary and for that reason these wetland area of the project site will be protected. It is intended that the existing trees will be maintained and restored as much as the original state and the floating marsh will be incorporated as a special feature in the landscape design. The details of this are to be worked out. The measures of wetland protection are discussed in Section 9.1.

Employment

It is estimated that approximately between 500 and 1,000 persons (skilled and unskilled) will be employed during construction of the resort. During the operation phase, 252 local people will have opportunity for the employment.

Operation of Hotel Services

Throughout its lifespan, the Amata Garden Resort hotel has a plan to offer services mentioned below;

1. Hotel room for guests (bungalow type)
2. Restaurant and cafeteria
3. Conferences/workshop/wedding receptions
4. Swimming pool
5. Shows/parties/gatherings/wedding receptions
6. Travel and communication
7. Spa

Table 2: Manpower requirement during operation phase

Local Personnel required		
Department	Type of Personnel	No of Persons
Administrative office, HR, Finance, Hotel Manager	Managerial Level	5
Office Staff, Housekeeping, Food & Beverage, Kitchen, Sale& Marketing, Engineering, Security, Driver, Skilled Workers, Semi-Skilled Workers and unskilled work	Other ranks	247
Total		**252**

Traffic

Operation of the resort will require the transport of guests to and from the airport. This will involve scores of vehicles movements in addition to the traffic caused by hotel staff, suppliers, and local visitors. The entrance to the resort has been designed to facilitate the easy exit to and from the main road and to prevent traffic congestion at the entrance.

Water Demand

The total estimated demand for water by the resort during full operation is 5000 gallon per day (1,500,000 gallon per year).

Electricity Supply and Fuel Demand

The electricity supply during full operation will be from the national grid. There will be two standby (500 KVA) generators for backup in case of power cut. The total estimated demand for fuel for boats, vehicles and generators is Diesel 7,200 gallons, Petrol 500 gallons and Lubricants 200 gallons per year.

Solid Waste Management

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 by the Nyaung Shwe Township Municipality. The hotel operators are willing to institute waste segregation and recycling procedures at the resort and the extent to which these can be effectively executed will be examined.

Sewage Treatment and Effluent Disposal

The sewage treatment system to service the demands of the resort is built on land west of the hotel compound. The conventional sewage treatment system is installed. Being the conventional septic system design, the septic tank has a settling and decomposition chamber that allows the sewage solids to separate from the liquid, undergo partial decomposition, and be stored as sludge at the bottom of the tank. The effluent from the septic tank then flows by gravity into the subsurface absorption field where it infiltrates into the soil. When septic tanks are full, it is planned to be emptied by the Nyaungshwe Township Municipality.

Fire Management

The fire fighting facilities such as fire hosereel, fire extinguishers, fire blanket are installed at various strategic places of the resort. The fire drill is planned to organize regularly at the resort. An emergency evacuation plan is developed so as to quickly response in case of fire accident.

Resource Conservation Technology

It is the intention of the developers to employ resource saving methods and technologies. Some of these are listed below:

Rooms

- Air conditioning savings

  A/C will switch off automatically once a window is opened.

  A/C self-adjusts to the minimum when no presence is detected in the room.
- Use of fluorescent bulbs
- Lights will switch off automatically when there are no people inside the room.
- Water tank in toilet will use water saving device 3/6 liters per flush.
- Faucets will be of low water consumption.
- Guests will be encouraged to reuse towels as part of the ecological laundry policy, thereby saving water and detergents.
- Use of biodegradable soaps in rooms.

Hotel

- Reuse of treated sewage effluent for irrigation of the grounds.
- Residual warm water from the A/C system will be reused to warm up the running water.
- Use of environmental friendly (phosphate free) detergents in the laundry.
- All outdoor areas will be provided with electronic switching devices to ensure that lights are turned off during daylight hours.
- Widespread use of low consumption fluorescent bulbs.

5.6. Proposed Implementation Schedule

The Amata International Co., Ltd, proposed its project implementation plan as follows;

- Period of proposed capital to be brought in from the date of issue of MIC permit

- Proposed duration of investment: 50 years (extendable 10 years 2 times)

- Total leased period: 50 years

- Commencement date of construction: After the date of receiving MIC permit

- Construction period: 24 months (land preparation period 6 months included)

5.7. Economic Feasibility

The proposed Amata Garden Resort Hotel project which aims to operate international standard hotel services, after construction and installation of necessary equipment, is 100% local investment. In accordance with the Private Industrial Enterprise Law (1990) the investor shall apply MIC for Tax exemption and reliefs for the first five consecutive years including the year of commencement of commercial operation, and has been granted by MIC. The hotel project expects to get total net profit starting from year-1 of operation and expected amount is MMK 1215.65 million. From year - 2 to year - 5, during the period of tax exemption and reliefs, the total net profit will obviously increase at steady rate, from MMK 1197.366 million in year- 2 to MMK 2568.577 million in year- 5. From year-6 to year-10, although tax being imposed, the total net profit will be increased from MMK 2553.30 million to MMK 4193.98 million. Pay back or recoupment period on cash flow is 5 years and 4 months. The Internal Rate of Return (IRR) on investment is calculated as 15.71 % with the calculation of income tax 25% on Gross Operating Profit and commercial tax 5% on total revenue, after tax exemption period of 5 years. The Internal Rate of Return (IRR) calculation is attached as annex 4.

5.8. Purpose and Objective of Initial Environmental Examination

The main purpose of conducting Initial Environmental Examination (IEE) is, as instructed by MIC and in compliance with law, rules and regulations of ECD and MOECAF, to identify the immediate and potential negative impacts of projects on physical, biological, socioeconomic and cultural environment of proposed site. The specific objectives of this study include:

- Identify the major issues that may arise as a result of proposed activities on bio-physical, socio-economic and cultural environment of the project area,
- Recommend practical and site-specific measures for environment impacts mitigation and environment enhancement,
- Prepare and implement environmental management plan for the project, and
- Make sure that IEE is carried out sufficiently and soundly for the proposed project.

5.9. Adopted Procedure

Based on the information provided by the project proponent and qualitative and quantitative data collected during the field study of the hotel site and surrounding areas, this report is duly prepared. Baseline environment data on noise, water, air quality are collected and added after systematic measurements are made at site. Secondary data collection was also carried out to obtain up to date data and information on physical, biological, ecological, socioeconomic, natural environment and cultural environment of the proposed hotel site and surrounding areas. This was then followed by assessment of data and information to identify and determine the possible negative environmental impacts due to proposed project activities. The opinions, comments, suggestions and needs which were recorded during public consultation process are highly valued, analyzed and taken into account in the formulation of EMP. ECD of MOECF already laid down the IEE approach, methodology and procedure to be followed by the third party in its study and any investors in their proposed projects. The evaluation of positive and negative environmental impacts in this study follows the method of the Institute of Environmental Management and Assessment (IEMA) of the United Kingdom.

5.10. Project Proponent Information

The following table describes detailed information of project proponent and its organization.

Table 3: Detailed Information of Proponent

Proponent name	U Win Aung
Father's name	U Hla Win
Citizenship	Myanmar
Passport/NRC number	12/Pa Za Ta (Naing) 028732
Address in Myanmar	No.10 Inya Yeik Tha Road, Mayangone Township, Yangon
Residence abroad	N/A

Table 4: Detailed Information of Proposed Organization

Name of Principle Organization	Amata International Co., Ltd
Type of Business	Hotel Services
Principle Company's Address	No. 10, Inya Yeik Tha Road, Mayangone Township, Yangon
Authorized Capital	MMK 14400 million
Manufacturing	-
Production System	-
Investment Location	Plot 44, Ingingone Village, Thalaeoo Village, Nyaungshwe Township, Taunggyi District, Southern Shan State
Type of Land	Inle Lake Wildlife Sanctuary

List of Executives of Amata International Co., Ltd.

1. U Win Aung (Managing Director)

2. Daw Nilar Win (Director)

2. Daw Theingi Win (Director)

5.11. Information on IEE Survey Team

E Guard Environmental Services is the company conducting the Initial Environmental Examination (IEE) for Amata International fCo. Ltd. U Aye Thiha is the Managing Director of E Guard Environmental Services.

Table 5: Information on IEE survey team

Name	Position
U Saw Win	Environmental Advisor (Team Leader)
U Soe Min	Director
Daw Win Thida Khine	Research Assistant
U Zin Ko Ko Oo	Research Assistant

Daw Khine Zar Wint	Technician (Data Acquisition and Solution)

Full Address of the company conducting IEE: E Guard Environmental Services

No.301, Building 7+1D, Parami Condo

Hlaing Township, Yangon 11051, Myanmar.

Tel: +951 654857

Fax: +951 654857

URL: www.eguardservices.com

6. Description of the Environment

6.1 Physical Resources in Project Area

Topography and Soil: Amata Garden Resort hotel is located at the heart of eastern Shan Plateau of Myanmar, in Nyaungshwe Township, Taunggyi District, about 692 km northeast of Yangon by car. The project site is situated on eastern bank of Inlay lake, lying on western side of Nyaungshwe – Nampan motor road, about 11.27 km south of Nyaungshwe. Nyaungshwe Township share the borders with Taunggyi Township in the north, Taunggyi and Sesaing Townships in the east, Pehkon Township in the south and Kalaw and Pinlaung Townships in the west. The proposed resort area 1.25 ha is totally situated inside the boundary of Inlay Lake Wildlife Sanctuary.

In general, the area is a narrow valley between hills in the east and Inlay Lake Wildlife Sanctuary in the west, with average elevation of 879 m above sea level. Dominant forest types of the area include low Indaing and hill forests. Landscape is beautifully dotted by hills, sporadic forests, shifting cultivation sites, paddy fields, small scattered villages, Inlay Lake with floating islands, hotels and resorts.

The Red Earths and Yellow Earth soils (Acrisol) are the most dominating soils of the land area. The Shan Plateau is about completely covered with these soils. The Yellow Earths occur on the level lower slopes and they occupy a relatively small area, changing the Red Earths down the slopes. The Red Earths have a very deep profile having the texture varying sandy and silty to silty clay loam and with good structure. They are well drained and easy to plough. However inside the

unique wetland ecosystem of Inlay Lake Wildlife Sanctuary, Gley Swampy Soil is dominant with seasonally inundated grass/ marsh lands.

There is no major river or stream passing through the area. The Inlay Lake, seasonally average about 19.31 km long, 5 miles wide and 3.6 m deep and its tributaries is the only natural water collection site of the area. The total area of its drainage basin is 3700 km^2 and is a major source of hydro electrical power for the southern Myanmar, specifically for the Law-Pi-Ta hydroelectric power plant.

Nyaungshwe is the common entry point to the area. It is 165km away from Yangon by car. Shwenyaung train station which is about 10 miles north of Nyaungshwe is 123 km away from Yangon by train. Shwenyaung to Nyaungshwe is about 2.6km by car. Nearest airport is Heho Airport and it is about 14 miles from Nyaungshwe by car.

Figure 2: Landscape of Amata Garden Resort hotel and surrounding area

Climate: Myanmar's climate is greatly influenced by the tropical monsoon circulating system and it also affects the Shan Plateau. It has three distinct seasons; summer, rainy, and winter seasons. Nyaungshwe has a humid subtropical climate (Köppen climate classification Cwa). Temperatures

are comfortably warm throughout the year, although the winter months (December–February) are milder and nights can be quite cool. It is commonly believed that the local weather is one of the nicest in the whole country. The average annual high temperature is 24.6°C and average annual low temperature is 13.8°C. The average annual rainfall of the area is 1,555 mm. The driest month is January with almost no precipitation. Most precipitation falls in August, with an average of 330 mm. The warmest month of the year is April with an average high temperature of 29 °C. In January, the average low temperature accounts only 7 °C and it is the coldest month of whole year round. The difference in precipitation between the driest month and the wettest month is about 325 mm. The average high temperature varies during the year by 7 °C. The best time of the year to visit the area is during September and October. The summer of 2010 was registered as very high temperatures, dropping the water level of the Inlay Lake to the lowest in nearly 50 years.

Air Quality: The ambient air quality measured at the perimeter of proposed project area can provide some indication of the air quality within the project area. The range of various pollutant levels measured at the perimeter of proposed project during the month of December are presented in Table 6 below.

Table 6: Air Quality Measurement

Date/Time (12-13/12/2014)	TSP	PM10	PM2.5
10:00-11:00	350.28	179.08	35.67
11:00-12:00	216.99	84.85	28.89
12:00-13:00	167.74	73.71	22.10
13:00-14:00	325.38	139.43	24.32
14:00-15:00	658.00	356.83	52.33
15:00-16:00	580.12	308.74	53.90
16:00-17:00	357.37	179.69	31.48
17:00-18:00	147.77	85.67	24.86
18:00-19:00	129.24	67.76	21.11
19:00-20:00	264.19	139.2667	28.47
20:00-21:00	114.25	73.69	26.03
21:00-22:00	55.55	38.78	23.99
22:00-23:00	47.11	37.59	24.09
23:00-0:00	68.08	48.92	24.52
0:00:0-1:00	84.89	57.88	25.78
1:00:0-2:00	41.15	35.46	23.29
2:00:0-3:00	51.87	43.64	31.50

Date/Time (12-13/12/2014)	TSP	PM10	PM2.5
3:00:0-4:00	138.12	82.42	30.66
4:00:0-5:00	801.87	401.07	40.92
5:00:0-6:00	179.88	116.65	43.43
6:00:0-7:00	199.56	111.77	40.76
7:00:0-8:00	193.56	101.61	43.98
8:00:0-9:00	190.81	109.06	58.59
9:00-10:00	171.27	92.48	41.19

Note: Based on the above table it appears that the pollutant level of TSP, PM 10 and PM 2.5 in the project area is higher the limiting ambient air quality standards. This may be because of construction activities carried out in the project site.

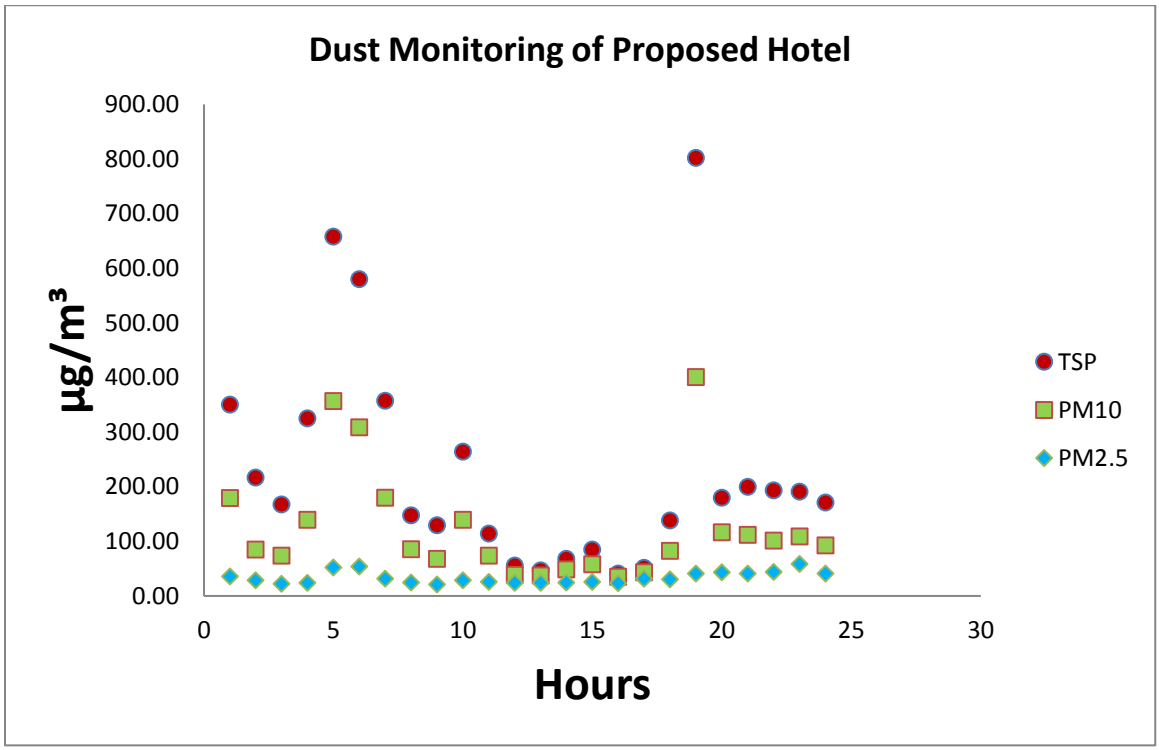


Figure 3: Bar chart of Environmental Dust monitoring

Comparison with National Emission Quality Guidelines and Dust conditions of site

Parameter	Averaging Period	Average Result	NEQG Value
PM_{10}	24 Hours	123.58	50
$PM_{2.5}$	24 Hours	33.41	25

NEQG= National Environmental Quality (Emission) Guideline

The ambient air quality was compared with the National Emission Quality (Emission) Guideline, Myanmar, 2015 and it is found that the results of both PM10 and PM2.5 are out of the range of that guidelines.

Ground Water Quality: The ground water quality analyzed from the tube well located in the proposed project area can provide some indication of the water quality of the project area. The following table 7 shows the water parameters measured during the month of August.

Table 7: Ground Water Quality

Sr.	Quality	Result	Method	WHO Guideline	Remarks
1.	pH	7.5	pH meters	6.5-8.5	Normal
2.	Turbidity	5 NTU	Lovibond SpectroDirect Method No. 3.85	5 NTU	Normal
3.	Hardness	198 mg/l	Lovibond SpectroDirect Method No. 200 and 201	500 mg/l	Normal
4.	Aluminum	N/A	Lovibond SpectroDirect Method No. 40	<0.02 mg/l	Normal
5.	Potassium	N/A	Lovibond SpectroDirect Method No. 340	<20 mg/l	Normal
6.	Iron	0.29 mg/l	Lovibond SpectroDirect Method No. 220	<0.3 mg/l	Normal
7.	Chloride	3 mg/l	Lovibond SpectroDirect Method No. 90	<250 mg/l	Normal
8.	Dissolved Oxygen	N/A	Jenway Dissolved Oxygen Meter (Model 970)	> 3 mg/l	Normal
9.	BOD5	N/A	Estimated by Eco-Lab with Jenway Dissolved Oxygen Meter (Model 970)	< 3 ppm	Normal

Note: As most of the parameters measured are within the normal range. It can be concluded that the water from the tube well can be used as domestic water.

Noise Level: The noise level measured in the perimeter of the project area can provide the indication of the existing noise level of the area as follows. The noise level measured is ranged from 43 to 58 dB (A) which is lower than the permissible level for the commercial and residential area. (Source: General EHS Guidelines: IFC-www.ifc.org)

Table 8: Noise Level Measurement

Date	Time	Mean value	Weight	Day/Night
13/12/2014	12:05:00-13:05:00	52.1	A	Day
13/12/2014	13:05:30-14:05:00	49.7	A	Day
13/12/2014	14:05:30-15:05:00	49.1	A	Day
13/12/2014	15:05:30-16:05:00	49.9	A	Day
13/12/2014	16:05:30-17:05:00	53.0	A	Day
13/12/2014	17:05:30-18:05:00	58.0	A	Day
13/12/2014	18:05:30-19:05:00	55.4	A	Day
13/12/2014	19:05:30-20:05:00	51.2	A	Day
13/12/2014	20:05:30-21:05:00	46.7	A	Day
13/12/2014	21:05:30-22:05:00	46	A	Day
13/12/2014	22:05:30-23:05:00	45.8	A	Day
13/12/2014	23:05:30-00:05:00	47.0	A	Day
14/12/2014	00:05:30-01:05:00	48.5	A	Day
14/12/2014	01:05:30-02:05:00	48.5	A	Night
14/12/2014	02:05:30-03:05:00	49.2	A	Night
14/12/2014	03:05:30-04:05:00	47.7	A	Night
14/12/2014	04:05:30-05:05:00	43.9	A	Night
14/12/2014	05:05:30-06:05:00	48.2	A	Night
14/12/2014	06:05:30-07:05:00	50.3	A	Night
14/12/2014	07:05:30-08:05:00	51.3	A	Night
14/12/2014	08:05:30-09:05:00	50.1	A	Night
14/12/2014	09:05:30-10:05:00	48.8	A	Day
14/12/2014	10:05:30-11:05:00	49.4	A	Day
14/12/2014	11:05:30-12:05:00	49.6	A	Day

The following bar chart also demonstrates the 24 hours trend of noise level measured at Amata Garden Resort Hotel from 12:00 PM of 13th December 2014 to 12:00 PM 14th December 2014 by technicians of E Guard Environmental Services.

National Environmental Quality (Emission) Guidelines is used to compare current with noise level

Receptor	NEQG	
	Daytime 10:00-22:00	Nighttime 22:00-10:00
Residential, institutional, educational	55	45
Industrial, Commercial	70	70

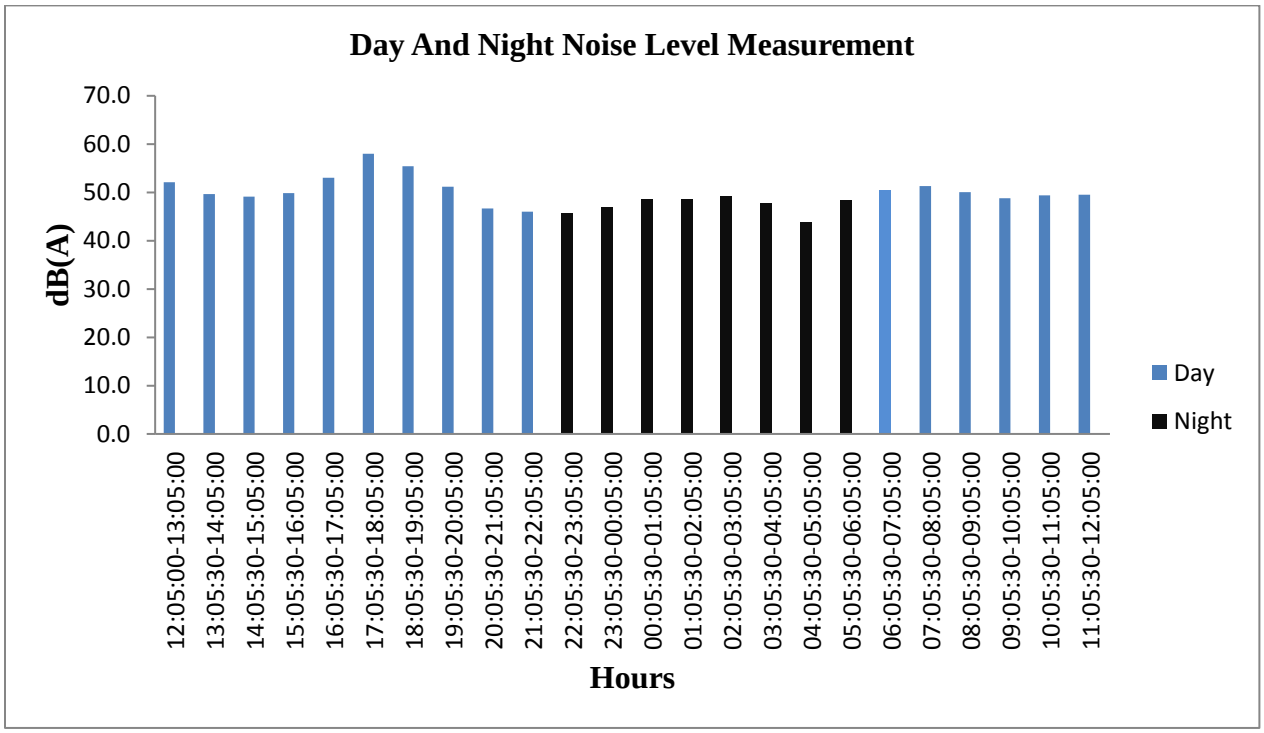


Figure 4: Noise Level Measurement

6.2 Ecological Resources

The proposed Amata Garden Resort site is situated inside the boundary of Inlay Lake Wildlife Sanctuary. Inlay Lake Wildlife Sanctuary is a wetland sanctuary and located in Nyaungshwe, Pinlaung and Peh Kon Townships of the Southern Shan State. The proposed resort is situated in the territory of Nyaungshwe Township. The Sanctuary was established in 1985 and designated as an ASEAN Heritage Park in 2003. It recently covers an area of 556 km^2. Inlay Lake, situated in

the heart of the Sanctuary, covering average water body area of about 34 square miles 88 km², with significant geographical conditions is the second largest fresh water lake of Myanmar.

Objectives of Inlay Lake Wildlife Sanctuary are:

- To conserve and protect wetland ecosystem; the natural vegetation, wetland birds and fresh water fishes of the Sanctuary
- To conserve geological features and scenic beauty of mountain areas
- To conserve Inlay watershed and maintain water resource for Law-Pi-Ta hydroelectric power plant
- To conserve and educate the local people in traditional floating agriculture practiced by "In" lake-dwellers
- To upgrade the Sanctuary so as to promote ecotourism

Total 255 woodland birds, 90 wetland birds, 59 fish species, 3 turtle species, 94 butterfly species, 25 amphibian and reptile species and several plant species including 184 orchid, 41 wetland tree species, 11 bamboo species, 527 medicinal plant species and 12 algae species are recorded in this wetland sanctuary (FD,2014). It is also home different ethnic groups namely Intha, Shan, Pa Oo and Da Nu.

There are altogether 281 villages situated inside the Inlay Lake Wildlife Sanctuary, 262 villages in Nyaungshwe Township territory, 3 villages in Pinlaung Township territory and 16 villages in Pehkon Township territory. The unique traditional style of leg rowing, fishing, floating market, floating vegetation, boat racing, and handicrafts of Intha are amazing for all.

Inle Lake view from the boat

Floating vegetation at Inle Lake

Birds at Inle Lake

Dwindling population of *Inle cypris (Local name - Nga-Phein)*

Vulnerable species - Cirus crane found at Inle Lake

Table 9: Ecological Resources and its Existing Conditions

Ecological Resources	**Existing condition**
Protected areas	Inlay Lake Wildlife Sanctuary established in 1985 and designated as an ASEAN Heritage Park in 2003, covers an area of 556 km^2. It is an ecotourism, mainly birds watching and birding site. In the core area, a two-storey bird watching house was established by Forest Department
Forests	East Inlay Reserved Forest, 139,321 km^2 West Inlay Protected Public Forest, 91224 km^2 Total forest area 89,014 acre 230,545 km^2, about 25% of the whole Nyaungshwe Township area of 1,452 km^2 Dominant forest types are low Indaing forest and hill forest Major tree species of the forests are teak (*Tectona grandis*), Coral (*Erythrina crista*), Kusum Ceylon oak (Schleichera oleosa), Emblic myrobalan (*Emblica officinalis*), Chapalish (*Artocarpus calophyla*), Civit (*Swintonisa floribunda*) and Pine (*Pinus spp*.) The common mammals found in these forests are Barking Deer (Muntiacus Rafinesque), Asiatic Jackal (*Canis Aureus*), Pangolins (*Manis Pentadaetyla*), Common pulm civet (*Paradexurus hermaphrodites*) and Common Otter (*Lutra lutra*).
Fisheries, aquatic biology	The Inlay Lake, seasonally average about 19 km long, wide and 3.6 m deep and its tributaries constitutes a significant wetland ecosystem in the area. The total area of its drainage basin is 3700 km^2 and is a major source

	of hydro electrical power for southern Myanmar, specifically for the Law-Pi-Ta hydroelectric power plant. The native aquatic plants include pondweed, coontail, bladder wort, stone wort, muster grass, and elephant grass. Pondweed is used as a food source by both people and fish. Elephant grass, known locally as Kaing is important in the structure of floating island for agriculture, as well as weaving mats. Water hyacinth, known as Baeda, is useful for floating land. Five fish families inhabit Inle water. They are mainly carp, catfish, murrel and also an endemic cyprinid. Intha fishermen harvest the carp with conical net stretched over wood and bamboo frames. A variety of harpoons are employed to spear fishes. The Inle carp, known as Nga-Phane plays an important role in the food supply to the area people.
Wildlife	Inle is rich in birdlife. 254 bird species have been recorded there. Highlights would be rare Jerdon's Bushchat, White-tailed Stonechat, Collared Myna, Black-collared Starling, rare Sarus Crane, Glossy Ibis, Ferruginous Pochard, Spot-billed Duck, Garganey, Pheasant-tailed Jacana, Black-winged Stilt, Sandpipers, Sooty-headed Bulbul, Crimson Sunbird, Clamorous Reed Warbler, Red Avadavat and Yellow-breasted Bunting. And also breeding or roosting colonies of Little, Cattle, Intermediate and Great Egrets, Chinese Pond, Indian Pond and Black-crowned Night Herons, Vinous-breasted, Black-collared, Chestnut-tailed and Asian Pied Starlings, Collared, Jungle, White-vented and Common Mynas would be seen in this Myanmar (Burma) ecotourism, birds watching and birding site.
Coastal resources	Nonexistent

(a) Endemic Species with The Northern Indochina Subtropical Moist Forest Ecoregion

Sr. no.	Scientific	Common Name	IUCN Red List Category
Mammal			
1.	Muntiacus puhoatensis	Puhoat Muntjac	DD
Amphibian			
1.	Amolops tuberodepressus	-	VU
2.	Ichthyophis laosensis	Upper Laos Caecilian	DD
3.	Ingerana liui	Menglun Eastern Frog	VU
4.	Kalophrynus menglienicus	Menglien Grainy Frog	DD
5.	Leptolalax bourreti	Bourret's Asian Toad	DD
6.	Leptolalax ventripunctatus	-	DD
7.	Oreolalax granulosus	-	VU
8.	Rhacophorus duboisi	-	DD
9.	Theloderma bicolor	Chapa Bug-eyed Frog	EN
10.	Xenophrys wuliangshanensis	Wuliangshan Horned Toad	DD

Note: These endemic species are found within the broader EcoRegion and may not be represented within the Area of Influence.

(b) Critically Endangered, Endangered and Vulnerable Species within the Northern Indochina Subtropical Moist Forest Eco Region

Scientific Name	Common Name	Endemicity	IUCN Red List Category
Amphibian			
Amolops tuberodepressus	-	Yes	VU
Ingerana liui	Menglun Eastern Frog	Yes	VU
Leptolalax alpinus	-	No	EN
Oreolalax granulosus	-	Yes	VU
Oreolalax jingdongensis	Jingdong Lazy Toad	No	VU
Theloderma bicolor	Chapa Bug-eyed Frog	Yes	EN
Reptiles			
Cuora galbinifrons	Indochinese Box Turtle	No	CR
Cuora trifasciata	Chinese Three-striped Box Turtle	No	No
Geoemyda spengleri	Chinese Black-breasted Leaf Turtle	No	EN
Indotestudo elongata	Elongate Tortoise	No	EN
Manouria impressa	-	No	VU
Mauremys mutica	-	No	EN
Ophiophagus hannah	King Cobra	No	VU
Palea steindachneri	Wattleneck Softshell	No	EN
Pelodiscus sinensis	Chinese Softshell	No	VU
Platysternon	Bighead Turtle	No	EN

Scientific Name	Common Name	Endemicity	IUCN Red List Category
megacephalum			
Sacalia bealei	Beal's Eyed Turtle	No	EN
Bird			
Aceros nipalensis	Rufous-necked Hornbill	No	VU
Anas Formosa	Baikal Teal	No	VU
Aquila clanga	Greater Spotted Eagle	No	VU
Aquila heliacal	Imperial Eagle	No	VU
Ardea insignis	White-bellied Heron	No	CR
Aythya baeri	Baer's Pochard	No	EN
Columba punicea	Pale-capped Pigeon	No	VU
Emberiza aureola	Yellow-breasted Bunting	No	VU
Falco naumanni	Lesser Kestrel	No	VU
Gallinago nemoricola	Wood Snipe	No	VU
Grus nigricollis	Black-necked Crane	No	VU
Gyps bengalensis	White-rumped Vulture	No	CR
Lophophorus lhuysii	Chinese Monal	No	VU
Lophophorus sclateri	Sclater's Monal	No	VU
Mergus squamatus	Scaly-sided Merganser	No	EN
Mulleripicus pulverulentus	Great Slaty Woodpecker	No	VU
Numenius madagascariensis	Far Eastern Curlew	No	VU
Pavo muticus	Green Peafowl	No	EN
Pitta nympha	Fairy Pitta	No	VU
Sarcogyps calvus	Red-headed Vulture	No	CR
Sitta formosa	Beautiful Nuthatch	No	VU
Sitta magna	Giant Nuthatch	No	VU
Tragopan blythii	Blyth's Tragopan	No	VU
Turdus feae	Grey-sided Thrush	No	VU
Mammal			
Ailurus fulgens	Red Panda	No	VU
Arctictis binturong	Binturong	No	VU
Axis porcinus	Hog Deer	No	EN
Bos javanicus	Banteng	No	EN
Budorcas taxicolor	Takin	No	VU
Chrotogale owstoni	Owston's Palm Civet	No	VU
Cuon alpinus	Dhole	No	EN
Elephas maximus	Asiatic Elephant	No	EN
Hadromys humei	Manipur Bush Rat	No	EN
Hapalomys delacouri	Delacour's Marmoset Rat	No	VU
Helarctos malayanus	Sun Bear	No	VU
Hylobates lar	White-handed Gibbon	No	EN
Lutrogale perspicillata	Smooth-coated Otter	No	VU

Scientific Name	Common Name	Endemicity	IUCN Red List Category
Macaca arctoides	Stump-tailed Macaque	No	VU
Macaca leonina	-	No	VU
Manis javanica	Malayan Pangolin	No	EN
Manis pentadactyla	Chinese Pangolin	No	EN
Moschus berezovskii	Chinese Forest Musk Deer	No	EN
Moschus chrysogaster	Alpine Musk Deer	No	EN
Naemorhedus baileyi	Red Goral	No	VU
Naemorhedus griseus	-	No	VU
Neofelis nebulosa	Clouded Leopard	No	VU
Nomascus concolor	Crested Gibbon	No	CR
Nomascus hainanus	-	No	CR
Nomascus leucogenys	White-cheeked Gibbon	No	CR
Nomascus siki	-	No	EN
Nycticebus bengalensis	-	No	VU
Nycticebus pygmaeus	Pygmy Slow Loris	No	VU
Panthera tigris	Tiger	No	EN
Pardofelis marmorata	Marbled Cat	No	VU
Petinomys setosus	Temminck's Flying Squirrel	No	VU
Prionailurus viverrinus	Fishing Cat	No	EN
Pseudoryx nghetinhensis	-	No	CR
Pygathrix nemaeus	Douc Langur	No	EN
Rhinopithecus avunculus	Tonkin Snub-nosed Monkey	No	CR
Rusa unicolor	Sambar	No	VU
Trachypithecus delacouri	-	No	CR
Trachypithecus francoisi	François's Leaf Monkey	No	EN
Trachypithecus hatinhensis	-	No	EN
Trachypithecus phayrei	Phayre's Leaf Monkey	No	EN
Trachypithecus shortridgei	-	No	EN
Ursus thibetanu	Asiatic Black Bear	No	VU
Viverra megaspila	Large-spotted Civet	No	VU

Note: These threatened species are found within the broader EcoRegion and may not be represented within the Area of Influence.

c. Invasive Species identified within Myanmar Table

S/N	Scientific Name	Common Name
Bacteria and Viruses		
1	Banana bunchy top virus (BBTV	-
2	Yersinia pestis	-
Coral		
3	Tubastraea coccinea	Orange Cup Coral
Plants & Algae		
4	Acacia auriculiformis +	Acacia
5	Acacia longifolia	-
6	Acacia mangium	-
7	Adenanthera pavonina	-
8	Ageratum conyzoides+	Goat Weed
9	Alternanthera philoxeroides	-
10	Cardamine flexuosa	Wavy Bittercress
11	Chromolaena odorata	Siam Weed, Bitter Bush
12	Eichhornia crassipes *	Water Hyacinth
13	Eichhornia crus-galli +	Barnyard Grass
14	Hyptis suaveolens +	Bush Tea
15	Imperata cylindrica	Blady Grass
16	Lantana camara +	Lantana
17	Leucaena leucocephala	-
18	Limnocharis flava	-
19	Loranthus pulverulentus +	Mistletoe
20	Mikania micrantha +	Mile-a-Minute
21	Mimosa diplotricha +	Giant Sensitive Plant
22	Mimosa pigra +	Giant Sensitive Plant
23	Paspalum conjugatum +	Buffalo Grass
24	Pennisetum spp. +	Mission Grass
25	Prosopis juliflora +	Mesquite
26	Sorgum halepense +	Johnson Grass
27	Ziziphus mauritiana	Chinese Date
28	Acanthophora spicifera	-
Insects		
29	Aedes aegypti	Yellow Fever Mosquito
30	Brontispa longissima	Coconut Leaf Beetle
31	Matanastria grisea +	Gypsy Moth
32	Paratrechina longicornis	Longhorn Crazy Ant
33	Solenopsis geminata	Tropical fire Ant
34	Tapinoma melanocephalum	Ghost Ant
35	Trogoderma granarium	Khapra Beetle
Invertebrates		
36	Achatina fulica +	Giant African Snail
37	Pomacea canaliculata * +	Golden Apple Snail
38	Teredo spp. +	Shipworm

S/N	Scientific Name	Common Name
39	Varroa jacobsoii +	Parasitic Bee Mite
Fish		
40	Clarias gariepinus *	African Sharptooth Catfish
41	Ctenopharyngodon idella *	Grass Carp
42	Cyprinus carpio *	European Carp
43	Gambusia affinis	Mosquito Fish
44	Hypophthalmichthys nobilis	Bighead Carp
45	Oreochromis aureus *	Tilapia
46	Poecilia reticulata	Guppy
47	Labeo rohita *	Rohu
Reptile		
48	Hemidactylus frenatus	Common House Gecko
Mammal		
49	Rattus exulans	Polynesian Rat/Pacific Rat

Notes:

* Species known to be present at Inlay Lake

+ Additionally sourced from Myanmar NBSAP 2015-2020

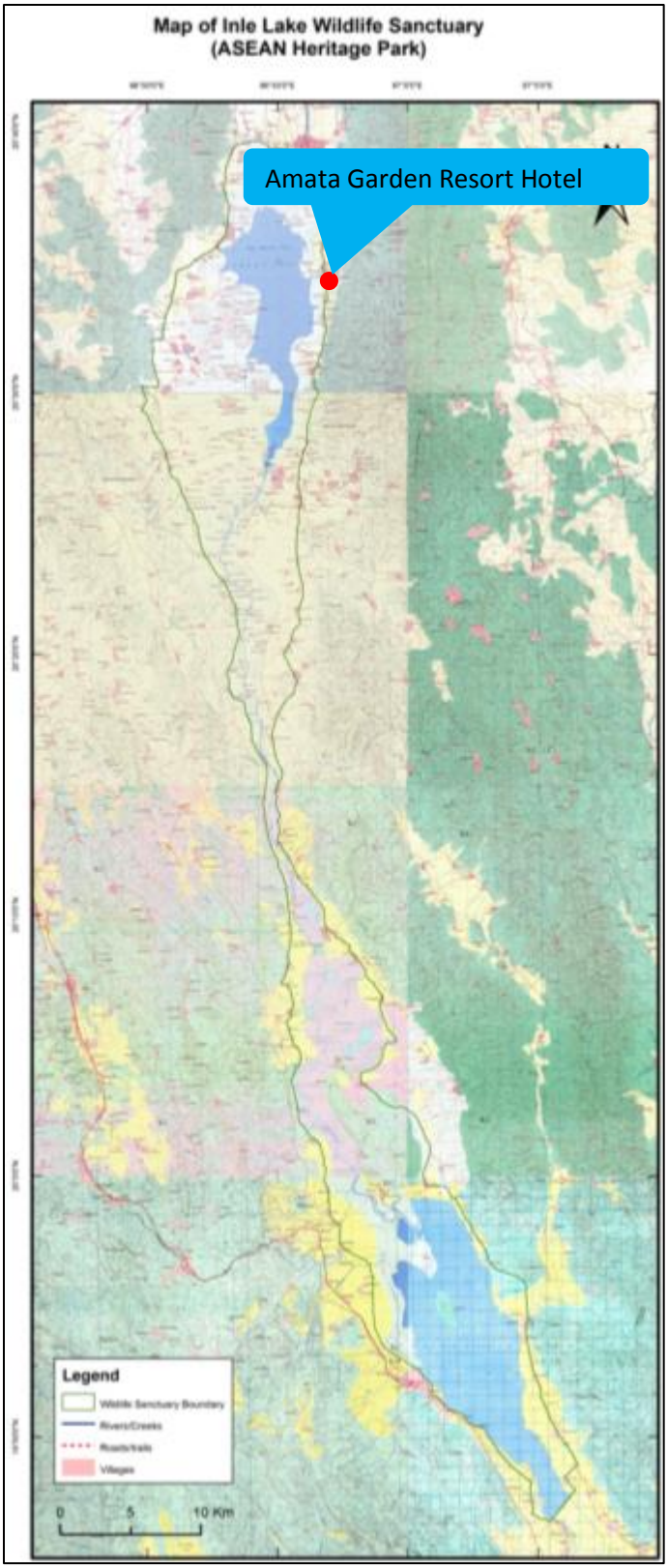


Figure 5: Map of Inlay Lake Wildlife Sanctuary and Proposed Amata Garden Resort Hotel

6.3 Economic Development

Originally, Nyaungshwe is a quiet little town of southern Shan State, made up of eight wards in the town and 444 villages in the township territory, having total population of 188,602 (2014). Township economy is traditionally based on agriculture (including floating garden agriculture inside the Inlay Lake), fishing, forestry and cottage industries.

Inlay Lake Wildlife Sanctuary, established in 1985 and later in 2003 designated as an ASEAN Heritage Park is the second largest fresh water lake in Myanmar and one of the best eco-tourism sites of the country. It is internationally famous for its unique wetland ecosystem, geological features and scenic beauty of the surrounding mountains. The traditional living style of indigenous ethnic groups namely Intha, Shan, Pa Oo and Da Nu such as one leg-rowers, fishing with conical net stretched over wooden and bamboo frames, floating market and floating agriculture added its attractions. Exploration the life styles and cottage industries (such as traditional weaving and silver smith) of villages in the region by boat is a great pleasure and regular trip for most of the visitors. Experience of interacting with endemic people, including Padaung tribes who continue the practice of ringed neck is of special and exciting moment for both local and international visitors.

Inle may be visited all the year round, but the best time for migratory birds and trekking activities is from November to May. In addition to observation of rare birds, aquatic plants and animals, butterflies and doing trekking, visitors can also pay homage to historical pagodas, such as Phaung Daw Oo, Alowdaw Pauk, Shwe In Daing, Taung Do around the lake and many other pagodas on the surrounding hills. The ceremonial Phaung Daw Oo Festival, which lasts for almost three weeks, is closely followed by the Thadingyut festival of lights. Intha and Shan turn out in their best clothes in great numbers to celebrate the Buddhist Lent. Traditional boat racing, with dozens of leg-rowers in Shan dress in a team on each boat, is a famous event during the Phaung Daw Oo Festival.

This unique situation has led to significant development of hotel and tourism infrastructure. In combination with government's democratic transition policy, many small and large privately owned hotels and tour operations have arisen in the area during the past few years. Roads are being improved, nearby Heho airport is being extended and local shops are flooded with consumer items of both local and foreign, thus increased job opportunities for local residents. There are about 40 hotels and resorts already developed in and around the Inlay Lake and number increased to nearly

100 for the whole Nyaungshwe Township. Construction of new Inlay Hotel Zone, on 2.5 km^2 of land between Kanbe and Chaungpa villages, 24 km south to Nyaungshwe, on the east side of Nyaungshwe- Nampan-Loikaw Road is being underway. In brief, Nyaungshwe/ Inlay/ Heho basin is a potentially booming and vibrant area for ecotourism investors from all around the world.

On the other hand, due to growing population, unsustainable means of land utilization and agriculture, poor living conditions, declining of watershed forests, erosion and siltation, the lake is getting narrow and consequently threatening the existence of whole ecosystem including local communities. It is urgently required to work together in harmony among government, local people, investors and NGOs-INGOs, to keep the lake and its ecosystem clean, pleasant and sustainable and to prevent against any environmental disturbances.

Transportation: There have been relatively good high-way connections to Nyaungshwe from major cities of the country such as Taunggyi, Mandalay, Naypitaw and Yangon. Nyaungshwe is 690 km away from Yangon and 330 km away from Mandalay by car. Shwenyaung train station which is about 16 km north of Nyaungshwe is 514 km away from Yangon by train. Shwenyaung to Nyaungshwe is about 16 km by car. Nearest airport is Heho Airport and it is about 23 km from Nyaungshwe by car. Daily flight services are available from Heho airport to major cities of the county particular Yangon and Mandalay. Yangon and Mandalay international airport is the main entry points for most of the foreign visitors coming to Heho/Nyaungshwe/ Taunggyi area. Public transport bus lines and taxi services are also available in the town.

Electrical Power Source: Within Nyaungshwe- Inlay area, including new Inlay Hotel Zone, electricity is mainly supplied from the National Grid arranged by the Ministry of Electric Power (MOEP) and Myanmar Electricity Power Enterprise (MEPE). As new power supply plans and projects are being under way, there is a great tendency for improvement of power supply in the area in near future. Currently, local people and businesses including hotels/resorts used to keep backup generators in case of power dropouts.

6.4 Social and Cultural Resources

Population and Communities

Nyaungshwe, a small town about 3 kilometers north of Inle Lake is administratively belongs to Taunggyi District, Southern Shan State of Myanmar. The township is composed of eight wards in the town and 444 villages.

According to 2014 census report, whole population of Nyaungshwe Township is 188,602, with population density of 129 per square kilometer. Original local communities have settled in the area since time immemorial and most of them are farmers, fishermen, traders, businessmen and small and median enterprise owners. Few of them work as government staff, military personnel and company/NGOs staff. There are also some new comers from other parts of the nation mostly related to hotel and tourism business, NGOs and INGOs.

Nyaungshwe is the tourist hub for visiting Inle Lake and Inlay Lake Wetland Sanctuary. It consists of one main thoroughfare with numerous side streets and a few parallel roads. The main street has numerous shops, several restaurants, a few stupas, travel agencies and a market. The town serves as a marina for the numerous long boats carrying tourists into the lake. The lake itself is located a few kilometers south through a river channel.

There are about 40 hotels and resorts in and around the Inlay Lake and total about 100 in the whole Nyaungshwe Township. Construction of the new Inlay Hotel Zone, on 2.5 km^2 of land between Kanbe and Chaungpa villages, 24 km south to Nyaungshwe, on the east side of Nyaungshwe-Nampan-Loikaw Road is being underway. Most of the hotels/ resorts in and around the Inlay Lake are constructed in large compounds and far form settlement areas. Man-made water ways are usually constructed by developers to get boat access from Inlay Lake to lake-side hotels/resorts passing through seasonally inundated grass/ marsh land.

Nearest settlement areas of the proposed Amata Garden Resort site are Maingthauk Village about half mile north with population of (255) and Pay-pin-inn village about half mile south west with population of (211).

Health Facilities

Nyaungshwe Township Government Hospital, 25 bedded is the nearest public hospital from the proposed resort site. In addition, there are government health centers in Nampan located south of the resort site and Maingthauk Village about half mile north of the resort. There are also private/NGO clinics in Nyaungshwe town and most of the large villages. Local communities still rely on traditional Myanmar and Shan herbal medicines and a number of traditional medical experts and their clinics are also found in the area. The nearby towns of Sesaing, Pehkon, Kalaw and Pinlaung also have public township level hospitals. For serious/emergency cases, local inhabitants used to go to Taunggyi and take treatments at **Taunggyi General Hospital** and many other private hospitals.

Education Facilities

Education level of the local residents is relatively low. There are altogether 239 basic education schools in the township mostly run by the Ministry of Education; 4 high schools, 21 middle schools, 213 primary schools and 1 monastic school. Primary education is accessible for most of the inhabitants, but access to middle school and high school education is still limited for many young people living in small villages. The nearest education center to the proposed Amata Garden Resort site is Maingthauk Village high school. There is no colleague/university level education center in Nyaungshwe Township. After matriculation, most of the students who want to pursue higher education have to go to large cities such as Taunggyi, Mandalay and Yangon. As the township has developed together with eco-tourism business, more and more pre-primary schools and child-day-care centers are being appeared in town and villages as well.

7. Screening of Potential Environmental Impacts and Mitigation Measures

The development of this project could necessarily bring changes in the local environment in terms of physical, biological and socio-economic aspects. The impacts generated are both beneficial as well as adverse.

Based on the analysis of environmental baseline information and activities that are to be performed by the project, the possible environmental impacts are identified. Most of the identified impacts have been quantified to the extent possible on the value judgment. Each of the environmental

issues has been examined in terms of their current condition, likely impacts during construction and subsequent operation and abandonment phases. The impacts have been predicted in terms of the environmental impact and business impact of the proposed project activities. The impacts on the environment from various activities of the project can be categorized as follows:

Impact on Environmental Resource

- Impact on Air Quality
- Impact on Noise Levels
- Impact on Surface and Ground Water Quality
- Impact on Soil/Land use extent

Impact on Ecological Resources

- Impact on Terrestrial Habitat and Biodiversity

Impact on Human Environment

- Health and Safety
- Socio-economics
- Security

Waste Disposal

- Solid waste disposal
- Liquid waste disposal
- Sanitary waste disposal

7.1. Impact on Environmental Resource

Impact on Air Quality: It can be anticipated that a certain amount of dust particles be generated by earth moving activities during building construction such as bungalow, dining room, kitchen, power generator house, staff dormitory etc… and during offloading of earth materials. This situation will be worst during the dry season and during the afternoon when the trade winds are most prevalent. Given the relative remoteness of the site, airborne particulates should not pose a hazard to residents in the vicinity or downwind of the construction site. The occurrence of dust is

periodic and short-term lasting for the duration of the construction activity. This impact on air quality can be mitigated by spraying water during the construction phase of the excavated areas especially during dry condition. Controlling speed of construction vehicles could also reduce dust pollution.

In the operation phase, emission of dust particles, CO_2, SO_2 and other green house gas is due to transportation of delivered supplies to the hotel by vehicle movements. This emission can be minimized by doing regular vehicles maintenance.

Impact on Noise Level: During construction phase, the use of heavy equipment during site clearance and building construction works will inevitably generate noise, which may create a nuisance for nearby residents. Although annoying, this negative impact will be short-term (limited to the duration of the construction works) and is not considered to be a significant threat to the health or wellbeing of humans. Distance will help to ameliorate noises. In addition, construction activities that generate disturbing sounds should be restricted to normal working hours. Employees operating that generate noise should be equipped with noise protection gears.

In the operation phase, it is noted that the section of the eastern main road is presently being upgraded and it is unlikely that the additional traffic induced by Amata Garden Resort Hotel will cause any undue congestion in the near term.

During the decommissioning phase, there will be noise impact due to demolishing activities of hotel buildings and other facilities. However, this impact will be short-term.

Impact on Surface and Ground Water Quality: During site preparation and construction phase, inadequate provision of toilets for use by workers can lead to ad hoc defecation in secluded areas on the site, thus creating of unsanitary conditions and sources of fly infestation. Improper disposal of leftover food and other domestic forms of construction garbage could lead to littering of the site and pollution of adjacent of Inle Lake water.

The improper siting of stockpiles and storage of sand, gravel, cement, etc., at the construction sites could lead to fine materials being washed away, during heavy rainfall events, into the drainage system and ultimately into the adjacent Inle Lake environment. This would not only represent a

waste of materials but would also contribute to turbidity and sedimentation with consequent negative impacts on Inle Lake water quality and possibly the ecology of the wetland environment.

Hazardous and flammable materials (e.g. paints, thinner, solvents, diesel etc.) improperly stored and handled on the site are potential health hazards for construction workers and spilled chemicals would have the potential to contaminate soil and inhibit plant growth in localized areas. It is anticipated that refueling or maintenance of large vehicles will take place on the construction site and therefore there will be a requirement to store fuel and lubricants in a safe manner on the site. Safe storage areas should be identified and retaining structures put in place prior to the arrival and placement of material.

During the operation phase, spilled chemical used for laundry service such as detergent, solid/liquid chlorine, pesticide would have the potential to pollute soil and water quality of Inle Lake. It is expected that hazardous chemicals (e.g. fuels) should be properly stored in appropriate containers and spill response kits are standby at the area.

Impact on Soil and Land use extent: The construction of the resort will involve the erection of permanent concrete structures on what is essentially a green field site. This will result in a loss of the options for alternative land use and thus represents an irreversible commitment of land resources. The loss of optional uses for the wildlife sanctuary land in the future is considered to be a negative impact. In order to mitigate this impact, trees and plant will be conserved as much as possible on completion of the construction phase.

Vegetation clearance, road construction and excavation works related to construction of the hotels and buildings will expose soils in the affected areas leaving them vulnerable to erosion by surface runoff and ultimately threaten adjacent Inle Lake waters with high turbidity and sediment deposition, a negative consequence. The flat topography of the site would tend to reduce erosive surface flows and the threat of turbidity should exist only for the duration of construction works before landscaping and drainage works are put in place that would reduce the susceptibility to soil erosion. Ultimately, it is the wetland habitat that would be adversely affected by prolonged levels of high turbidity. Mitigation means will be to phase site clearance to the greatest extent possible so as to minimize the area of exposed soil at any given time, to re-cover exposed soils with grass and other appropriate species as soon as possible. Exposed soil will be temporarily bund and

redirect flows from heavy runoff areas that threaten to erode or result in substantial surface runoff to adjacent Inle Lake waters.

7.2. Impact on Ecological Resources

Impact on Terrestrial Habitat and Biodiversity: The clearing and removal of trees and vegetation during entrance road construction and the development of the resort will result in the loss of a significant part of the existing forest and, as a consequence, a reduction of habitat for wildlife species. In particular, the main concern relates to the loss of habitat for endangered and endemic species, especially the ***Sarus crane***. Noise, vibrations, and intrusive activities related to construction works also will tend to scare away any animals remaining on the site after vegetation clearance. It is anticipated that low ecological impact would occur due to short term construction period.

In order to mitigate these impacts, the original and natural forested condition of the site would be maintained and restored as much as possible. Site clearance should be carried out n a manner that retains the large trees while the building footprints are pegged out. Where possible bird feeding trees should be retained and used in the landscaping of the resort properly. All construction workers and persons on site must be given specific instructions not to harm small animals including snakes but allow the animals to retreat into the forest. All construction contractors should be exposed to the environmental management plan and sensitized to the environmental issues. Detailed biodiversity management plan is available in Section 12.

7.3. Impact on Human

Health and Safety: Being a project of hotel/resort services, health, hygiene and safety of hotel employees and contractors is the most priority factor for Amata Garden Resort hotel. The developer, Amata International Co., Ltd believes that commitment on health and safety of its guests and employees is the most important parameter to make its business a great success.

Hygiene, health and safety accidents and injuries such as cuts and amputations, electric shock, thermal burns, crushing injury from material handling/falling objects or vehicle operation, fire hazards, headache and sickness due to poor ventilation or noise and small injuries due to slips and falls could happen during the construction, operation and dismantling phases as well.

To avoid or minimize health and safety risks, Amata International Company limited has carefully designed resort layout and safety plan in accordance with both Myanmar and international norm and standards of an international hotel/resort. The plan includes assembly area, alarm system, first aid boxes, fire extinguishers, fire hose reels, sidewalks, escape routes, emergency exits, daily housekeeping and cleaning services on guest rooms, toilets, cafeteria, bar, kitchen, all public places (lobby, lounge, swimming pool, spa, reception etc.) and even outdoor greening and landscaping. Resort buildings will be designed and constructed in careful consideration of physical stability, structural load capacity, proper ventilation, lighting, fire prevention, sanitation and general safety issues, and shall comply with all relevant health and safety requirements, mainly issued by the Ministry of Environmental Conservation and Forestry and Ministry of Hotels and Tourism.

To ensure and monitor the health and safety standards of the resort, one Health, Safety and Environment (HSE) coordinator is to be appointed. Regular trainings/instructions regarding safety aspects such as utilization of Personal Protective Equipment (PPE) requirements, guidelines for machine safety, guidelines for housekeeping/lighting/electricity, guidelines for sanitation/hygiene, guidelines for first aid and fire and emergency evacuation drills are to be given/imposed to all employees. Notice, warning and caution announcement or signs will be released to all guests and employees as necessary in accordance with basic health and safety guidelines for hotel/resort management as mentioned detailed in chapter 11, EMP of this report.

For the health and emergency medical care of all resort guests and employees, the first aid kits will be kept ready at all public places of the resort and a limousine shall be kept 24-hour standby to send the injured guests/ employees to the nearby hospitals or clinics within the few minutes, in case if it is required.

In case of fire, all the guests and employees shall be evacuated systematically and as soon as possible. In cooperation with Nyaungshwe Township government fire stations, fire drills shall conduct regularly and thirty young resort employees shall be trained and organized as volunteer firefighting group. Fire alarm system, fire hoses, fire extinguishers, escape routes and emergency exits shall be inspected regularly and followed by proper maintenance as necessary.

To prevent electric shocks and hazards, two electrical maintenance staff (handyman) shall be assigned under engineering department to do regular inspections and take preventive measures. To

prevent injuries and accidents caused by operating of machineries, proper Personal Protective Equipment (PPE) such as safety gloves, helmet, goggles, ear muffs etc., are to be provided as necessary.

Poor housekeeping can be a contributing factor causing injuries, infections and illnesses leading to accidents and injuries such as slips, trips and falls, falling objects, fires and property damages. To avoid/mitigate this, a housekeeping department with a manger and total strength of 26 experts and employees shall be developed to carry out regular and proper housekeeping, monitoring and prevention measures.

Socio-economics: The proposed hotel/resort project is a 100% local investment by Amata International Co., Ltd. Total authorized investment plan of the company for resort project is MMK 14,400 million. Upon completion of construction and installation of necessary equipment, Amata International Co., Ltd aims to operate international standard lake side resort for maximum 70 years, inside the vicinity of internationally known ASEAN Heritage Park of Inlay Lake Wildlife Sanctuary.

This investment aims to contribute development of hotel and tourism business in the area and to boost local employment opportunities and consequently the socioeconomic development of local communities.

During the 2-year construction phase, local technicians and general workers will be employed, estimated average about 50 - 100 labors per day. In the operating phase of maximum 70 years, hotel need to employ maximum 252 employees (technicians, experts and workers) of all Myanmar nationals, out of which more than 90% will be local inhabitants. By working together with and by getting trainings from experienced managers, experts and technicians of Amata International Co., Ltd, local inhabitants will get opportunities to improve their skills in hotel and tourism business and thus contribute the capacity building of local citizens. Similar job opportunities as construction phase will again happen in dismantling phase.

In addition, after tax exemption period of first 5-year, hotel shall pay income tax (25% of gross operating profit) and commercial tax (5 % of total revenue) to the Government of the Republic of the Union of Myanmar. Therefore, the proposed investment shall bring long-term opportunities for socio-economic development of local communities and the nation as a whole.

Security: The need for security can never be overemphasized whether personal or for property. During construction, security is very important in any site. This ensures that materials are in order. It also controls movement within the site especially for the intruders who might be injured by the materials and other hazardous features available within the site. Security is also of paramount importance during the operational phase of the project. For mitigation purpose:

- Enclose the site using suitable walls to beef-up security and to control movement as proposed in the design and employ security guards who must always guard the site/property and document movements on the site/ property

- Strategically install lighting as well as security alarms

7.4. Waste Disposal

Solid Waste Disposal: Construction and decommissioning activities contribute to increased solid wastes including stones, wood, glasses, plastics, containers, metal rods, pieces of iron sheets, sharp objects (nails) etc.. These wastes shall be collected and empty on day to day basics to avoid any undesirable working condition and environmental impacts. Based on the different waste types, these solid wastes will be collected and segregated in their dedicated rubbish bins, and regular and proper disposal will be done in accordance with Nyaungshwe Township Municipality guidelines.

In the operation phase, major solid wastes will be generated form daily room cleaning, kitchen, bar, restaurant, cafeteria, souvenir desk, reception/office and staff quarters. Different kinds of solid wastes, such as tissue paper, food residues (organic wastes), glasses, tins, bottles, packing materials, stationeries, damaged/expired devices or appliances and other miscellaneous will be generated every day. All these solid wastes will be collected separately in standard garbage bins based on their types and wet and dry status. Disposal of these collected wastes shall be done in accordance with Nyaungshwe Township Municipality guidelines, in such a manner to avoid the creation of health risks and to maintain proper sanitary conditions in and around the resort area.

Liquid and Sanitary Waste Disposal: The developer shall strictly apply the policy of zero waste discharge into the Inlay Lake. It has planned to use readymade, pre-cut, pre-designed materials in construction. No liquid waste with significant extent and adverse impacts on surrounding environment is expected in construction and decommissioning phases. In addition, to avoid

unnecessary crowd, dirt, wastes (including liquid wastes) and smell inside the resort area, developer has planned to construct tube wells and water treatment plant, staff dormitory, laundry, store, transformer and generator houses and car parking on its purchased land, situated outside of the boundary of Inlay Lake Wildlife Sanctuary. The resort shall also establish standard maintenance house for vehicles, machines and equipment and oil and lubricant storage facility on the land outside of resort site. Machines, equipment and vehicles maintenance and handling of oil and lubricants shall carry out with special care by trained technicians and experts to avoid any kind of oil, fuel and liquid wastes contamination into the surrounding environment, particularly into the Inlay Lake.

During the operation phase, all resort guests and over 100 employees will use toilet facilities, kitchen, bar, restaurant, cafeteria, swimming pool and washing machines on daily basis. Two different types of liquid wastes are expected, used water (grey water) and sewer form toilets. All the used water (grey water) which may include cleaning agents, disinfectants, and linen washing agents will be collected through separated channels or pipe lines into waste water treatment plant. Proper treatments will be given there before discharge in accordance with Nyaungshwe Township Municipality guidelines.

To ensure zero contamination or seepage by toilet wastes, resort will use two types of toilet waste management system, three-steps septic type toilet system for main entrance building which is planned to construct on higher ground and bio-tank sewer disposed system for cottages on lower ground. Bio-tank system will contain 3 different steps/chambers of clean-up mechanism; in the first chamber the sewer coming from toilets will be disinfected using micro-bio-organisms, second chamber will work as sludge sedimentation tank and last chamber with evaporation funnel will store the liquids. Detailed design and function of Bio-tank is attached as Annex XI. Special cautions and regular monitoring shall be taken to make sure that the septic tanks and bio-tanks are not overloaded. Resort shall also comply with Nyaungshwe Township Municipality guidelines for proper disposal of all liquid wastes to avoid any contaminations and hazards by wastewater and sewages into the Inlay lake and wetland ecosystem.

Resort design also include to conserve all existing trees of the area and to conduct pleasant landscaping for recreation on all remaining areas of the resort site. The biological engineering techniques will be applied using grass, bamboos, step by step hedgerows vegetation and evergreen

tree species to keep the resort area clean, fresh and green, and also to prevent sedimentations and waste water seepages into the Inlay Lake.

8. Assessment of Significance

In order to assess the significance impact of the activities, a consideration was made of the environmental impact and business impact of the proposed project activities. In the environmental impact, an environmental aspect is the most significant: when its impacts are severe, its level of control is low and its occurrence is high. An objective method in order to select the significant impacts is to take into account *Severity, Occurrence and level of control,* with weighting method (1-3). In the business impact which includes the legal requirements and stakeholder concerns, significant impact will take into account as *Compliance* with the existing national, regulations and *Complaint* from stakeholders with weighting method (1-3) as indicated below:

Environmental Concern		**Legislative Concern**		**Stakeholder Concern**		**Significant Level of Aspect**
Severity Level **Low (1) High (3)** Control Level **Low (1) High (3)** Occurrence	**X**	Compliance **(1) to (3)**	**X**	Complaint **(1) to (3)**	=	High **(243)** Low **(1)**

Method to calculate the significant aspect

The basic principles in order to figure out the significant aspect are as in the following;

Severity

This criterion is used to evaluate the effects on man and environment, depending on the toxicity, quantity and impact of the activities.

1 Low severity: low toxicity, low quantity, low impact on man and environment.

2 Medium severity: medium toxicity, averaged quantity, medium impact on man and environment

3 High severity: high toxicity, very important quantity, high impact on man and environment

Occurrence

This criterion is corresponding to the frequency of the impact occurrence.

1 Annual frequency or never occurred

2 Monthly or Weekly Frequency

3 Daily frequency or chronicle

Level of Control

This criterion is used to evaluate the level of control of the aspect, depending on the detection, available means, the operating procedures and the precautions taken.

1 High Easy detection and control with operating procedures regularly checked and/or important precautions taken to lower impact.

2 Medium Detection and control with operation procedures not regularly checked and/or average precautions taken to lower impact.

3 No control No detection and/or no precaution taken to lower impact.

Legal Compliance

1 Subject to be existing regulatory controls (local regulations)

2 Subject to regulatory control in the near future (Impending or amending legislation within the next 5 years)

3 No regulatory control

Complaint from Stakeholders

1 No complaint

2 Potential to a cause of serious complaint

3 Serious complaint raised by partners, neighbors, customers, employees and communities

Scoring evaluation for significant environmental impacts

Score evaluation corresponds to:

1-60	No significant impact
61-121	Low impact, try to improve
122-182	Significant impact, real necessity to improve
183-243	Unsustainable situations

Based on the scores significant aspects are those whose scores are above 60 and between 182.

Overall Score = Weighting of (Severity x Occurrence x Level of Control x Legal Compliance x Stakeholder Complaint)

8.1 Environmental Impact and Significance

The following table indicates the evaluation of environmental impact and its significance:

Table 10: Environmental Impact and Significance

Activities	Aspects of the risks	Impacts	Severity	Occurrence	Control	Compliance	Complaint	Result score	Significance
Construction Phase									
Loss of terrestrial habitat and biodiversity	Loss of endemic species	Natural resource depletion	3	1	3	1	2	18	No significance
Soil erosion due to excavation	Loss of organic matter and nutrients by removal of top soil.	Land/water pollution	1	1	3	2	1	6	No significance
Nuisance dusting	Dust generation	Atmospheric pollution	2	2	3	2	2	48	No significance
Noise	Noise generation by vehicles, earth moving equipment, excavation activities	Nuisance noise pollution	2	2	3	2	2	48	No significance
Material transportation	Dust generation/potential spill	Atmospheric pollution/Spillage	1	2	3	2	2	24	No significance
Material storage	Spill/waste generation	Land/water pollution	2	1	3	2	1	12	No significance
Surface runoff	Storm water discharge	Land/water pollution	2	1	3	1	1	6	No significance
Construction waste disposal	Waste generation by construction activities	Land/water pollution	2	2	3	1	1	12	No significance
Sewage and litter management	Liquid/Solid Waste generation	Land/water pollution	2	3	3	2	2	72	low significance
Occupational health and safety	Cuts and amputations, Thermal burns, Slip and falls/ Crushing injury from material handling and falling objects/	Injury/Mortality	2	2	1	2	2	16	No significance

	Nuisance / Respiratory problems/ Headache and sickness								
Security	Potential theft, loot, intrusion	Prosecution/Imprisonment	2	2	3	1	2	24	No significance
Replanting and landscaping	Soil cover rehabilitated and habitat restored	Ecosystem restored/protected	-	-	-	-	-	-	Positive impact
Employment and income generation	Local people get employed/Skill improved	Socioeconomic standard of communities improved	-	-	-	-	-	-	Positive impact
Operation phase									
General									
Employment	Local people get employed	Socio-economic standard increased	-	-	-	-	-	-	Positive impact
Government revenue	Government acquired revenue	Government GDP increased	-	-	-	-	-	-	Positive impact
Water supply	Water resource depletion	Natural resource depletion	2	3	3	2	2	76	Low significance
Sewage treatment and disposal	Effluent discharge to environment	Land/Water pollution	2	3	3	2	2	76	Low significance
Solid waste disposal	Waste generation	Land/Water pollution	2	3	3	2	1	36	No significance
Use of Chemical products for cleaning, laundry, swimming pool and spa	Discharge to environment such as detergent, liquid chlorine/Tablets, cleaning agents etc…	Water pollution	2	3	3	2	2	76	Low significance
Use of electricity	Energy consumption	Resource depletion	1	3	3	2	1	18	No significance
Electricity generation	Spillage/Noise	Land/Water/Noise pollution	2	2	3	2	2	48	No significance
Traffic	Dust/Noise/Spillage	Noise/Land/Water pollution	2	3	3	2	2	76	Low significance
Building maintenance	Raw materials depletion, Waste generation	Resource depletion	1	1	3	3	1	9	No significance
House keeping	Waste generation	Resource depletion	1	3	3	3	1	27	No significance

Office works	Waste generation	Land pollution	1	1	3	3	1	9	No significance
Occupational Health & Safety									
Car/boat accident during transportation	Get injury/disease	Injury/Mortality	3	1	3	1	2	18	No significance
Occupational accidents	Cuts and amputations, Thermal burns/trips, slip and falls/ Crushing injury from material handling and falling objects/ Nuisance / Respiratory problems/ Headache and sickness	Injury/Mortality	2	2	1	2	2	16	No significance
Proximity to high voltage transformer	Electrocution	Injury/Mortality	3	1	3	1	2	18	No significance
Use of portable electrical equipment	Potential fatal electrical shocks or burns	Injury/Mortality	3	3	3	1	2	54	No significance
Emergency Diesel Generator running	Noise level higher than 80 dBA	Nuisance (noise)	1	2	3	3	2	36	No significance
Logistics (transportation, storage) services									
Transportation of delivered supplies to hotel by vehicles	Accidental Spillage, CO2 emission	Groundwater contamination/Land pollution/Air pollution	2	3	3	2	2	72	Low significance
Diesel storage at dedicated area	Diesel spill	Ground water pollution	2	2	3	2	2	48	No significance
Chemical storage (paints, detergents, pesticide, chlorine tablets or liquid chlorine)	Leak/spill/fire	Ground water/Air pollution	2	2	3	2	2	48	No significance
A/C maintenance	CFC release to atmosphere	Ozone depletion/Global warming	1	1	3	2	1	6	No significance
Decommission phase									
Dismantling of buildings, installed facilities	Noise, waste generation, potential leakage	Noise, land pollution	1	1	3	2	2	12	No significance

Rehabilitation of project site	Vegetation disturbance/Land deformation: soil erosion, drainage problems/Restoration of site	Land/water pollution/	2	1	3	2	1	6	No significance
Safety and occupational hazards	Cuts and amputations, Thermal burns/trips, slip and falls/ Crushing injury from material handling and falling objects/ Nuisance / Respiratory problems/ Headache and sickness	Injury/Mortality	2	2	1	2	2	16	No significance
Socio-economic impacts	Loss of income, reduced ability to support dependants, loss of quality of life, loss of benefits i.e. medical cover, insurance etc…	Potential socio-economic impacts	2	1	3	2	2	24	No significance
Housekeeping	Waste generation	Land pollution	1	1	3	2	2	12	No significance

8.2. Cumulative Impact Assessment

The study area was set for this project is roughly defined to be the area within 3km radius from the center of the proposed site. This study area would be large enough to cope with most potential environmental impacts of the project construction and operation.

Identification of Study Area

There are three existing hotels with the 3 km radius of the study area. They are,

1. Serenity hotel 35 bungalows and 10 rooms for guide rooms
2. Inle garden hotel 45 bungalows, and
3. Sky palace hotel 42 rooms.

Thus, total guest rooms from these hotels = 132 rooms

Cumulative Impact on Physical Resources

During construction of the remaining buildings, cumulative air emission of fugitive dust particle could occur from combination of on-site excavation and movement of earth materials will be occurred as the new hotel zone development project is under construction and other neighboring project sites. During raining season, soil erosion and massive transportation of sedimentation in the Inle lake may be occurred from land preparation and excavation works. For this impact, Amata

should suggest to install adequate amount of silt excluders. In addition, increase water consumption and waste generation may cumulate from the construction of other similar projects. Furthermore, increase traffic intensity will be cumulated due to transport of required materials for construction by vehicles and consequently accident rate will be increased. Another cumulative impact driven on the Inle lake ecosystem is spillage and leakage of fuel and engine oils while travelling into the lake by boats and consequently, cumulative CO_2 emission may also be occurred.

Environmental awareness talks should be provided with the corporation of hotels in the vicinity area of the Amata Garden Resort, Inle.

Cumulative Impact from Wastes

Solid

During operation phase, total of 122 guest rooms (60 bungalows and 62 duplex rooms) for 244 guests will be available for throughout its lifespan (50 years and 10 years expendable for 2 times) by the Amata. The sum of rooms from the existing neighboring hotels' rooms and Amata hotel's room are *254 rooms.*

Since, there is construction of new hotel zone which extends approximately 580 acres, the cumulative impact will also be driven from this area. Let land allocation for a hotel is 15 acres, there may 40 hotels will be constructed at the new hotel zone. Let say, one hotel will consist of average 100 guest rooms (bungalows). Therefore, *4,000 guest rooms* will be occurred. Then, one room will be hosted two guests.

Therefore,

Total guests = (Existing Hotel + New Hotel Zone) * number of guests per room

= (254 rooms + 4000 rooms) * 2

= 8508 (approximately *8,500 guests*)

Estimated occupancy rates of the Inle are 55% during high season and 12% during low season. During operation phase of the high season and low season, therefore, *4675 guests and 1020 guests* will stay at that area respectively.

Thence, it is estimated that average one kilogram of solid wastes will be generated from the guest rooms per guest per night. So, there may occur totally 4675 kilograms of solid wastes will be generated during high season and totally 1020 kilograms will be generated during low season.

Apart from that various amount of solid wastes may be generated from operation of the hotels and its related facilities such as waste kitchen, dining rooms, reception, office etc.

Liquid waste

Estimated liquid waste generation from the 3km study area of the project site is mentioned as below;

Estimation (1)

Estimate Maximum number of rooms = 4254 rooms (existing 254 + new hotel zone 4,000)

Estimation (2)

Average no. of guest with 55% occupancy rate = (4,254 * 2) *55% = 4,675 guests per night *(high season)*

Average no. of guest with 12% occupancy rate = (4,254 * 2) *15% = 1,020 guests per night *(low season)*

Assume (1) that, 220 liters (60 gallons) per guest per day will be applied.

Total average water requirement per day = 1,028,500liters (280,500gallons) *(high season)*

Total average water requirement per day = 224,400 liters (61,200 gallons) *(low season)*

Assume (2) average 70% of wastewater run into the septic tanks,

During high season, 719,950 liters (196,350 gallons) of wastewater and during low season, 33,660 liters (9,180) of wastewaters will be gone into septic tanks of the respective hotels

And about 20% of wastewater may run into the normal drains. Eventually, it is estimated to reach to the lake. Left 10% is guessed to leak into the soil and may affect the ground water table.

If the hotels (which will be implement in new hotel zone area) will apply Bio-tank wastewater treatment plants, no and/or adverse impacts on lake ecosystem and underground water, there will be anticipated.

Mitigation measure for the adverse cumulative impacts: One suggestion is to develop Nyuang Shwe Hotels Management and Development Committee in accordance with Directorate of Hotel and Tourism. This committee will take responsible for the inspection of hotels in conformity with the Myanmar Hotels and Tourisms Law and other related law and regulation such as Environmental Conservation Law, etc., to reduce the cumulative impacts on physical resources

such as water and energy consumption, air pollution, noise pollution and waste generations. This committee should also collaborate with INGOs which actively perform to conserve Inle Lake and authorized organizations like Forest Department to minimize and mitigate the impacts and sustainable utilization of the resources. Often, public talks and meetings should be arranged in order to accrue knowledge for people regarding environmental friendly best practices.

Other Recommended Mitigation Measures Include:

For the garbage: The hotel zone manage committee should manage/create to ensure regular collection of garbage system within the hotel zone in collaboration with Nyaung Shwe Township Municipality and make sure the collected waste must be disposed of at the dump site.

For sewage and effluent disposal: As the same sewage and effluent out from the hotels, the centralized sewage and effluent collect tanks should be built. Then, wastewater and sewage treatment plants (STP) to service with the demands of the resort should be installed to treated the collected wastes. The wastes, thence, will be treated to water quality standards. After that, it will be pumped back to the resort for use as sprinkling for the grounds, watering the gardens and washing the vehicles. Otherwise, the treated water with water quality standard stated in NEQG can be released to normal drains. The remain indecomposable sludges will be dried and used as fertilizer for gardening or stabilize for use as a soil conditioner.

9. Institutional Requirements and Environmental Management and Monitoring Plan

The implementation of the project will be managed by Amata Garden Resort Hotel. A Health, Safety and Environment (HSE) Coordinator is assigned for the project monitoring and coordinating purposes. HSE coordinator will be responsible for implementation and monitoring of the environmental management and monitoring plan as well as coordination with local authorities and the nearby communities. He/she shall work closely with the contractor during the construction, operation and abandonment phase and will be the first contact on the ground directly for Amata Garden Resort Hotel. He/she shall receive all complaints and grievances arising in the course of the implementation of the EMP.

9.1 The Environmental Management Plan

The environmental management plan (EMP) that was prepared for the proposed project was the basis for determining the anticipated impacts, monitoring requirements, and development of mitigation measures with respect to the following stages:

(i) Construction,

(ii) Operation, and

(iii) Decommissioning phase.

Detailed, site-specific mitigation measures and monitoring plans are developed and will be implemented during the project implementation phase. The Detailed EMP is as follows;

Table 11: Environmental Management Plan

Project / Activity Phase (Potential Environmental Impact)	Objectives	Mitigating & Enhancement Measures	Estimated Cost of Proposed Measures (USD)	Responsible Person / Unit
Construction Phase				
Change in land use extent	To ensure no major change in existing land use	▪ Conserve trees and plant more on completion ▪ Ensure compliant with existing planning policy	-	Amata Garden Resort Hotel /Contractor
Loss of terrestrial habitat and biodiversity	To protect endemic species of wildlife sanctuary and their habitats	▪ Retain and restore as much of the original and natural forested condition of the site. ▪ Site clearance should be carried out in a manner that retains the large trees while the building footprints are pegged out. ▪ Construction of the internal roads and placement of the building footprints should be carried out after identifying and locating all the mature and ecologically valuable trees (using qualified personnel) and aligning the roads and building footprints as much as possible so as to save these trees. Trees and shrubs contained within the footprints that are amenable to transplanting should be identified and removed to the nursery. ▪ Where possible bird feeding trees should be retained and used in the landscaping of the resort property	-	Amata Garden Resort Hotel /Contractor

		▪ Trees to be protected and left in place should be clearly marked, individually numbered, identified on the site plan and encircled by a sturdy fence prior to the commencement of construction. ▪ The landscape plan should be prepared prior to commencement of site clearance activities and be subject to careful review and assessment. ▪ All construction workers and persons on site must be given specific instructions not to harm snakes but allow the animals to retreat into the nearby area. ▪ All construction contractors should be exposed to the environmental management plan and sensitized to the environmental issues.		
Soil disturbance/erosion	To lessen soil disturbance and prevent soil erosion due to construction activities	▪ Control earthworks and compact loose soils ▪ Install drainage structure properly ▪ Landscaping on project completion ▪ Control and mange excavation activities ▪ Control activities during rainy conditions ▪ Provide soil erosion control and conservation structures/means where necessary ▪ To the greatest extent possible, phase site clearance so as to minimize the area of exposed soil at any given time.	No extra cost	Amata Garden Resort Hotel /Contractor

		▪ Re-cover exposed soils with grass and other appropriate species as soon as possible. ▪ Temporarily bund exposed soil and redirect flows from heavy runoff areas that threaten to ▪ erode or result in substantial surface runoff to adjacent Inle Lake waters ▪ Monitor areas of exposed soil during periods of heavy rainfall throughout the construction ▪ phase of the project		
Traffic	To reduce traffic jam and accidents	▪ Provide adequate parking and driveways ▪ Control and management of traffic through enforcement of speed limits ▪ Provide bill boards at the site/entrance to notify motorists about the development	No extra cost	Amata Garden Resort Hotel /Contractor
Noise	To ensure cumulative noise impacts are acceptable	▪ Construction activities that will generate disturbing sounds should be restricted to normal working hours. ▪ Local residents should be given notice of intended noisy activities so as to reduce the degree of annoyances. ▪ Workers operating equipment that generates noise should be equipped with noise protection gear. Workers operating equipment generating noise levels greater than 80 dBA continuously for 8 hours or more should use earmuffs. Workers experiencing prolonged noise levels of 70 – 80 dBA should wear earplugs.	5000	Contractor

Air Pollution (nuisance dust)	To minimize dust effectively and avoid complaint due to the air borne particulate matter release to the atmosphere	▪ Spray water during the construction phase of excavated areas during dry conditions ▪ Control speed and operation of construction vehicles ▪ Prohibit idling of vehicles ▪ Ensure sound condition of construction machinery and equipment ▪ Workers on the site should be issued with dust masks during dry and windy conditions.	2000	Contractor
Material transportation	To reduce dust/noise/waste generation and avoid spillage during transportation	▪ All fine earth materials must be enclosed during transportation to the site to prevent spillage and dusting. Trucks used for that purpose should be fitted with tailgates that close properly and with tarpaulins to cover the materials. The cleanup of spilled earth and construction material on the main roads should be the responsibility of the Contractor and should be done in a timely manner (say within 2 hours) so as not to inconvenience or endanger other road users. These requirements should be included as clauses within the contracts made with relevant sub-contractors. ▪ The transportation of lubricants and fuel to the construction site should only be done in the appropriate vehicles and containers, i.e. fuel tankers and sealed drums. ▪ As far as possible, transport of construction materials should be	No extra cost	Contractor/ Amata Garden Resort Hotel

		scheduled for off-peak traffic hours (to avoid other hoteliers' construction works). This will reduce the risk of traffic congestion and of road accidents on the access roads to the site. ▪ Appropriate traffic warning signs, informing road users of a construction site entrance ahead and instructing them to reduce speed, should be placed along the main road in the vicinity of the entrance to the Amata Garden Resort Hotel property ▪ Flagmen should be employed to control traffic and assist construction vehicles as they attempt to enter and exit the project site.		
Material storage	To ensure proper storage of material and avoid accidental spillage	▪ The stockpiling of construction materials should be properly controlled and managed. Fine grained materials (sand, marl, etc.) should be stockpiled away from surface drainage channels and features. ▪ Low berms should be placed around the piles and/or tarpaulin used to cover open piles of stored materials to prevent them from being washed away during rainfall ▪ Safe storage areas should be identified and retaining structures put in place prior to the arrival and placement of material. ▪ Hazardous chemicals (e.g. fuels) should be properly stored in appropriate containers and these should be safely locked away.	No extra cost	Contractor/ Amata Garden Resort Hotel

		Conspicuous warning signs (e.g. 'No Smoking') should also be posted around hazardous waste storage and handling facilities.		
Construction waste disposal	To ensure adequate disposal options for all kinds of construction waste including glass, metal, wood, cement residues, plastic, paper based wastes, oil spills etc.	▪ Waste collection, segregation and disposal should be properly managed and contact to Nyaungshwe Township Municipality for final disposal. ▪ Special attention should be given to minimizing and reducing the quantities of solid waste produced during site preparation and construction. To reduce organic waste, softer vegetation may be composted onsite and used for soil amendment during landscaping. ▪ Reusable inorganic waste (e.g. excavated soil) should be stockpiled away from drainage features and used for in filling where necessary. ▪ Unusable construction waste, such as damaged pipes, formwork and other construction material, must be disposed of at Nyaungshwe Township Municipality dumpsite.	5000	Contractor
Sewage and litter management	To prevent soil/water contamination due to grey water discharge and overload or spillage of temporary septic tanks	▪ Install proper sewage treatment plant ▪ Proper solid waste receptacles and storage containers should be provided in sufficient numbers, particularly for the disposal of lunch boxes and drinking bottles, so as to prevent littering on the site ▪ Arrangements should be made for the regular collection of litter and for its disposal only at the dump site.	5000	Amata Garden Resort Hotel

		▪ No discharge of sewage sludge to Inle Lake		
Accident/ Injury/ Health Hazard	To minimize potential accidents/injuries and disease	▪ Proper personal protective equipment i.e. safety shoes, helmet, goggles, respiratory equipment and gloves shall be used at all times on site ▪ Use barriers and guards as necessary to protect employees from physical hazards, ▪ Signage danger warning or CAUTION will be put at strategic places; ▪ Development of occupational safety and health guidance plans ▪ Provide first aid kits and contact points in case of injury and accidents ▪ From a safety and health committee to coordinate safety and health issues at workplace ▪ Provide regular safety awareness talks and trainings	5000/yr	Amata Garden Resort Hotel
Replanting and landscaping	To ensure plant and trees are maintained and restored	▪ Retain and restore as much of the original and natural forested condition of the site. ▪ Site clearance should be carried out in a manner that retains the large trees while the building footprints are pegged out. ▪ Construction of the internal roads and placement of the building footprints should be carried out after identifying and locating all the mature and ecologically valuable trees (using qualified personnel) and aligning the roads and building footprints as much	No extra cost	Amata Garden Resort Hotel

		as possible so as to save these trees. Trees and shrubs contained within the footprints that are amenable to transplanting should be identified and removed to the nursery. ▪ Where possible bird feeding trees should be retained and used in the landscaping of the resort property ▪ Trees to be protected and left in place should be clearly marked, individually numbered, identified on the site plan and encircled by a sturdy fence prior to the commencement of construction. ▪ The landscape plan should be prepared prior to commencement of site clearance activities and be subject to careful review and assessment. ▪ All construction workers and persons on site must be given specific instructions not to harm snakes but allow the animals to retreat into the nearby area ▪ All construction contractors should be exposed to the environmental management plan and sensitized to the environmental issues.		
Employment/income generation	To ensure local people get employed and increase livelihood status.	▪ N/A		
Operation Phase				
Employment	To ensure local people get employed and increase their livelihood status	▪ N/A		
Water supply	To ensure adequate water supply	▪ Provide adequate water storage facilities to ensure adequate supplies for the development.	No extra cost	Amata Garden Resort Hotel

Depletion of water resources	To minimize water consumption	▪ Install water meter for control of water use. ▪ Install water-saving equipment, including ultra-low-flush toilets, spray nozzles, urinals, and low-flow showerheads	3000/yr	Amata Garden Resort Hotel
Energy Consumption saving (Electricity, Diesel, Gasoline etc…)	To save energy consumed by the resort	▪ Regular servicing of vehicles, boats and machinery ▪ Switch off idle vehicles and machinery ▪ Use efficient energy consuming equipments and energy saving bulbs ▪ Sub-meters and real-time energy monitoring equipment, timers, photoelectric cells, thermostats, etc. should be installed throughout the Amata Garden Resort Hotel facilities. ▪ Install translucent shades and fluorescent lighting. ▪ Pipe insulation, tank lagging (not asbestos!) and heat recovery systems should be installed wherever it is practical to do so.	4000/yr	Amata Garden Resort Hotel
Electricity generation by stand-by generator	To reduce noise impact produced by generator and avoid accidental spillage	▪ The placement of the power generators on the less populated side of the project site will remove the source of noise and vibration from the vicinity of the hotels. ▪ The fuel storage facilities will comply with suppliers' specifications for contained storage.	No extra cost	Amata Garden Resort Hotel

Accident/ Injury/ Health Hazard	To minimize potential accidents/injuries and disease	▪ Proper personal protective equipment i.e. safety shoes, helmet, goggles, respiratory equipment and gloves shall be used at all times on site ▪ Use barriers and guards as necessary to protect employees from physical hazards, ▪ Signage danger warning or CAUTION will be put at strategic places; ▪ Development of occupational safety and health guidance plans ▪ Provide first aid kits and contact points in case of injury and accidents ▪ Form a safety and health committee to coordinate safety and health issues at workplace ▪ Provide regular safety awareness talks and trainings	5000/yr	Amata Garden Resort Hotel
Sewage treatment and disposal	To prevent soil/water contamination due to overload or spillage of septic tank system	▪ Design of sewage system should be sound in terms of adequacy, gradient materials and standards and should connect to the proposed wastewater treatment system and should be monitored regularly to avoid leakages and spills ▪ Construction of adequate and standard wastewater treatment plant system (e.g. Bio-Tank) ▪ Regular emptying of the septic tank ▪ Contact Nyaungshwe Township Municipality for final disposal of sewage sludge. ▪ Undertake regular monitoring and testing of effluent to ensure	5000/yr	Amata Garden Resort Hotel

		compliance with national standards and regulations		
Solid waste disposal	To minimize generation of different types of waste	▪ Proper segregation in collection of waste. ▪ Practice recycling of waste. ▪ Implement composting of waste especially garden refuse and provide food wastes to nearby villages for animal fodder ▪ Contact Nyaungshwe Township Municipality for proper disposal.	1000	Amata Garden Resort Hotel
Ground water contamination	To avoid ground water contamination due to accidental spillage of diesel	▪ Install oil traps on drainage ▪ Use drip trays to collect oil leakage ▪ Servicing of machinery and equipment to be done at a designated place with a paved surface and oil interceptors	2000/yr	Amata Garden Resort Hotel
A/C maintenance	Ozone depletion/Global warming	▪ Construct the buildings with high ceiling, large windows, sidewalks and verandas for proper natural air circulation ▪ Provide environmental friendly R410A typed A/C	2000/yr	Amata Garden Resort Hotel
Fire	To prevent from incidents of fire	▪ Ensure sufficient emergency firefighting tools (fire alarm, fire extinguishers, fire hoses, standby water tanks, water pumps, and first aid boxes) are installed and standby at all corners of resort and regular check and maintenance. ▪ Training on fire fighting, evacuation and first aid. Organize a volunteer firefighting team with hotel employees and get consultation by Nyaungshwe Township fire station.	5000/yr	Amata Garden Resort Hotel

		▪ Keep enough spaces for sidewalks, escape routes, emergency exits, assembly area with regular inspection and maintenance. Proper maintenance of machines, wires and electrical appliances.		
Food and Portable water Quality	To ensure that food and water provided by resort is hygienic and standard quality	▪ Install additional water purification system at kitchen. Use only purified drinking water for all cooking and food preparing. ▪ Do not use banned substances, ingredients or chemicals in food making. ▪ Compliance with food hygiene and water-quality standards of government authorities and international standards of food-handling, preparation and storage and water-quality. Supply of safe and hygiene foods, drinks and water. Regular testing of food and water according to World Health Organization (WHO) standards as a minimum	3,000/yr.	Amata Garden Resort Hotel
Emission of noise and CO2 from vehicle movements	To minimize emission of CO2/noise	▪ Noise survey Signage Use of PPEs and Proper maintenance of vehicles.	No extra cost	Amata Garden Resort Hotel
Decommissioning Phase				
Waste disposal due to dismantling activities	To minimize generation of scraps and other debris on sites	▪ Use of an integrated solid waste management system i.e. through a hierarchy of options: ▪ Wastes generated as a result of facility decommissioning activities will be characterized in compliance	3000	Amata Garden Resort Hotel Hotel/Contractor

		with standard waste management procedures. ▪ All buildings, machinery, equipment, structures and tools that will not be used for other purposes should be removed and recycled/ reused say in other projects ▪ Where recycling/reuse of the machinery, equipment, implements, structures, tools and other waste is not possible, the materials should be disposed to approved dumpsites ▪ To contact Nyaungshwe Township Municipality for final waste disposal		
Ground water pollution due to dismantling activities	To prevent potential pollution	▪ procedures for finding contaminated material during excavations will be established ▪ covering and damping of excavated materials ▪ appropriate storage of contaminated material if found. ▪ Ground contamination and storm water contamination will be limited on site by proper handling and storage of materials and equipment.	2000	Amata Garden Resort Hotel /Contractor
Rehabilitation of project site	To ensure less vegetation disturbance, land deformation and restoration of site	▪ Implement an appropriate re-vegetation program to restore the site to its original status ▪ During the re-vegetation period, appropriate surface water run off controls will be taken to prevent surface erosion; ▪ Monitoring and inspection of the area for indications of erosion will be conducted and appropriate measures taken to correct any occurrences;	-	Amata Garden Resort Hotel/Contractor

		▪ Fencing and signs restricting access will be posted to minimize disturbance to newly-vegetated areas; ▪ Scoop out any contaminated soils and replace with uncontaminated soil from another source Comprehensive Landscaping		
Health and safety impacts	To avoid potential occupational hazards	▪ The safety of the workers should surpass as a priority of all other objectives in the decommissioning project ▪ Provide appropriate Personal Protective Equipment (PPE) as necessary. ▪ Staircases and other hazardous areas shall be suitably protected say using strong rails to avoid occurrence of incidences ▪ Provide emergency health care and sanitation to employees. ▪ Ensure sufficient emergency firefighting tools (fire extinguishers, hooks, buckets and water tanks) are standby at demolishing site	10000	Amata Garden Resort Hotel/Contractor
Socio-economic impacts	To prevent loss of income, quality of life and benefits such as medical, insurance cover etc…	▪ Assist with re-employment and job seeking of the involved workforce. ▪ Compensate and suitably recommend the workers to help in seeking opportunities elsewhere. ▪ Offer advice and counseling on issues such as financial matters.	-	Amata Garden Resort Hotel

9.1.1 Waste Management Plan

As a resort project situated on the bank of Inlay Lake Wildlife Sanctuary, the developer has put special emphasis on waste management and control. The resort authority shall comply zero tolerance with any kind of waste disposal into the lake. There are two type of wastes (solid waste and liquid waste) will be generated from proposed project.

The waste management plan will attempt to minimize waste production by applying the principles of **Reducing** the use of materials, **Reusing** materials whenever possible, **Recycling** materials and Recovering value from used materials.

Waste Management Areas/ Facilities

Wherever practical, waste should be transported by the resort operator (or appointed waste service provider) from the point of generation directly to the centralized waste storage area or temporary storage facilities where it can be safely stored prior to offsite disposal. For efficiency it is permissible to establish intermediate storage area/ collection points; this would be at the discretion of the resort management, and all such area would have to comply with safe storage requirements.

Identification of Waste Generated from proposed project

The proposed resort will produce various kind of waste such as non-hazardous waste and hazardous waste during construction phase, operation phase and decommissioning phase.

1. **None Hazardous Waste**
2. **Hazardous Waste**

Non - Hazardous Wastes

Type	Components	Source
Household wastes	Food/kitchen waste, used or dirty paper and wrapping, plastic wrapping, or bags composite wrappers	Hotel's different departments
Paper	Printed documents, brochures, menus, maps, magazines, newspaper	Administration, reception, guest rooms, restaurants
Plastic	Bags, bottle (that did not contain hazardous materials), household goods, individual portion wrappers for various products	Kitchen, restaurants, bars, guest rooms
Metal	Tin cans, jar lids, soda cans, food containers, mayonnaise mustard and	Kitchen, restaurants, bars, guest rooms

Type	Components	Source
	tomato puree tubes, aluminum packaging	
Glass	Bottles, jars, flasks	Kitchen, restaurants, bars, guest rooms
Wood	Wooden packaging, pallets	Purchasing department
Organic Wastes	Fruit and vegetable peelings, flowers and plants, branches, leaves, grass	Kitchen, restaurants, bars, guest rooms, gardens

Hazardous Wastes

Type	Source
Frying Oil	Kitchen, restaurants
Mineral Oil	Maintenance service
Paint and solvent residues	Maintenance service
Flammable materials (gas, petrol, etc)	Kitchen, garden, Maintenance service
Fertilizers and chemical	Garden
Cleaning chemicals	Maintenance service
Ink cartridges	Administration, guest rooms
Batteries	Maintenance service, administration, guest rooms
Cleaning chemicals	Laundry room
Solvents used in dry cleaning	
Fluorescent lights, neon tunes and long-life bulbs	Maintenance service

Waste Management Facilities

It is essential that the generated wastes are handled, stored and managed in a safe and environmentally responsible manner. Wastes types segregated are disposed of in accordance with the "Best Practicable Environmental Option" with the intention of least impacts on the environment. Aureum Palace Resort & Spa has the option of waste management facilities produced waste from different departments. Segregation and identification of produced waste from Aureum Palace Resort & Spa. The generated and segregated wastes will be collected by using the garbage bin, plastic container, recyclable plastic bags and organic waste will be composted and used as fertilizer.

Waste Stream	Description	Handling Methods	Disposal Method
Organic Wastes	Residue Food waste, vegetable scraps, meat bones, fish bones, etc. Paper	▪ Placed in designated bins or containers and then packed with recyclable bags at the premises of each department.	Organic waste will be disposed of at sanitary landfill within the project site.

	Garden waste such as dry leaves	▪ Stored at temporary storage area at the site. ▪ Daily management, transport and disposal of these collected wastes has been done in accordance with the Nyaung Shwe township municipal guidelines ▪ Office used paper other newspaper will be collected and stored for other reuse of packing materials ▪ Composting at site	Food waste will be disposed of by composting.
Inorganic Wastes	Wooden crates, glass bottles, glass jars, metal cans, etc.	▪ These waste will be collected separately in rubbish bins, and segregate into recyclable and non-recyclable waste and then regular and proper disposal will be done in temporary storage at the site	Wooden crates, glass bottles, glass jars and metal cans have resale value and will be reused or recycled.
Waste Water Sewage	All human excreta and associated products	▪ Kubota Johkasou Bio-tank will be used and then discharge into clean water	When the Bio-tank is full, contact Shwe Nyaung Municipal Committee for final disposal

Segregated Waste Streams and Recommended Mitigation Measure

Waste Stream	Best Implemented Practices or Recommended Mitigation Measures	Responsibility
Non-Hazardous Waste		
Household wastes Domestic Waste, Organic Wastes (food waste, vegetable waste)	▪ The resort should develop a comprehensive system for waste separation at the relevant generation points to facilitate composting. ▪ Waste should be separated into items which can be used, composted, or recycled, and the remaining portion sent to the general waste stream for disposal at landfill. ▪ Significant quantities of vegetation trimmings can be shredded and used to stabilize the entrances and access paths	Amata Garden Resort
Paper	▪ Double side printing and using one-side printouts as scrap	Amata Garden Resort
Plastic	▪ Use of refillable dispensers for soap and shampoo ▪ Use of dosing systems instead of individual cleaning bottles ▪ Purchases of reusable or durable materials ▪ Turning the glasses in guestrooms upside down instead of using plastic covers	Amata Garden Resort
Metal	▪ Purchase of reusable or durable material	Amata Garden Resort
Glass	▪ Use of post mix instead of glass bottles	Amata Garden Resort
Wood	▪ Reusing as raw materials for other wooden products	Amata Garden Resort
Hazardous Waste		
Used oil and oil contaminated material	▪ Used oil should be stored away from drains or watercourses in bunded roofed and sealed areas ▪ Used oil waste storage areas should be color coded clearly signposted as "Use Oil Waste". Storage areas must be protected from the elements (rain, sun etc.), away from open flames and should be accessible for removal trucks ▪ Sufficient absorbent spill cleanup kits should be placed nearby the used oil waste storage area	Amata Garden Resort

Waste Stream	Best Implemented Practices or Recommended Mitigation Measures	Responsibility
Used cooking oil	▪ All used cooking oil generated from the kitchen must have a designated area for the storage of used cooking oil waste. This area should be clearly signposted "cooking oil waste" and protected from the elements, away from open flames and should be accessible by vehicles for the transfer to the collection area ▪ The storage area should be situated on a concrete base. ▪ These oils must be kept separate from fats and greases extracted from kitchen fans and filters	Amata Garden Resort
Chemicals	▪ Chemical waste (unwanted, expired etc. chemicals) should be ▪ Stored in color coded, not corrosive containers, clearly signpost as "chemical waste ". Care must be taken to not store in chemicals together or close to one another ▪ Be stored away from any source that release heat, especially flammable chemicals ▪ Not to be stored in walkways, entrances or windowsills. Stock only in shelves available ▪ Used dry, concentrated chemicals in dispensers to reduce chemical spills and waste	Amata Garden Resort
Battery Waste	▪ All batteries should be stored in a cool dry place, away from flammable materials and heat sources ▪ Spent batteries must be placed in a plastic bag or have non-conductive electrical tape over the terminals. ▪ Lead acid batteries should be with the terminals on top to prevent spillage ▪ Batteries should be sorted according to their chemistry/supplier, disposed in non-metal or lined steel containers, and labeled as " Used batteries".	Amata Garden Resort
Sewage Sludge	▪ The septic tanks will need to be de-sludged periodically (e.g. every 3-5 years), it is recommended that and approved sludge removal contractor must be appointed to undertake the de-slugging	Amata Garden Resort

Waste Stream	Best Implemented Practices or Recommended Mitigation Measures	Responsibility
	▪ Water conservation practices should be encouraged wherever possible in order to reduce the amount of sewage requiring treatment ▪ The sewage treatment plant is to be operated and maintained by suitably qualified personnel at all times, in strict accordance with the operating procedures ▪ In the event of a failure or overflow situation at the sewage treatment plant, the resort is required to implement a back-up system which will ensure that no sewage is discharged into the environment	
E - Waste	▪ E-waste is waste generated from electronic equipment. Electronics are potentially recyclable but contain lead, which can be harmful to the environment if disposed of improperly	Amata Garden Resort

General Waste Reduction

There are a number of options for reducing the amount of waste produced at the resort

- **Awareness**: Staff must be made aware of the aim to reduce, minimize and reuse waste by means of posters, training, staff meetings, etc.
- Greener Purchasing :
  - Purchase recycled , durable and reparable products
  - Use and environmentally friendly manufactured paper product range to replace convectional paper stationary
  - Buy products with less packaging , or packaging that can be recycled
  - Refillable amenity dispensers should replace soap, lotion, shampoo and conditioner bottles in the resort's guest rooms
  - Purchase bio-degradable bags for waste bins
- General Office and Housekeeping practices
  - Reuse office equipment, files, folders, boxes ,etc. wherever possible
  - The resort operator should develop an office paper reduction program including the reuse of paper,
  - The resort management should aim to reuse toner printer cartridge by shipping them to companies that remanufacture them
  - Reuse stained cloths and towels for cleaning

9.2 Environmental Monitoring Plan

The detailed environmental monitoring plan is as follows;

Table 12: Environmental Monitoring Plan

Environmental Concern	Management Activities	Frequency/Timing	Cost (USD)	Responsible Person / Unit
Health, Safety and Environment (HSE) issues	• Appoint one Health, Safety and Environment (HSE) Coordinator.	permanent	3000 per month	Amata Garden Resort Hotel
Review of EMP	• Review EMP to cover any unidentified impacts.	Monthly	No extra cost	HSE Coordinator
Construction Phase				
Traffic	▪ Provide adequate parking and driveways ▪ Control and management of traffic through enforcement of speed limits ▪ Provide bill boards at the site/entrance to notify motorists about the development	Daily check and control during construction	No extra cost	Contractors/HSE Coordinator
Waste Management	▪ Design of sewerage system should be sound in terms of adequacy, gradient materials and standards and should connect to the proposed wastewater treatment system and should be monitored regularly to avoid leakages and spills ▪ Engage the services of Nyaungshwe Township Municipality for disposal of solid waste ▪ Construction of adequate and standard wastewater treatment plant/system ▪ Full compliance with the law and all regulations	Daily check and control during construction	No extra cost	Contractor/HSE Coordinator
Soil disturbance	▪ Control earthworks &compact loose soils ▪ Install drainage structures properly ▪ Landscaping on project completion ▪ Control and manage excavation activities ▪ Control activities especially during rainy conditions	Daily check and control during construction	No extra cost	Contractor/HSE Coordinator

Environmental Concern	Management Activities	Frequency/Timing	Cost (USD)	Responsible Person / Unit
	▪ Provide soil erosion control and conservation structures/means where necessary. ▪ Ensure standard appropriate practices on the provided gardens			
Change in land use extent	▪ Conserve trees and plant more on completion ▪ ensure compliance with existing planning policy	Daily check and control	No extra cost	Contractor/HSE Coordinator
Changes in hydrology/ impended drainage	▪ Proper installation of drainage structures ▪ Install cascades to break the impact of water flowing in the drains ▪ Ensure efficiency of drainage structures through proper design and maintenance ▪ Provide gratings to the drainage channels	Field observation	No extra cost	Contractor/HSE Coordinator
Air pollution	▪ Enclose the site with dust-proof net during construction ▪ Water should be sprayed during the construction phase of excavated areas during dry conditions ▪ Control speed and operation of construction vehicles ▪ Prohibit idling of vehicles ▪ Ensure sound condition of construction machinery and equipment ▪ Engage sensitive construction workers. ▪ Measure air quality	Air quality measurement – once a year Field observation once a month	500 per year	Contractor/HSE Coordinator
Noise pollution	▪ Erect suitable barriers to control noise ▪ Sensitize drivers of construction machinery on effects of noise ▪ Maintain plant equipment (if present) ▪ Construction activities to be restricted to daytime ▪ Workers in the vicinity of or involved in high-level noise to wear safety & protective gear. ▪ Listening to local communities on their perception and complaints ▪ Measure noise quality	Noise level measurement – twice a year Field observation – once a month	1000 per year	Contractor/HSE Coordinator

Environmental Concern	Management Activities	Frequency/Timing	Cost (USD)	Responsible Person / Unit
Water resources	▪ Management of water usage. Avoid unnecessary wastage ▪ Recycling of water at the construction phase where possible	Daily check and control during construction	No extra cost	
Fuel, Oil, fats & greases pollution	▪ Proper storage, handling and disposal of new oil and used oil wastes ▪ Maintain plant and equipment to avoid leaks ▪ Maintenance of construction vehicles should be carried out in the contractors yard (off the site) ▪ Provide oil interceptors along the drains leading from fuel storage station & parking ▪ Provide a grease trap for all wastewater from kitchen ▪ Regular scheming of the oil interceptor& grease trap	Daily check and control during construction	No extra cost	Contractor/HSE Coordinator
Health and Safety	▪ Regular field checks to make sure minimal use of update and good vehicles, machines, equipment with proper maintenance ▪ Strict control to avoid use of toxic and hazardous substance in construction. ▪ Make sure that appropriate Personal Protective Equipment (PPE) are provided as necessary ▪ Make sure that emergency health care and sanitation is provided to employees ▪ Ensure sufficient emergency firefighting tools (fire extinguishers, hooks, buckets and water tanks) are standby at construction site	Field observation – once a month	1,000 per year	HSE Coordinator
Operation Phase				
Vegetation	▪ Landscaping and planting vegetation in all disturbed areas ▪ Planting and grassing should be done just before the rains or irrigated on dry spells.	Inspection: Monthly	No extra cost	HSE Coordinator
Sewage disposal	▪ Ensure that standard septic type/ bio-tanks is used ▪ Regular inspection of Waste water Treatment Plant and Septic Tanks/ Bio-tanks to prevent overload or spillage	Monthly	50 per trip (contact with Nyaungshwe	HSE Coordinator

Environmental Concern	Management Activities	Frequency/Timing	Cost (USD)	Responsible Person / Unit
	▪ Make sure that final disposal of sewage& sludge follow Nyaungshwe Township Municipality guidelines		Township Municipality)	
Energy consumption	▪ Regular servicing of vehicles and machinery Switch off idle vehicles and machinery Use efficient energy consuming equipments and energy saving bulbs	Continuous	No extra cost	Contractor
Solid waste disposal	▪ Make sure recyclable and reusable wastes are sent to appropriate facilities or places for proper recycling and reuse. ▪ Make sure hotel staffs and guests follow the waste segregation system.	Daily	25 per trip (contact with Nyaungshwe Township Municipality)	HSE Coordinator
Ground water contamination due to spillage of oil and lubricants	▪ Ensure minimum use and proper maintenance of vehicles, machines and equipment ▪ Regular inspection to make sure transport, storage and handling of oil and lubricants are carried out under standard procedure ▪ Make sure spill response kits are standby at storage area ▪ Inspect if secondary containments are installed properly and oil separators are provided ▪ Ensure servicing of machinery and equipment to be done at a designated place with a paved surface and oil interceptors	Monthly check	No extra cost	HSE Coordinator
	▪ Make sure maintenance of vehicles/boats are done regularly.	monthly	No extra cost	HSE Coordinator

Environmental Concern	Management Activities	Frequency/Timing	Cost (USD)	Responsible Person / Unit
Safety	▪ Inspect and assured that measures for prevention of accidents and injuries are properly practiced such as insulation of electrical equipment, hand rails for ladders, anti-slip strips, swimming pool cautions, etc. ▪ Make sure proper PPE is provided as necessary and all employees get first aid training ▪ Ensure that vehicles, machines, equipment are in good conditions and with regular maintenance. ▪ Test emergency lights regularly and keep in proper working order ▪ Make sure that safety and emergency rescued procedures are practiced at swimming pool ▪ Keep battery-operated emergency lights in all guest rooms and useful locations in order to light aisles, halls, and stairways along evacuation routes. ▪ Review of existing safety plan by Resort Management Committee and HSE Coordinator and modify if necessary	Daily	No extra cost	HSE Coordinator
Fire safety and preparedness	▪ Install adequate and appropriate firefighting equipment as provided elsewhere in the report ▪ Conduct training on firefighting, evacuation and emergency response & conduct regular fire drills ▪ Adapt effective emergency response plan ▪ Maintain/service firefighting machinery regularly ▪ Provide emergency numbers at strategic points ▪ Provide emergency control switch ▪ Follow rules and procedures to make sure that aisles and exits are kept clear, are properly and clearly marked, and allow workers to quickly and safely leave the warehouse in an emergency. ▪ Enforce no smoking policy ▪ Have emergency evacuation procedures that require all employees to participate in drills. During a drill, employees should leave the building, go to an assigned	Drills: Quarterly Inspection: Monthly	No extra cost	HSE Coordinator

Environmental Concern	Management Activities	Frequency/Timing	Cost (USD)	Responsible Person / Unit
	location (assembly area) and remain there until a signal is given to return to the resort. The focus should be on orderly evacuation, rather than on speed. ▪ Hold at least one emergency evacuation drill every year during which all employees are evacuated within 3 minutes. ▪ Fire extinguishers should match the potential fire hazard and should be located near flammable liquids and near every strategic area. ▪ Fire extinguishers should have maintenance tags attached to them to indicate the date they were last checked and serviced. In addition, there should be a diagram that shows workers how to use fire extinguishers in the immediate area. ▪ Install two separate fire alarms: one that has a sound that only means "fire" and one for "general". ▪ Alarms should have back-up battery or an uninterruptible power supply. ▪ Test alarms regularly and maintain in proper working order. ▪ In addition to the resort's audible alarm, a visible fire alarm (such as a flashing light) should be installed.			
Health	▪ Provide Medical Checkup and vaccination for all employees. ▪ Maintain a record of occupational accidents and diseases occurrences ▪ Review of existing health plan by management committee and HSE Coordinator. ▪ Modify if necessary.	Yearly	20 per head	HSE Coordinator
Security	▪ Ensure security guards and facilities are provided during the entire project cycle	Daily	No extra cost	
Decommissioning Phase				

Environmental Concern	Management Activities	Frequency/Timing	Cost (USD)	Responsible Person / Unit
Waste disposal due to dismantling activities	▪ Ensure the use of an integrated solid waste management system i.e. through a hierarchy of options: ▪ Make sure all buildings, machinery, equipment, structures and tools that will not be used for other purposes should be removed and recycled/ reused say in other projects ▪ Where recycling/reuse of the machinery, equipment, implements, structures, tools and other waste is not possible, the materials should be disposed to approved dumpsites. ▪ Make sure wastes are collected regularly and collection, segregation, storage and disposal of wastes are in accordance with NSTM procedure and guidelines	Daily check and control	No extra cost	HSE coordinator/Contractor
Water pollution due to dismantling activities	▪ Test the water quality of daily consumed water ▪ Field observation and counter measures to ensure minimal use of water ▪ Special care and cautions in transport, storage and handling of oil and lubricants ▪ Listen to employee and local communities' perception and complaints on water quality and respond/ react properly ▪ Covering and damping of excavated materials ▪ Appropriate storage of contaminated material if found. ▪ Ground contamination and storm water contamination will be limited on site by proper handling and storage of materials and equipment.	Water quality test – once during demolishing Field observation – once a month	500 per year	Contractor
Rehabilitation of project site	▪ Implement an appropriate re-vegetation programme to restore the site to its original status ▪ During the re-vegetation period, appropriate surface water run off controls will be taken to prevent surface erosion;	Field observation	No extra cost	

Environmental Concern	Management Activities	Frequency/Timing	Cost (USD)	Responsible Person / Unit
	▪ Monitoring and inspection of the area for indications of erosion will be conducted and appropriate measures taken to correct any occurrences; ▪ Fencing and signs restricting access will be posted to minimize disturbance to newly-vegetated areas; ▪ Carry out soil tests foe contaminants & if need be scoop out any contaminated soils and replace with uncontaminated soil from another source Comprehensive Landscaping			
Health and safety impacts	▪ The safety of the workers should surpass as a priority of all other objectives in the decommissioning project ▪ Strict control to avoid use of toxic and hazardous substance in demolishing ▪ Make sure that appropriate Personal Protective Equipment (PPE) are provided as necessary ▪ Make sure that emergency health care and sanitation is provided to employees ▪ Ensure that safety measures have been effectively integrated and positioned in respective areas of the project to control and manage fire outbreaks ▪ Staircases and other hazardous areas shall be suitably protected say using strong rails to avoid occurrence of incidences	Field observation-once a month	1000 per year	Contractor
Socio-economic impacts	▪ Ensure assistance with re-employment and job seeking of the involved workforce. ▪ Make sure to compensate and suitably recommend the workers to help in seeking opportunities elsewhere. ▪ Offer advice and counseling on issues such as financial matters.	Field observation	No extra cost	Amata Garden Resort Hotel

Environmental Parameters to be Monitored during Operation Phase

The effluent of the hotel during operation phase must be disposed of in accordance with the effluent level of National Environmental Quality (Emission) Guideline (NEQG) sated in page 108. These parameters will be monitored twice a year. The guideline for parameter to be measured is stated as follow;

Parameter	Unit	Guideline Value
Biochemical oxygen demand (5-day)	mg/l	50
Chemical oxygen demand	mg/l	250
Oil and grease	mg/l	10
pH	mg/l	6-9
Total coliform bacteria	100 ml	400
Total nitrogen	mg/l	10
Total phosphorus	mg/l	2
Total Suspended Solid	mg/l	50

Ref: National Environmental Quality (Emission) Guideline

Frequency for Monitoring of the Environmental Quality

No.	Environmental Concerns	Parameters	Frequency
1	Water quality	As Mentioned as above table	Biannually
2	Ambient air quality	PM_{10}, $PM_{2.5}$, SO_2, NO_2	Biannually
3	Occupational health and safety	PPEs and outfit for workers	Annually
4	Noise Level	Noise Level (Night/Day Time)	Trice a year

Summary of Budget Allocation for Implementation of EMP

Sr.	Item	Budget Allotment	Total Cost (USD)
A	***Mitigation Measure Cost***		
1	Construciton Phase	32,000	***773,000***
2	Operation Phase	726,000	
3	Decommissioning Phase	15,000	
B	***Monitoring Cost***		
1	Construciton Phase	7,500	***19,000***
2	Operation Phase	8,500	
3	Decommissioning Phase	3,000	
C	***Supervision Fee***	3000/month	***90,000***
		Sub Total	***801,000***
D	***Contegency***		***99,000***
		Grand Total	***900,000***

Note: All costs can be changed according to situation.

10. Corporate Social Responsibility Plan

Along with EMP, Corporate Social Responsibility (CSR) Plan is also formulated to be implemented by Amata International Co., Ltd during the 50-years operation period. The Amata International Co.' Ltd strongly believed that a hotel/resort and tourism business can achieve sustainable profits, only by minimizing environmental footprint caused by itself and sharing the benefits with employees and local community. The aim of CSR is to ensure social well-being of the employees and their family members, better living condition and transparent and friendly relationship with the communities nearby. Amata International Co.' Ltd has allocated 2% of its net profit for CSR plan.

Table 13: Corporate Social Responsibility Plan

No	Activity	Responsibility	Timing	Estimated Budget (USD per annum)
1.	Provide free emergency medical care. Annual medical checkup and vaccination for all employees	HSE Coordinator/ Amata Garden Resort Hotel	Annually	USD 2,000
2.	Social and environmental assistance to nearest villages, Palaeoo, Maingthauk Village and Pay-pin-inn village of Nyaungshwe Township (provide teaching materials to school, basic medicines to clinic, conduct environmental education program, tree planting program, contribute for local pagoda festival)	HSE Coordinator/ Amata Garden Resort Hotel	Annually	USD 1,500
3.	Cooperation with nearby hotels, businesses and concerned authorities for local environmental safety and sanitation (contribution to Nyaungshwe Township Municipality for collective sewage/waste water disposed system, cleaning and maintenance of drainages, roads, power lines)	HSE Coordinator/ Amata Garden Resort Hotel	Annually	USD 1,500
	Contributions to local infrastructure development (for better development of power supply, water supply, roads, health and sanitation facilities in the area in cooperation with nearby hotels, businesses and concerned authorities)	HSE Coordinator/ Amata Garden Resort Hotel	Annually	USD 1,000
	Total			USD 6, 000

11. Public Consultation and Information Disclosure

In order to ensure the public involvement, the following procedures were followed during IEE report preparation. IEE team also carried out interaction with local communities and related stakeholders during field survey to collect the public concerns and suggestions. The casual meeting is held at different stakeholders especially the neighbors of proposed project site.

Subject: Stakeholder Meeting, Initial Environmental Examination for Inle Hotels Groups

Venue: Mine Thauk Monastery, Nyaung Shwe Township, Shan State

Date: 15th March, 2015

Time: 10:00 am – 1:00 pm

Attendees: 128 people

Meeting Agenda

1. Open the meeting
2. Opening Speech
3. Presenting the objectives of performing the Environmental Impact Assessment
4. Presenting the hotel operations
5. Presenting the Initial Environmental Examination of hotels by E Guard Environmental Services Co., Ltd
6. Providing gifts and donations
7. Questions and Answers by participants
8. Closing speech
9. Close the meeting

Opening speech by U Kyaw Zaw Hla, Township General Administration Officer, Nyaung Shwe Township, General Administration Department: First of all, I would like to greet to those who attends today stakeholder meeting for the Initial Environmental Examination of Inle Hotel groups like H.E Parliament representatives, officials from various departments, personnel from Political parties, NGO and INGO members, Civil Societies, Township and District Administration officers, Communities from the project areas, invited Journalists and reporters and participants may have a health of body and peace of mind.

Distinguished guests and participants!

The purpose of today meeting is to inform the concerned people about the potential environment and social impacts, the mitigation measures and the monitoring programs of the hotel projects which are already completed and are being under construction.

With regard to the presentation presented in this meeting, suggestions and opinions from the participants will also be taken. I would like to explain a little bit about the Initial Environmental Examination (IEE) process. IEE is the mandatory process to be implemented so as to know the potential impacts related to the projects. In order to perform the nation's development, it is crucial to establish the international standard hotels for the development of hotel and tourism sector of the country. When constructing these hotels, we will have the benefits of the development of the nation, the employment opportunity for the local communities and the development of the tourism industry. In addition, environment could be impacted because of these projects activities. These projects are to be constructed in accordance with the international regulations and the existing environmental conservation laws which have been promulgated by the government in order to consider potential environmental impact in the business and investment.

Therefore, I would like to request all the participants to give constructive suggestions so as to minimize the environmental impacts when performing nation's development works.

Thank you.

Explaining the objectives of conducting environmental impact assessment by Daw Sein Ma Ma, Director Environmental Conservation Department, Taunggyi: I would like to present the environmental policy, strategies, laws and procedures regarding the Initial Environmental Examination of 12 hotels in today meeting organized by third party. If we conduct a business, there is a prerequisite activity to be conducted by a business person. We must follow the existing law. If not, action will be taken. According to article 14, Environmental Conservation Law, a person causing a point source of pollution shall treat, emit, discharge and deposit the substances which cause pollution in the environment in accord with stipulated environmental quality standards. When performing development for the country, it is necessary to minimize the environment and social impact as low as possible. The monitoring programs are to be performed in line with article 15 and to follow up the action in accordance with the instructions provided in article 16 of environmental conservation law.

In order to monitor, control, manage, reduce or eliminate environmental pollution, on-site facility of controlling equipment shall be installed or used. According to article 54 of Environmental Conservation Rule, the business would carry out the environmental impact assessment for his plan, business or activity and submit the environmental impact assessment report to the Ministry. In accordance with article 55, the environmental management plan is to be submitted to the Ministry and the environmental impact assessment is to be conducted by a qualified third person or organization accepted by the Ministry. In article 57, the Ministry shall determine and decide, after making scrutiny, whether or not the third party person or organization is suitable to carry out the environmental impact assessment. The initial environmental examination shall include the detailed description of the project, details of the project proponent, Term and conditions of the third party organization who will conduct the environmental impact assessment, description of the project environment, the potential environmental impacts, public consultation and information disclosure, the mitigation measures, conclusion of initial environmental examination, the environmental

management plan (EMP), resource and responsible personnel to conduct EMP and funding for this environmental management plan implementation,. I will explain in details the environmental impact assessment process.

Presenting the implementation works of hotel projects by U Myo Thet Tin, Consultant (Social) of E Guard Environmental Services Co., Ltd: He presented the location, area and the facts about the project.

Explanation of Initial Environmental Examination by U Tin Aung Moe, Director E Guard Environmental Services Co., Ltd: He explained about the location, area and the plants and animal species of Inle Lake Wildlife Sanctuary. He discussed in details about the adverse and positive environmental impacts during construction, operation and abandonment phase of 12 hotels projects and the employment opportunities in order to fulfill the requirement of the staffs of 12 hotels. He also mentioned the air quality, noise, water quality, pollution, health and safety of guests and employees, socio-economics, sewage system due to wastewater disposal. Monitoring and mitigation measures to minimize the environmental impacts are also highlighted. He explained about the biodiversity management plan developed for the hotel projects. In order to appear the responsible eco-tourism society in and around of Inle lake hotels, he highlighted the need of consensus effort by the 12 hotels in the environmental conservation.

Questions and Answers by the participants:

(Q) **U Win Myint, Minister, Shan state provincial government:** When did the land lease agreement for hotel construction sign and how much is the rate? Regarding the environment, I know that the duration is between 30 and 50 years. Therefore 70 years is too long. It needs to be reevaluated. The date of contract should be informed to the local community in a transparent manner.

(A) **Daw Theingi Win, Director, and Amata Hotel**: The contract has been signed with Forest Department at the registration office, Nyaung Shwe Township. According to the MIC regulation, the duration is 50 years. It is extendable up to 2 terms maximum. Each term has 10 years.

(A) **Daw Tin Tin Yee, Managing Director (ANN Heritage):** Our hotel has signed the contract since 2002. The condition of permit for 12 hotels is not the same and the year of contract as well. Permit which requires prior submission is granted only after going through several scrutiny and approvals made by the Ministry of Hotel and Tourism and MIC.

(Q**) U Aung Kyi Win, Provincial Parliament Representative, Nyaung Shwe Township**: There is neither Inle Lake authority nor Inle Lake protection law. Although 12 prohibitions rules are adopted and implemented, if the authority allows the area as a special economic development region, there is no opportunity for the local people. Why do Hotels receive permission while local people are prohibited to extend land area? Local people should have this opportunity.

(A) **Daw Tin Tin Yee (Ann Heritage):** Hotel and Tourism Department reevaluated the situation and issued the permit due to the fact that accommodations are inadequate for the visitors. This may be because of the necessity of the state and the hotel and the tourism industry as well.

(Q)**One local residence:** We are glad that donations are provided by the hotels. As far as I know, local people are to be informed about the initial environmental examination of the project according to MIC regulation. Is there such program or not? Donation is just for the charity or for the community development? If it is for the community development, it is one time event during 50 years? E Guard said that existing trees are to be conserved and replanted. Where are the locations to conserve and replant those trees? How hotels will do to restore the damaged environment?

(A) **U Tin Aung Moe, Director, E Guard**: Information is not provided to local people due to the fact that these hotels received permissions very early. The present-day Hotels have to inform to the local people. In addition, environmental management plan are to be developed. There is a section in EMP mentioning to perform local development and national development. There is a Corporate Social Responsibility program in the EMP. Therefore, donations are not once for all events. There will be such event in the future. By doing landscaping in the areas where the hotel land is connected to the Inle Lake, the environment will be conserved one way or another.

(Q) **Suggestion from one local residence**: How can we observe the donations? For those hotels which have total 20 or 30 acres of land should implement community forestry (CF) plantation.

(A**) Daw Tin Tin Yee (Ann Heritage lodge):** If the authority provides the community forestry, we are ready to implement.

(A) **Daw Khin Htwe Than, HR and Admin Manger (Pristine Lotus):** We have plans to coordinate with the organizations from neighboring villages. We have donated poles for floating land which worth 7 million kyats. It is still ongoing. For CSR programs, the monthly funds are spared to support the nearby villages. We have collaboration with Irrigation department for the floating land. We have planned to collect garbage to have a clean environment.

(A) **U Aung Ko Ko, General Manger (Villa Inle):** Existing trees are maintained. You can come and check. Our hotel is constructed based on nature.

(Q) **U Win Naing, Pe Pin Kone Village, Maing Thuak Village**: There are frequent disputes on land. Compensation is settled with Aureum Palace hotel. It is a mess that floating lands are abandoned. How can we solve it? I would like to know how Asia Green is cleaning the water way?

(A) **Dr. U Tun Aung (Shan state, Parliament Representative-1):** Only one EIA and SIA should be conducted for all Inle Lake hotels. Wastewater from hotels is being discharged in the Nyaung Shwe creek. Therefore, I would like to suggest that hotels should take responsibility. Hotels should

improve the transportation. I would like to know that legal actions are immediately taken for the discharged? Why there are only 12 hotels and not all the others?

(A)**Daw Tin Tin Ye (Ann heritage Lodge):** This is because permission granted by Forest Department and MIC is not the same.

(A) **U Thet Tun, Chairman, Innthar Literature and Civilization organization**: Regarding Land ownership and Land registration, Authorities and concerned department are to be officially informed and defined the area.

(A) **U Kyaw Zaw Hla, Township General Administration officer,** we will send our team to measure the land due to bank erosion issues. We are doing everything after thorough scrutiny.

(Q) **U Thet Tun, Chairman, Innthar Literature and Civilization organization:** we would like to know the contact phone number.

(A) **Daw Sein Ma Ma:** Legal actions can be taken if the discharged are from the hotels according to article (14) of Environmental Conservation Law.

(A**) U Tin AUng Moe:** Suggestions are recorded and will be presented.

The approved IEE report will be accessible to interested parties and general public through Township Admin office, ECD office, Yangon Region and MOECAF Naypyitaw office.

12. Biodiversity Management Plan

Biodiversity is essential for human life. It provides human society with many important benefits and services. These services are collectively termed as environmental services. They are 1) provisional services: food, fresh water, fuel and materials, 2) regulating services: climate regulation, flood control, disease regulation and water purification, 3) cultural services: aesthetic, spiritual, educational and recreational benefits and 4) supporting services: biomass production, soil formation, nutrient cycling and provision of habitats. Although biodiversity is providing these valuable services, human activities are causing tremendous damage to ecosystems and species around the world. There are a number of reasons for the overall loss of biodiversity that we now face, including climate change, habitat conversion, invasive species, overexploitation and pollution.

A hotel impacts biodiversity at each stage of its life cycle, from planning through to closure. At the construction state, the impact is determined by the size and location of the area cleared for development and where construction activities are taking place, the choice of construction methods, the sources and amount and type of materials, water and energy used to build the hotel, the location of temporary camps for construction workers, inadequate storage facilities for construction materials, the amount of construction waste that has to be disposed of, and other types of damage such as surface soil erosion or, compaction caused by construction activities or disruption of natural water flows and drainage patterns.

In the operational stage, a hotel's impact comes mainly from the energy, water, food and other resources that are consumed in running the hotel, by the solid and liquid wastes it produces, by the way its grounds are managed, and by the direct impacts of its guests. In addition, regular renovation and replacement of furniture, appliances and facilities can cause impacts through purchasing choices and increased waste generation. Using energy and water more efficiently, using organic and sustainably produced food, reducing, treating and disposing of waste appropriately, making sustainable purchasing decisions and managing gardens with natural-style plantings can all help a hotel to reduce its adverse impacts on biodiversity. Similarly, a hotel's relationship with host communities not only affects the sustainable operations of the hotel but also the use of environmental resources by communities themselves.

Biodiversity resources are used in every area of a hotel, from restaurants to guest rooms to gardens. The following action plan has been developed to mitigate the biodiversity impacts caused by hotel.

12.1 Impact Assessment Methods

The significance of the impacts has been evaluated using a standardised approach based on ERM's Impact Assessment Standard. This Standard has been determined based on the requirements of IFC PS6. It is based on the relationship between the magnitude of impact and nature of receptor (sensitivity). Impacts to biodiversity are often discussed in terms of impacts to habitats and impacts to individual species or species groups. As such, significance criteria are defined for both habitats and species. The Project impacts identified have been assessed for their significance according to the criteria provided in following tables.

Table 5.3 Habitat Impact Assessment – Significance Criteria

Habitat Sensitivity/Value		Magnitude of Effect			
		Negligible	Small	Medium	Large
Low	Habitats with no or local designation/ recognition; habitats of significance for species of Least Concern; habitats which are common and widespread within the region.	Negligible	Negligible	Minor	Moderate
Medium	Habitats within nationally designated or recognized areas; habitats of significant importance to globally Vulnerable, Near Threatened or Data Deficient species; habitats of significant importance for nationally restricted range species; habitats supporting nationally significant concentrations of migratory species and/or congregatory species; nationally threatened or unique ecosystems.	Negligible	Minor	Moderate	Major
High	Habitats within internationally designated or recognised areas; habitats of importance to globally Critically Endangered or Endangered species; habitats of importance to endemic and/or globally restricted-range species; habitats supporting globally significant concentrations of migratory species and/ or congregatory species; highly threatened and/or unique ecosystems, areas associated with key evolutionary species.	Negligible	Moderate	Major	Critical

Magnitude of Effect Definition	
Negligible	Effect is within the normal range of variation
Small	Affects a small area of habitat, but without the loss of viability/function of the
Medium	Affects a sufficient proportion of the habitat that the viability/function of part of the habitat or the entire habitat is reduced, but does not threaten the long-term viability of the habitat or species dependent on it.
Large	Affects the entire habitat or a significant proportion of the habitat to the extent that the viability/function of the entire habitat is reduced and the long-term viability of the habitat and the species dependent on it are threatened.

(source: ERM, IFC PS6_Amata Garden Resort Inle Lake, 0354734_Interrim Report)

Table 5.4 Species Impact Assessment – Significance Criteria

Species Sensitivity/Value		Magnitude of Effect			
		Negligible	Small	Medium	Large
Low	Species which are included on the IUCN Red List of Threatened Species as Least Concern (LC) (IUCN 2011).	Not significant	Not significant	Minor	Moderate
Medium	Species included on the IUCN Red List of Threatened Species as Vulnerable (VU), Near Threatened (NT) or Data Deficient (DD) (IUCN 2011). Species protected under national legislation. Nationally restricted range species. Nationally important number of migratory or congregatory species.	Not significant	Minor	Moderate	Major
High	Species included on the IUCN Red List of Threatened Species as Critically Endangered (CR) or Endangered (EN) (IUCN 2011). Species having a globally Restricted Range (i.e. plants endemic to a site or found globally at fewer than 10 sites, fauna having a distribution range (or globally breeding range for bird species) less than 50,000 km2. Internationally important numbers of migratory or congregatory species. Key evolutionary species.	Not significant	Moderate	Major	Critical

Magnitude of Effect Definition	
Negligible	Effect is within the normal range of variation.
Small	Affects a small proportion of a population, but does not substantially affect other species dependent on it, or the populations of the species itself
Medium	Affects a sufficient proportion of a species population that it may bring about a substantial change in abundance and /or reduction in distribution over one or more generations, but does not threaten the long term viability of that population or any population dependent on it.
Large	Affects an entire population or species at sufficient scale to cause a substantial decline in abundance and/or change in distribution beyond with natural recruitment (reproduction, immigration from unaffected areas) may not return that population or species, or any population or species dependent upon it, to its former level within several generations, or when there is no possibility of recovery.

(source: ERM, IFC PS6_Amata Garden Resort Inle Lake, 0354734_Interrim Report)

Biodiversity resources are used in every area of a hotel, from restaurants to guest rooms to gardens. The following action plan has been developed to mitigate the biodiversity impacts caused by hotel.

Table 14: Biological Management Plan

Biodiversity Management Area	Management Objectives	Management Activities	Frequency /Timing	Cost (USD)	Responsible Person/Unit
Hotel restaurants	Seeking sustainable sources of food supplies, especially of endemic fish, agricultural products and wild game	**Internally:** ▪ Avoid purchasing species that are locally, regionally or globally depleted, except from sustainable sources. ▪ Choose food items that have been certified by sustainable, fair trade or organic certification schemes ▪ Introduce regional dishes based on locally produced foods on the menus. ▪ Raise the awareness of staff about biodiversity issues related to the production and harvesting of food (fish, waterfowl and game), ▪ Educate staff in helping customers understand and appreciate foods sourced from sustainable sources and ask them for ideas on using foods from sustainable sources in the restaurant. ▪ Set up a kitchen garden, greenhouses and/or orchard, either within the hotel grounds, or on another site.	Continuous observation	No extra cost	Amata Garden Resort Hotel Manager
		Suppliers: ▪ Explain to current suppliers that hotel want to purchase foods from sustainable sources and ask them how hotel can work together to put this goal into practice. ▪ Find new local suppliers by contacting the government agriculture ministry. Explain to	Continuous observation	No extra cost	Amata Garden Resort Hotel Manager

		supplier hotel purchasing standards. Help them directly to develop their activities or put them in contact with specialized associations that can help them improve their practices. ▪ Encourage and support certification schemes for sustainably produced products. ▪ Seek out suppliers who use sustainable packaging materials and systems, such as natural cork. **In partnership with public authorities and local organizations:** ▪ Assist local food producers and suppliers to produce and store food supplies so that they meet your quality requirements and demand (e.g. by supplying cool boxes with ice for storing local sustainably caught fish, or by providing suitable seeds, tools or other items necessary for cultivation). **With Client:** ▪ Inform customers about the issues concerning sustainable food production, harvesting methods that promote biodiversity conservation, sustainable labels and the origin of food. ▪ Inform customers about the benefits of sustainable food for themselves, both in terms of health and improved taste. ▪ Create a small exhibition of local products or photos of local food production and harvesting equipment. ▪ Invite guests and suppliers to visit the kitchen gardens, greenhouses and/or orchards, as a means of raising awareness and enhancing the natural experience of their stays.	Continuous observation	No extra cost	Amata Garden Resort Hotel Manager

Guest rooms and public areas	Making responsible choices in terms of wood used for expansion or renovation projects and furniture; medicinal and aromatic plants for amenities and spa products; and ornamental plants and animals for public areas.	**Internally** ▪ Identify the wood products purchased by the hotel that may negatively impact high-biodiversity forests, and substitute alternative wood products from sustainable sources when making future purchases. ▪ Explain to hotel staff the need to obtain wood from sustainably managed sources and the need to regularly check local forestry regulations, and ensure that purchased timber and forest-derived products have been harvested in compliance with those regulations. ▪ Re-use wood whenever possible. ▪ Provide staff with information about the sustainable wood used in the hotel, and about activities the hotel takes to support tree planting and sustainable forestry. ▪ Check all products containing plant-based products to ensure that the plants used to make these products: - have been harvested sustainably, and have been collected from cultivated sources that do not endanger wild sources of supply. Appropriate standards include the International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants and - are not endangered and/or listed under CITES. ▪ Explain to hotel staff the hotel's commitment in relation to the use of medicinal and aromatic plants in amenities and spa products. Help them to communicate with customers about these issues. **With suppliers** ▪ Choose products from reputable sources that are informed about conservation and sustainable use	Continuos observation Continuous observation	No extra cost No extra cost	Amata Garden Resort Hotel Manager Amata Garden Resort Hotel Manager

		issues associated with production and sourcing of plant-based body-care products, and which operate in accordance with international sustainability standards. Appropriate standards include the International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants - are not endangered and/or listed under CITES. ▪ Explain to current suppliers that the hotel want to purchase plant-based spa products and similar items that come from sustainable sources, and ask them how you can work together to put this standard into practice. ▪ Support local communities and producers to build their own businesses for sustainable harvest and cultivation of plants for production of plant-based body-care products, and once these businesses are established, purchase their products. **With clients** ▪ Explain to clients the importance of protecting medicinal and aromatic plants, and offer information about where they can purchase medicinal and aromatic plant products that are produced sustainably. Consider selling a selection of these products in the hotel shop. ▪ Use the wall space in the spas to showcase local culture and biodiversity through photographs and artifacts.	Continuous observation	No extra cost	Amata Garden Resort Hotel Manager
Hotel souvenir shops:	Avoiding souvenirs produced from threatened or protected plant and animal species.	**Internally** ▪ Regularly check (e.g. annually) with local authorities and associations for species added to CITES lists and national legislation controlling or banning trade in threatened species	Continuous observation	No extra cost	Amata Garden Resort Hotel Manager

		▪ Train staff to communicate about the issues concerning illegal trade in endangered species, CITES, and local regulations to protect endangered species. **With suppliers** ▪ Inform shop managers or leaseholders about issues concerning illegal trade in endangered species, the species on the CITES lists and regulations controlling or banning trade in threatened species. ▪ Ensure that shop managers or leaseholders understand that they should not display, stock or sell any products derived from endangered species and/or species listed under CITES and/or national legislation controlling or banning trade in endangered or threatened species. ▪ In partnership with public authorities and local organizations ▪ Encourage local artists to develop souvenirs from sustainable materials, including recycled products. ▪ Raise awareness in the community and public organizations about threatened species and the need to protect them. ▪ Work in partnership with local authorities and nongovernmental organizations (NGOs) on program to control use of local threatened species and their parts in production of souvenirs and other items. **With clients** ▪ Provide information (videos, DVDs, posters and photo books) to guests about illegal trade in	Continuous observation Continuous Continuous observation	No extra cost No extra No extra cost	Amata Garden Resort Hotel Manager Amata Garden Resort Hotel Manager

		endangered species and trade restrictions under CITES and/or national legislation. Highlight the fact that customs authorities are trained to check for such species and products derived from these species, and make available information on the fines imposed in the countries of origin of the customers. A useful point of contact is the national CITES management authority. The National CITES management authority provides information on species traded internationally, and should be able to advice on where to find out about domestic regulations. ▪ Have a sign in the shop saying that customers can buy "CITES-proof" souvenirs and articles there, as a guarantee that they will not be in trouble with customs upon departure or arrival. ▪ Offer guests the opportunity to buy toy animals of charismatic local species that are under threat (e.g. turtles, etc.) for their children. Often local environmental organizations produce such animals or other biodiversity related toys.			
Hotel grounds and gardens:	Using indigenous plants for landscaping and minimizing light and noise.	**Internally and/or with suppliers** ▪ Plant local indigenous species and/or drought-resistant species wherever possible in landscape and garden areas. Even small gardens in city hotels can incorporate such species. Purchase these plants from local greenhouses. ▪ If hotel plan to have exotic animals on hotel grounds, ensure that hotel have all the relevant national permits that may be required for purchasing and keeping them, and that they are obtained from sustainable sources. ▪ Check that plants used in the hotel's grounds and gardens are not listed as invasive species. ▪ Plant local, native tree and bush species to create shaded areas and new habitats. Hotel can	Continuous observation	No extra cost	Amata Garden Resort Hotel Manager

		also green its roofs and walls, which will also have a positive energy savings effect. ▪ Encourage wildlife in the hotel grounds. For example, consider creating a wildlife garden, or in small urban spaces provide suitable nesting places for birds and nesting boxes and/or grow plants attractive to butterflies. Where possible, set aside land as natural areas or reserves; even small areas can be valuable for wildlife. ▪ Work with local wildlife experts to ensure that hotel lighting does not adversely affect wildlife, particularly if the hotel is situated near sensitive wildlife sites. Use lighting equipment that minimizes the upward spread of light near to and above the horizontal (e.g. by using cowlings that direct light downwards). Locate lights to reduce stray light and glare to a minimum; away from buildings, luminance should not exceed five candela per square meter (Cd/m2). ▪ Use sound insulation and reduce noise at source, to limit disturbance to wildlife. ▪ In partnership with public authorities and local organizations ▪ Consult with local conservation organizations, universities or botanical gardens in the design of a biodiversity-friendly garden or hotel grounds. ▪ Develop explanatory signs on the various species, in partnership with local conservation organizations. ▪ Engage local teachers, conservation organizations, universities or botanical gardens in developing nature trails and biodiversity edutainment (education + entertainment) activities for children and their families, e.g. a game to explore and discover different aspects of biodiversity in and around the hotel.			

		▪ Encourage use of local indigenous species and incorporation of wildlife areas in gardens and public areas. ▪ Support programs to eradicate alien invasive species. ▪ Support the development of local biodiversity businesses, such as indigenous tree nurseries, and incorporate the products of these businesses in your supply chain. **With clients** ▪ Communicate with guests about how hotel have integrated biodiversity concerns in the design and management of the grounds by: placing signs on trees and in flower beds with the names of the indigenous species;	Continuous observation	No extra cost	Amata Garden Resort Hotel Manager

13. Environment, Health and Safety Guidelines for Tourism and Hospitality Development

Most of the guidelines mentioned in this chapter refer to Environment, Health and Safety Guidelines for Tourism and Hospitality Development by International Finance Corporation, World Bank Group, 2007.

Energy conservation

Reduction of energy consumption associated with heating, ventilation, and air conditioning systems through:

- Specification of well insulated building fabric to minimize heat transfer
- Energy recovery of from exhaust to supply air in the building ventilation systems
- Variable air volume air handling systems;
- Use of inverter-driven variable speed fans;
- Adoption of temperature control settings which avoid simultaneous heating and cooling;
- Building zoning according to temperature needs and heat gains (e.g. a north zone and a south zone);
- Use of enthalpy control to vary volumes of fresh and recycled air according to ambient and internal building conditions;
- Adoption of relatively high (~+10°C chilled water flow temperature) and inverter-driven, variable speed chilled and hot water pumps
- Selection of chillers which are efficient over wide ranging operating and load conditions (e.g. efficiency rates of at least 0.60 kW/TR, which is equivalent to a coefficient of performance [COP] of approximately 5.9)

Reduction of energy consumption associated with lighting:

- Use of occupancy sensors
- Use of high-efficiency light bulbs (e.g. compact fluorescent light bulbs) where possible
- Daylight controls (e.g. to adjust interior lighting, based on incoming daylight, using a photoelectric sensor)
- Dimming-control retrofits for fluorescent, high-intensity discharge, and incandescent lamps

- Adoption of an energy management and control systems, including centralized monitoring and reporting of energy and water use, switched time schedules, chiller optimization, load-based reset, and demand control

Reduction of energy consumption associated with cooking and refrigeration equipment:

- Match use of cooking range burners to facility needs
- Use of appropriate lids
- Select high efficiency refrigerators and walk-in coolers;
- Use of an exhaust system that automatically varies fan speeds

Wastewater management

Wastewater management strategies include:

- Minimizing use of the laundry by asking guests to reuse towels and bedding;
- Controlling consumption of cleaning chemicals;
- Substitution of cleaning chemicals with biodegradable products, when possible;
- Avoiding or minimizing the use of cleaning chemicals containing phosphates, nitrilotriacetic acid or any of its salts, ethylene diaminetetraacetic acid and ethylene dinitrilotetraacetic acid or any of their salts, alkylphenol ethoxylate, halogenated organic solvents (e.g. 1,1,1-trichloroethane and other Ozone Depleting Substances (ODSs), butoxy-ethanol, and VOCs in excess of 10 percent by mass.

Waste management

Waste Management Plan includes:

- Buying in bulk quantities whenever possible;
- Use of refillable, bulk dispensers (e.g. toiletries) rather than individually packaged products;
- Working with suppliers to limit use of, and establish recycling for, product packaging;
- Avoiding use of polystyrene foam in all operations;
- Providing in-room recycling procedures and appropriate receptacles;
- Use of glass or durable plastic instead of disposable plastic items (e.g. straws, cups);
- Implementing organic-waste composting;

- Disposing of wastes only after all waste prevention and recycling strategies have been explored and maximized.

Noise control

Recommended control techniques to reduce indoor and outdoor noise pollution include:

- Installing double doors between guest rooms and between rooms and noisy environments (e.g. kitchens, laundries);
- Installing windows with sound-reduction materials;
- Positioning, enclosing, and isolating noisy equipment (e.g. permitting space or buffer zones encompassing two walls between the laundry and public areas).

Indoor air quality control

The following control techniques are recommended to keep indoor air quality acceptable:

- Use low-VOC-emitting products (e.g. water-base paints rather than oil based paints, low VOC containing adhesives for flooring and wall decorations);
- Avoid aerosols and sprays;
- Use housekeeping and cleaning products during unoccupied hours taking care to follow safety precautions including appropriate ventilation;
- Avoid the use of "air fresheners";
- Expose products in open or ventilated areas before installation and increase ventilation rates during and after installation.
- Institute a no-smoking policy;
- Use exhaust ventilation with pressure control for major local sources;
- Avoid paper clutter;
- Provide specific staff-training and guest information.

Water and food quality

Food and water provided to workers and guests should be safe.

The following food hygiene measures should be adopted:

- Compliance with food hygiene and water-quality standards defined by central authorities or, in their absence, application of international food-handling, preparation and storage and water-quality recommendations;
- Supply of safe potable water for drinking, bathing, food preparation, and other purposes where it may be ingested;
- Regular testing of potable water according to World Health Organization (WHO) standards as a minimum.

Emergency response procedures

Site Fire Control

1. Alert other people

2. If small, control using an extinguisher or fire hose reel

3. Contact fire brigade if not under immediate control

4. Attend to human life in immediate danger

5. For electrical fires turn off power before fighting

6. For oil and lubricant fire DO NOT USE WATER, rather use fire extinguisher

7. Once out of the building, stay out. Do not allow people to go back into the burning building to collect valuables. While existing the building, close doors (but do not lock) to slow down the spread of fire

8. Obey all instructions

9. Proceed to emergency evacuation area

Fuel Spills

1. Turn off engines and equipment and notify manager

2. No engine or equipment is started until clean up completed

3. Secure the spill area and ensure that there are no sources of ignition

4. Clean up the spill using absorbent material from site spill kit

5. Dispose of contaminated materials as per procedure

13.1 Responsibilities of Health and Safety Executive Team

HSE Team also makes regular review of EMP to cover all potential impacts, improvement and modification in the operation and decommissioning phase of the proposed project. The following are the Job Descriptions of the HSE team;

TITLE: Manager of Health, Safety and Environmental

LOCATION: Amata Garden Resort, Bagan

REPORTS TO: Group General Manager/Managing Director

GRADE: Executive Level

WORK SCHEDULE: 48 hours per weeks.

SUPERVISES: Hotel security officer, engineers and other Support Staff

JOB SUMMARY:

Plan, organize, direct, evaluate, and report on all personnel and operations involved in the care of guests' safety, hygiene at the hotel, and to review environmental management plan. Inspect and evaluate the environment, equipment and processes in working areas to ensure compliance with government safety regulations and industry standards. Protect the employees, customers and the environment.

RESPONSIBILITIES:

- Conduct comprehensive assessments and evaluations of the security and/or policing services for all campuses based on both established and projected needs.
- Establish and maintain standards for security operations and performance, as well as related community programming.
- Inspect the PPEs for the staff's security.
- Develop training schedule for the hotel's employees.
- Create Health, Safety and Environmental awareness to all employees and guest and also local communities.
- Review disciplinary procedures on all Hotels to support for a safe environment.
- Implement the Corporate Social Responsibility (CSR) Plan annually.
- Must be able to interpret institutional policies, plans, objectives, rules and regulations and communicate this information to subordinates and others.
- Monitor budget allotment for health and safety for everyone in the hotel and environmental management plan and maintain records of needs and expenditures made.

14. Conclusions

This Initial Environment Examination (IEE) study was carried out at the beginning stage of proposed Amata Garden Resort Hotel, which is established inside the territory of Inlay Lake Wildlife Sanctuary, at block No. 44, Ingingone village, Thalaeoo Village, Nyaungshwe Township, Southern Shan State, in the Union of Myanmar. The main aim of the study is to identify the major environmental impacts due to implementation of the project activities in all three phases (construction phase, operation phase and decommissioning phase).

The primary and secondary data were used to assess the environmental impacts. The potential environmental impacts were assessed in a comprehensive and scientific screening procedure. The report has provided a full picture of all potential environmental impacts associated with proposed hotel, and recommended suitable prevention and mitigation measures.

The results after scoring evaluation of significant environmental impacts can be summarized as follows:

Table 15: Summary of Impacts Significance

Level of Significance	No. of Impacts
Positive Impact	4
No Significant Impact	29
Low Impact	6
Significant Impact	-
Unsustainable Situations	-

There will be positive impacts as the proposed project will generate local employment opportunity to enhance their capabilities and work skills. As a result, their socio-economic conditions will be improved. Because of the hotel business, government will also benefit a certain amount of revenue. After replanting and landscaping are carried out, soil cover of the resort will be rehabilitated and habitat will be restored.

In all phases of the project, a few low impacts are observed where as no significant impacts and unsustainable situations are identified. Only (29) non-significant environmental impacts are found out.

For **construction and decommissioning phases,** all non-significant impacts recorded are minor or no significant environmental impacts such as dust particles dispersion, noise, waste generation, water pollution and potential health and safety impacts on employees such as accidents. All these impacts are minimal, short term, limited to the site and controllable.

Evaluation results show that there are non-significant environmental impacts on **operation phase**. However, there is environmental impact with low significant which is water resource depletion due to domestic water consumption from the tube well. That must be addressed by installing water meter and water saving equipment for control of water use. There is also low significant environmental impact due to discharging of sewage and litter to the nearby Inle Lake which must be mitigated by adopting no waste discharge to Inle Lake policy, installing sewage treatment plant and developing proper waste segregation and disposal system. During the operation phase, there is potential discharge to environment such as detergent, liquid chlorine/tablets, cleaning agents due to the use of chemical products for cleaning, laundry, swimming pool and spa. This must be addressed by using secondary containment to avoid accidental leakage and spill. In addition, there is a low significance impact which is noise and atmospheric emission due to traffic/vehicle movement during loading and unloading of supplied goods which must be taken care of by conducting regular noise and air monitoring survey, use of proper PPEs and regular vehicle maintenance.

Regarding health and safety impacts, there will be a numbers of risks such as car accidents during transportation, use of equipment and machines, probable electric shock hazard, fires and safety hazards such as falls from height, slips, trips and falls, falling objectives, manual handling, repetitive strain injuries etc… during the construction, operation and decommissioning phases. There are preventive measures already planned to reduce the risk of fire and also the machines to be provided are new with modernized technology including machine guards. Therefore the probability of accidents and electrical shocks are low. There are a number of actions to be done to mitigate the risks such as providing safety awareness training, first aid, free medicine, transport to the nearest hospitals in case of emergency, and personal protective equipment such as safety gloves, helmets, goggles, earmuffs etc.

There will be one Health, Safety and Environment (HSE) Coordinator appointed for the following program strategy of "Plan, Do, Check, Act" for potential health, safety and environmental issues. It is expected that the proposed project have only minor impacts on Physical, Biological and Socio-economic Environment. All of the impacts are local in nature and can be easily mitigated through adequate mitigation measures and regular monitoring during the Construction, Operation and Decommissioning Phases of the project. The EMP is prepared to address these potential impacts through appropriate mitigation, management and monitoring measures.

Based on possible impacts figured out, an Environmental Management Plan (EMP), Biodiversity Management Plan (BMP), Corporate Social Responsibility (CSR) Plan together Environmental Monitoring Plan are prepared and attached in this IEE, as a comprehensive and collective solutions for

environmental management, biodiversity/ecology protection and enhancement, health and safety and corporate social responsibility framework for all three phases (construction, operation and decommissioning) of Amata Garden Resort Hotel. The EMP, BMP and CSR, presented as major institutional requirement, aim to minimize or offset the potential environmental and ecological impacts generated by resort's activities, to provide maximum occupational health and safety and to ensure better community living. The environmental management, biodiversity management and monitoring practices, procedures and responsibilities are comprehensively expressed here to get full compliance with the existing environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

In conclusion, it can be verified that no adverse or harmful impacts of any significance are expected by proposed Amata Garden Resort Hotel. A full scale Environmental Impact Assessment (EIA) shall be done if necessary, based on comments and suggestions made by ECD after reviewing this IEE.

Recommendations

The following recommendations have been made for efficient and effective implementation of environmental conservation, biodiversity/ecosystem management, health & safety, social responsibilities measures through the lifespan of the proposed resort.

- Follow the comments and suggestions made by ECD after reviewing this IEE report
- Once EMP is approved by concerned authorities, strict implementation is essential
- For full and proper implementation of EMP, well understanding and supports by resort owner and its administrative authority is deem necessity
- Fully implement Corporate Social Responsibility (CSR) Plan as an ethical business obligation, so as to be regarded as good neighbor/investor in the neighborhood
- Install approved Sewage Treatment System recommended by the Ministry of Environmental Conservation and Forestry and Nyaungshwe Township Municipality
- Well experienced and knowledgeable HSE Coordinator and HSE assistants shall be selected and appointed
- Daily, monthly and annual action plan shall be formulated based on EMP and fully practiced
- Keep full records of environmental management, biodiversity/ecosystem management, health & safety management and social responsibility management activities and present to annual independent third party environment audit
- Follow the annual audit report and comments
- Abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar

APPENDICES

Appendix 1.Public hearing attendance lists

Stakeholder Meeting
Location - Monastery, Minethauk Village, Naungshwe Township
Date - 15.3.2015

Government Organization and Department

No.	Name	Occupation	Department	Phone No.
1	Daw Sein Ma Ma	Director	Environmental Conservation Department	09-250090562
2	Daw Tin Myint Myint	Deputy Officer	Environmental Conservation Department	09- 5600387
3	U Thein Myint Zaw	Deputy Fire Officer	Fire Force Office	9250101220
4	Dr. Tun Aung	Shan State Hluttaw		09-250289696
5	U Kyaw Kyaw Oo	Officer	Irrigation Department	09-5215293
6	U Saw Tin Htwe Ye	Village Administrater	Khaung Tine	09-428371988
7	U Myo Aung	Pagoda Trustee	Khaung Tine	09-428317194
8	U Kyaw Zaw Hla	Township Administrater	GAD (Naungshwe)	09-5214405
9	U Win Myint	Minister	Government of Shan State	09-42831001
10	U Aung Kyi Win	Regional Perliament Member	Shan State Hlattaw	09-36167779
12	U Sai Than Htwe	Ranger	Forest Department	081-205090
13	Daw Nu Aye	Teacher(B.E.M.S)	Education	09-259624783
14	Daw Ei Ei Khaing	Teacher	Education	09-428339428

NGO (Non-Governmental Organization)

No.	Name	Occupation	Department	Phone No.
1	U Tet Tun	Chairman	Inn Literature and Cultural Committee	09-41008457
2	U TaZar Aung	Chairman	Shwe Inn Sar lukhae Altruism Group	09-400514418
3	U Nanda Htwe	Deputy Chairman	Shwe Inn Sar lukhae Altruism Group	09-428330126
4	Mg Than Zaw	Member	Shwe Inn Sar lukhae Altruism Group	09-30657371
5	Mg Nyan Hlaing Win	Member	Shwe Inn Sar lukhae Altruism Group	09-258350347
6	Mg Myat Min Oo	Member	Shwe Inn Sar lukhae Altruism Group	09-254790755
7	U Thar Doe	Chairman	Sein Hla San Dar Local Development Committee	09-36051127
8	U Win Naing	LiviSC Officer	UNDP	09-442075930

Company

No.	Name	NRC No.	Address	Occupation
1	Daw Khin Htwe Than	12/UKaTa(N)005162	Pristine Lotus	HR & Admi Manager
2	Daw Khin Myat Thin	13/NyaYaNa(N)084567	Pristine Lotus	HR Officer
3	Daw Tin Tin Yi	13/NyaYaNa(N)011183	Ann Heritage Lodge	Hotel
4	U Moe Zaw	9/NyaYaNa(N)006919	Villa Inle Resort & Spa	Hotel
5	U Thatoe Htut	12/YaKaNa(N)007461	Inle Garden Hotel	Administrative
6	Daw Khaing Swe Oo	13/NyaYaNa(N)079556	Pristine Lotus	Assistant HR Manager
7	Daw New New Win	9/TaThaNa(N)121765	Pristine Lotus	HR Officer
8	Daw Yin Yin Aye	9/TaThaNa(N)099336	Pristine Lotus	Chief Accountant

No.	Name	NRC No.	Address	Occupation
9	U Jawk Man	12/MaGaTa(N)083319	Pristine Lotus	Chief Security
10	U Aung Phyoe	9/TaThaNa(N)158912	Pristine Lotus	F & B (S)
11	U Tun Myat Lin	13/KaLaNa(N)007333	Villa Inle Resort & Spa	FO
12	Daw Thein Gyi Tun	13/NyaYaNa(N)112899	Villa Inle Resort & Spa	Finance
13	Daw Kyi Kyi Oo	8/YaNaKha(N)132821	Villa Inle Resort & Spa	FO
14	U Myint Aye	9/MaTaLa(N)180157	Myat Mingalar Hotel	GM
15	Daw Nyo Nyo Aung Myint	9/MaMaNa(N)026885	Sanctum Resort	RM
16	Ms. Carmen	CN431400XY	Sanctum Resort	GM
17	U Zaw Min Tun	12/ThaMaNa(N)100580	Myat Mingalar Hotel	EP
18	U Zay Zay Aung	7/YaTaYa(N)111492	Myat Mingalar Hotel	Office
19	U Saw Min Lat	12/YaPaTha(N)045126	Myat Mingalar Hotel	
20	U Win Oo Tan	8/NaMaNa(N)084086	Aureum Hotel	GM
21	U Aung Ko Ko	9/NyaUNa(N)004899	Villa Inle Resort & Spa	GM
22	U Aung Lin	12/AhKhaNa(N)024917	Mahar Akari Hotel	
23	Ma Zin Mar Tun	13/TaKaNa(N)296776	Mahar Akari Hotel	
24	U Ye Wint Tin	12/BaHaNa(N)098786	Sanctum Inle Resort	Construction Management
25	U Aung Thet Naing	12/MaBaNa(N)105832	Villa Inle Resort & Spa	Chief Engineer
26	Daw Nila Win	12/PaBaTa(N)013808	Novotel Inle Lake Myat Min	Finance Manager
27	Daw Moe Pwint Phu	12/UKaMa(N)148343	Amazing Nyaung Shwe	Manager
28	Daw K Thi Nay Wing	14/YaKhaNa(N)19912	Amata Hotel	
29	Daw Theingi Win	12/MaGaTa(N)002723	Amata Hotel	Director
30	Ma Htay Htay Hlaing	8/KaMaNa(N)108902	Amata Hotel	Account
31	Ma Myat Myat Moe	12/DaCaNa(N)034770	Amata Hotel	F & B
32	Daw Phyu Phyu Maung	9/NyaUNa(N)1500810	Amata Hotel	Front Office

Media

No.	Name	Occupation	Department	Phone No.	E mail Address
1	Ma Myint May Soe	Local News	Myanmar Post	o9-32089223	Layappleo25@gmail
2	Ma Zin Mar Aung	Local News	Myanmar Post		

Local People

No.	Name	NRC No.	Adress (Village)	Occupation
1	U Aung Than		Panphal	Farming
2	U Zaw Myoe Hteik		Magyisin	Carving
3	Mg Myoe Myint		Magyisin	Farming
4	U Nyi Htwe	77139	Nanpan	Carpenter
5	U Ye Yint Htun	105519	Nanpan	Carpenter
6	U Naing Lin Htun	13/NyaYaNa(N)088355	Nanpan	Carpenter
7	Phi Nge	13/NyaYaNa(N)063478	Nanpan	Staff
8	U Aung Myoe Lwin	13/NyaYaNa(N)032116	Nanpan	Carpenter
9	U Nyein Chan Phyoe		Nanpan	Carpenter
10	U Nay Myoe Aung	13/PhaKhaNa(N)023694	Myaynikone	Horticulture

No.	Name	NRC No.	Adress (Village)	Occupation
11	Lwin Wai		Myaynikone	Horticulture
12	U Kyaw Than		Myaynikone	Horticulture
13	Daw Thidar Hmi	12/MaYaKa(N)031828	Myaynikone	Education(Teacher)
14	Daw Khin Aye Sint	13/NyaYaNa(N)061406	Myaynikone	Education(Teacher)
15	Daw Thae Su Mon	13/NyaYaNa(N)085116	Myaynikone	Education(Teacher)
16	Daw Myint Htay		Myaynikone	Horticulture
17	U San Nyein	13/NyaYaNa(N)036362	Kyunkyi	Horticulture
18	U Myo Myint Aung	13/NyaYaNa(N)020585	Kyunkyi	Horticulture
19	U Bo Khin		Kyunkyi	Horticulture
20	Ma Khin Sandar Pyae Win	13/PaTaYa(N)032402	Myaynikone	Staff
21	Ma Mya Sandar	13/NyaYaNa(N)112316	Kyunkyi	Staff
22	Ma Khaing Thazin Oo	13/PaTaYa(N)036784	Myaynikone	Staff
23	Ma Htwe Mar	13/PaTaYa(N)032003	Myaynikone	Staff
24	Ma Myint Aye Sein	13/NyaYaNa(N)077327	Myaynikone	Staff
25	U Htein Win		Myaynikone	Horticulture
26	U Phyoe Aung	13/NyaYaNa(N)002404	Myaynikone	Farming/Orchard
27	U Khin Maung Soe	13/NyaYaNa(N)068327	Myaynikone	Horticulture
28	U Kyaw Win		Myaynikone	Horticulture
29	U Htun Hla	13/NyaYaNa(N)019665	Wettharkinkyaung	
30	U Win Aung	13/NyaYaNa(N)019604	Wettharkinkyaung	Farming/Orchard
31	U Nay Myoe Aung	13/NyaYaNa(N)083971	Inginkone	
32	U Myint Aung		Inginkone	Orchard/Farming
33	U Win Maung	13/NyaYaNa(N)020102	Chaungpar	Farming
34	U Zaw Wai		Phayarphyu	Farming/Orchard
35	U Than Htay	13/NyaYaNa (N) 019535	Thalae U Inn Village	Horticulture
36	U Khan Zaw Htway	13/NyaYaNa (N) 028487	Thalae U Inn Village	Sewing
37	U Myo Hlaing	13/ NyaYaNa (N) 000411	Alal Myaung Village	Orchard/ Farming
38	U Myo Swe	13/ NyaYaNa (N) 018650	Thalae U Kone Thar	Government Staff
39	U Zaw Min	13/ NyaYana (N) 104398	Thalae U Kone Thar	Casual Labour
40	U Zaw Naing Myo	13/ NyaYaNa (N) 062588	Thalae U Kone Thar	Orchard/ Farming
41	U Khin Thein Myint	13/ NyaYaNa (N) 024406	Nyaung Wun (East)	Government Staff
42	U San Myint Oo	13/ NyaYaNa (N)076181	Nyaung Wun (East)	Horticulture
43	U Soe Aung	13/ NyaYaNa (N) 076052	Nyaung Wun (East)	Horticulture
44	U Ye Myint	13/ NyaYaNa (N) 000349	Alal Myaung Village	Farming
45	U Kyaw Nyein	13/ NyaYaNa (N) 018499	Alal Myaung Village	Farming
46	U Kaung Myat	13/ NyaYaNa (N)076395	Sub BEPS, Lay Eain Kone	BEPS Teacher
47	U Bayan Saing	9/ PaULa (N) 004417	Myaung Gyi Village, Minethauk	Teacher
48	U Aung Khin	13/ NyaYaNa (N) 009323	Par Nway Danu	-
49	U Htay Myint	13/ NyaYaNa (N) 024231	BEHS, Minethauk	Teacher
50	U Aung Khine	13/ NyaYaNa (N)124152	Minethauk Inn Village	Horticulture
51	U Mya Maung	13/ NyaYaNa (N)	Minethauk Inn Village	Horticulture
52	Khin Soe Win	13/ NyaYaNa (N) 024130	Minethauk	-
53	U Zaw Myo Htun	13/ NyaYaNa (N) 009170		

No.	Name	NRC No.	Adress (Village)	Occupation
54	U Htun Htun Oo	13/ NyaYaNa (N) 024671		
55	U Tin Soe	13/ NyaYaNa (N) 024639		
56	U Ohn Zaw	13/ NyaYaNa (N) 1024018	Minethauk	Village Administrater
57	U Myo Myint	13/ NyaYaNa (N) 024496	Minethauk	School Volunteer
58	Daw Khin Mar Nyo	13/ NyaYaNa (N) 024483	BEPS, Pay Pin Kone	BEPS Headmaster
59	Daw Khan Khan Oo	13/ NyaYaNa (N) 000723	BEPS, Parnwe	BEPS Headmaster
60	Daw Phyu Phyu Thinn	13/ NyaYaNa (N) 009336	BEPS, Kyan Pone Ngal	BEMS Teacher
61	Daw Htay Hla	13/ NyaYaNa (N) 130681	BEPS, Minethauk	BEPS Headmaster
62	U Khin Aung Moe	13/ NyaYaNa (N) 009355	BEPS, Minethauk Inn	BEPS Headmaster
63	U Kyaw Nyunt	13/ NyaYaNa (N) 023890	BEMS	
64	U Kyaw Aye		Par Nway Myauk Kyaung	
65	U Kyaw Aung		Par Nway Myauk Kyaung	
66	U Mhin			
67	U Kyaw Lwin	13/ NyaYaNa (N) 025554	Minethouk Group, ParNwe Danu	Orchard/ Farming
68	U Thein Htay	13/ NyaYaNa (N) 024631	Myaung Gyi Village, Minethauk	Orchard/ Farming
69	U San Hla	13/ NyaYaNa (N) 025239	Pay Pin Kone	Orchard/ Farming
70	U Win Naing	13/ NyaYaNa (N) 068147		
71	U Htun Shein		Pay Pin Kone	
72	Daw Nawe Nawe Win	13/ NyaYaNa (N) 020549	Kyan Pont Ngal, Minethauk	Orchard

List of Participants

no	Type of Participants	**TOTAL**
1	Government Organization and Department	14
2	NGO	8
3	Company	32
4	Media	2
5	Local People	72
		128

Pictures of Public Hearing

Registration by participants

Registration by Government Officials

Registration by participants

Opening Speech By Government Officals

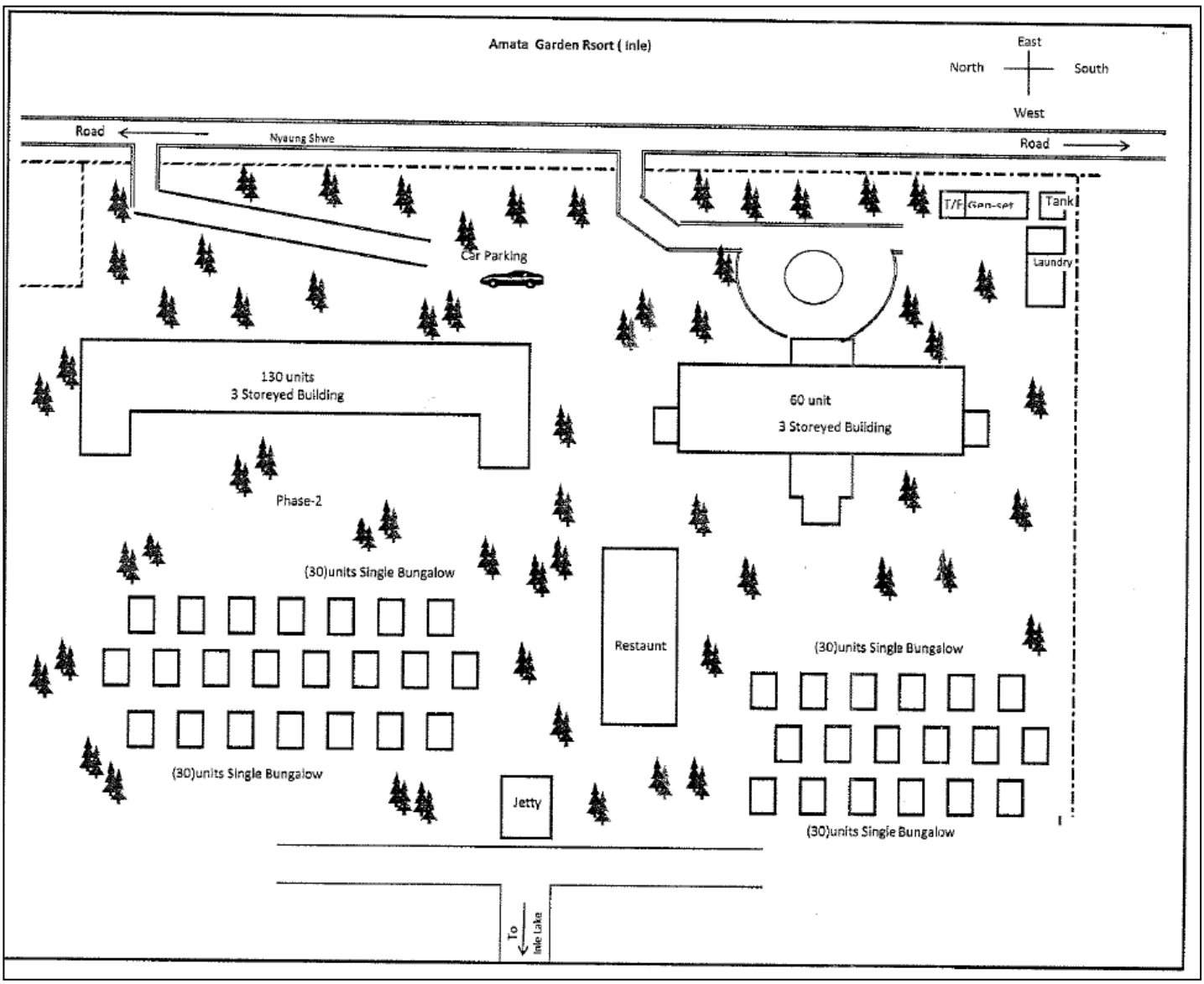
Presentation of IEE process by U Tin Aung Moe and U Myo Thet Tin, E Guard Environmental Services Co., Ltd

Donation by Inlay Hotels Group

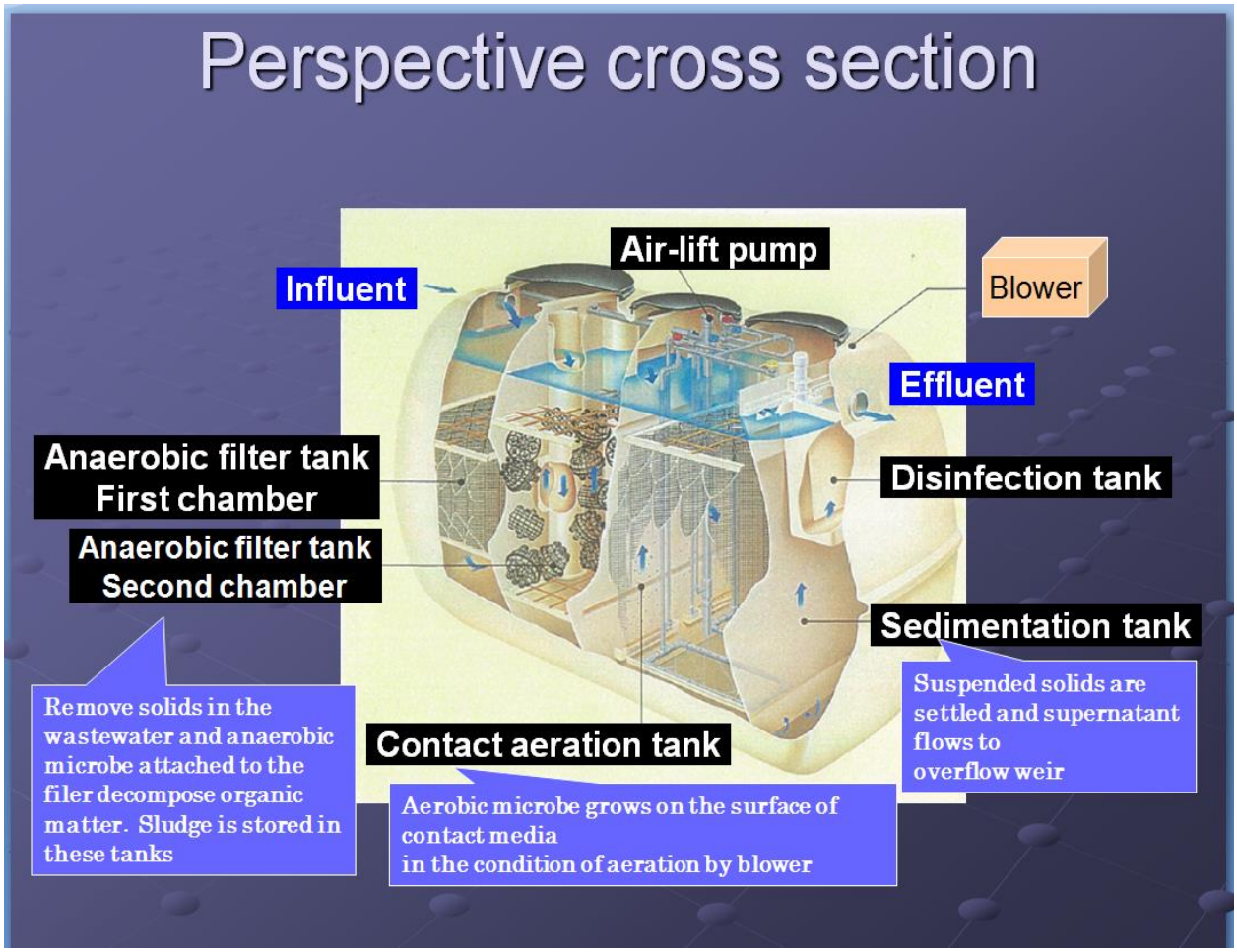
Questions and Answers

Questions and Answers

Appendix 2. Amata Garden Resort Hotel Layout Plan (Old)



Appendix 3: Wastewater Treatment System (Sample Design of Kubota Johkasou System))



(Ref: http://www.waminn.com/waste-water-treatment/)

Appendix 4. Recorded Photos of Field Survey

2 Phase Construction land

Temporary Nursery for Landscaping

Small Jetty for boats

Fire Hose Reel for Fire Fighting

Smoke Detector installed at every room

Water Tank

Transformer and Generator House

Water Treatment System

Surface Water Sample Collection

Appendix 5: Internal Rate of Return (IRR) Calculation

Exhibit No. (XI)

INTERNAL RATE OF RETURN

(Kyat in thousand)

YEAR	INVESTMENT (CASH OUT FLOW)	NET PROFIT	DEPRECIATION	TOTAL CASH IN FLOW	CASH FLOW	DCF DF 15 %	DCF	DCF DF 20 %	DCF
0	(14,400,000)				(14,400,000)		(14,400,000)		(14,400,000)
1		1,215,652	987,237	2,202,889	2,202,889	0.870	1,916,514	0.833	1,835,007
2		1,197,366	987,237	2,184,603	2,184,603	0.756	1,651,560	0.694	1,516,115
3		1,882,847	987,237	2,870,084	2,870,084	0.658	1,888,516	0.579	1,661,779
4		1,869,747	987,237	2,856,984	2,856,984	0.572	1,634,195	0.482	1,377,066
5		2,568,577	987,237	3,555,814	3,555,814	0.497	1,767,239	0.402	1,429,437
6		1,914,977	987,237	2,902,214	2,902,214	0.432	1,253,757	0.335	972,242
7		2,539,227	987,237	3,526,464	3,526,464	0.376	1,325,951	0.279	983,884
8		2,530,152	987,237	3,517,389	3,517,389	0.327	1,150,186	0.233	819,552
9		3,154,560	987,237	4,141,797	4,141,797	0.284	1,176,270	0.194	803,509
10		3,145,485	987,237	4,132,722	4,132,722	0.247	1,020,782	0.162	669,501
							384,970		(2,331,912)

Internal Rate of Return = 15 + 5 (384970 / 2716882)

= 15 + 0.71

= 15.71 %

[illegible] INT'L CO., LTD

[illegible]

Appendix 6: Investor's Commitment on Environmental Conservation and 2% CSR Fund

AMATA INTERNATIONAL COMPANY LTD.

No.10, Inya Yeik Tha Rd, Mayangone Tsp, Yangon, Myanmar.
Tel: 01 657050, 657690, 665126 Fax: 01 - 657050

ပတ်ဝန်းကျင် ညစ်ညမ်းမှုမရှိစေရန် ဆောင်ရွက်ထားမှုအစီအစဉ်တင်ပြခြင်း။

ကျွန်တော်တို့၏ AMATA INTERNATIONAL COMPANY LIMITED. သည် ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်တွင် နိုင်ငံတကာအဆင့်မီအဆင့်မြင့်ဟိုတယ်တည်ဆောက်၍ လုပ်ငန်းလုပ်ကိုင်ရာတွင် ပတ်ဝန်းကျင်ညစ်ညမ်းမှုမရှိစေရန်အတွက် ဟိုတယ်မြေနေရာအတွင်း သန့်စင်ခန်းများထားရှိခြင်း အမှိုက်ပုံများထားရှိခြင်း၊ ရေနွတ်မြောင်းများကို ရေစီးရေလာကောင်းမွန်အောင်ပြုပြင်ခြင်းလုပ်ငန်းများကို အစဉ်ပြုလုပ်မည်ဖြစ်ကြောင်း ဝန်ခံကတိပြုပါသည်။

ဟိုတယ်လုပ်ငန်းမှ ထွက်ရှိလာမည့် ဘေးထွက်စွန့်ပစ်ပစ္စည်းများအား သတ်မှတ်ချက်နှင့်အညီ စွန့်ပစ်ခြင်း၊ ရေဆိုးများအား သန့်စင်အောင် နိုင်ငံတကာမှသတ်မှတ်ထားသောစံချိန်စံညွှန်းများနှင့်အညီ ဆောင်ရွက်ပြီးမှသာ စွန့်ပစ်ခြင်း၊ အမှိုက်များကို စနစ်တကျစွန့်ပစ်ခြင်း၊ နှင့် သက်ဆိုင်ရာအဖွဲ့အစည်းများမှ ချမှတ်ထားသော စည်းမျဉ်း၊ စည်းကမ်း၊ များကို လိုက်နာမည်ဖြစ်ကြောင်း ဝန်ခံကတိပြုပါသည်။

ရိုသေလေးစားစွာဖြင့်

(ဦး ဝင်း အောင်)
အုပ်ချုပ်မှုဒါရိုက်တာ
AMATA INTERNATIONAL COMPANY LIMITED.

AMATA INTERNATIONAL COMPANY LTD.

No.10, Inya Yeik Tha Rd, Mayangone Tsp, Yangon, Myanmar.
Tel: 01 657050, 657690, 665126 Fax: 01 - 657050

(C.S.R)လူမှုအသင်းအဖွဲ့များအတွက်ပူးပေါင်းဆောင်ရွက်ရန် ကတိပြုခြင်း၊

ကျွန်တော်တို့၏ AMATA INTERNATIONAL COMPANY LIMITED. ၏ ဟိုတယ်လုပ်ငန်းလုပ်ကိုင်ရာတွင် လုပ်ငန်းလုပ်ကိုင်ရာဒေသတဝိုက်တွင် လူမှုလုပ်ငန်းများဖြစ်သည့် ဘုန်းတော်ကြီး သင်ပညာရေးစနစ်များ ပိုမိုကောင်းမွန်အောင်သင်ကြားနိုင်စေရန် အလှူငွေများပေးအပ်ခြင်း၊ ဒေသတွင်း ရပ်ကွက်မီးသောင်းကင်းဝေးစေရန် မီးသတ်သင်တန်းများအခမဲ့ပို့ချခြင်း၊ မီးသတ်ကိရိယာများတပ်ဆင်ခြင်း၊ လုပ်ငန်းလုပ်ကိုင် ရာဒေသအနီးတဝိုက်တွင် ကျေးရွာမီးလင်းစေရန်ဆောင်ရွက်ပေးခြင်းများကို ဆောင်ရွက်သွားမည်ဖြစ်ကြောင်း တင်ပြအပ်ပါသည်။

လေး စား စွာ ဖြင့်

(ဦး ဝင်း အောင်)
အုပ်ချုပ်မှုဒါရိုက်တာ
AMATA INTERNATIONAL COMPANY LIMITED.

Appendix 7: Detailed result of hourly environmental dust monitoring of the hotel site

Project Name: Inlay Hotel
Location: Villa inle Hotel (close to Amata and Inle Garden Hotel)
Lat: 20º 33' 30" N
Long: 96º 56' 38" E
Measured Time: 12:00:00AM-12:00:00AM
Date: 13.12.2014 to 14.12.2014

No.	Times	Average			Maximum			Minimum		
		TSP	PM10	PM2.5	TSP	PM10	PM2.5	TSP	PM10	PM2.5
1	12:00-13:00	350.28	179.08	35.67	884.3	448.00	73.70	105.3	56.2	23.1
2	13:00-14:00	216.99	84.85	28.89	507.6	180.80	48.20	42.8	32.9	19.8
3	14:00-15:00	167.74	73.71	22.10	407.4	152.20	40.60	44.4	28.1	15.5
4	15:00-16:00	325.38	139.43	24.32	962.2	352.90	37.50	65	38.4	16.9
5	16:00-17:00	658.00	356.83	52.33	1132.9	622.50	107.80	175.1	105	22.1
6	17:00-18:00	580.12	308.74	53.90	1631.4	824.30	113.70	172	69.7	24.7
7	18:00-19:00	357.37	179.69	31.48	910	420.20	51.40	55.7	44.4	18.7
8	19:00-20:00	147.77	85.67	24.86	313	159.40	35.90	44.1	35.9	18.3
9	20:00-21:00	129.24	67.76	21.11	238.2	106.20	25.30	62.1	41.8	18.4
10	21:00-22:00	264.19	139.27	28.47	679.3	357.20	44.10	48.8	33	19.6
11	22:00-23:00	114.25	73.69	26.03	337.4	194.60	34.90	51.5	43.7	21.9
12	23:00-0:00	55.55	38.78	23.99	111.1	51.80	24.70	33.3	32.1	23.2
13	0:00:0-1:00	47.11	37.59	24.09	65.4	54.00	25.80	34.8	32.2	23
14	1:00:0-2:00	68.08	48.92	24.52	167.2	91.90	27.10	35.2	32.7	23.1
15	2:00:0-3:00	84.89	57.88	25.78	293.8	156.80	34.20	33.1	32.1	24
16	3:00:0-4:00	41.15	35.46	23.29	89.4	59.30	24.80	32.8	31	22.4
17	4:00:0-5:00	51.87	43.64	31.50	82.5	57.30	37.60	40.6	36.1	25.9
18	5:00:0-6:00	138.12	82.42	30.66	442.9	218.60	36.40	35.5	33.7	25
19	6:00:0-7:00	801.87	401.07	40.92	2025.6	899.40	47.10	91.4	66.5	33.4
20	7:00:0-8:00	179.88	116.65	43.43	481.3	279.00	57.50	84.1	66.8	37
21	8:00:0-9:00	199.56	111.77	40.76	386.5	176.90	49.90	98.3	57.4	32.1
22	9:00-10:00	193.56	101.61	43.98	292.6	135.80	49.80	96.3	65.5	37
23	10:00-11:00	190.81	109.06	58.59	297.7	152.60	63.70	129.8	93.4	51.4
24	11:00-12:00	171.27	92.48	41.19	678	251.40	57.10	72.5	53.2	32
	24 Hours	230.63	123.58	33.41	559.0708	266.80	47.87	70.1875	48.40833	25.35417

Appendix 8: Laboratory result of tube well water

ISO TECH LABORATORY

Laboratory Technical Consultant: U Saw Christopher Maung
B.Sc Engg: (Civil), Dip S.E (Delft) Lecturer of YIT (Retd), Consultant (Y.C.D.C), LWSE 001.
Former Member (UNICEF, Water quality monitoring & Surveillance Myanmar)

WTL-RE-001
Issue Date - 01-12-2012
Effective Date - 01-12-2012
Issue No - 1.0/Page 1 of 2

W1114 040

WATER QUALITY TEST RESULTS FORM

Client	E - Guard Enviromental Services Co.,Ltd.
Nature of Water	Ground Water (ISO - GW - 02) Mine Thaut
Location	Inlay Initial Enviromental Examination (IEE) Project
Date and Time of collection	4.11.2014
Date and Time of arrival at Laboratory	5.11.2014
Date and Time of commencing examination	6.11.2014
Date and Time of completing	8.11.2014

Results of Water Analysis			WHO Drinking Water Guideline (Geneva - 1993)
pH	7.5		6.5 - 8.5
Colour (True)	Nil	TCU	15 TCU
Turbidity	5	NTU	5 NTU
Conductivity		micro S/cm	
Total Hardness	198	mg/l as $CaCO_3$	500 mg/l as $CaCO_3$
Calcium Hardness		mg/l as $CaCO_3$	
Magnesium Hardness		mg/l as $CaCO_3$	
Total Alkalinity	250	mg/l as $CaCO_3$	
Phenolphthalein Alkalinity		mg/l as $CaCO_3$	
Carbonate ($CaCO_3$)		mg/l as $CaCO_3$	
Bicarbonate (HCO_3)		mg/l as $CaCO_3$	
Iron	0.29	mg/l	0.3 mg/l
Chloride (as CL)	3	mg/l	250 mg/l
Sodium chloride (as NaCL)		mg/l	
Sulphate (as SO_4)		mg/l	200 mg/l
Total Solids		mg/l	1500 mg/l
Suspended Solids		mg/l	
Dissolved Solids		mg/l	1000 mg/l
Manganese		mg/l	0.05 mg/l
Phosphate		mg/l	
Phenolphthalein Acidity		mg/l	
Methyl Orange Acidity		mg/l	
Salinity		ppt	

Remark: This certificate is issued only for the receipt of the test sample.

Tested by
Signature:
Name: Zaw Hein Oo
B.Sc (Chemistry)
Chemist
ISO TECH Laboratory

Approved by
Signature:
Name: Soe Thit
B.E (Civil) 1980,
Technical Officer
ISO TECH Laboratory

(a division of WEG Co.,Ltd.)

No.18, Lanthit Road, Nanthargone Quarter, Insein Township, Yangon, Myanmar.
Ph: 01-640955, 09-73225175, 09-73242162, Fax: 01-644506, E-mail: isotechlaboratory@gmail.com, Website: weg-myanmar.com

Appendix 9: Detailed result of measurement of day and night noise level of hotel site

Project Name : Measuring for air quality by Inle Hotels
Location :Villa Inle Hotel (close to Amata and Inle Garden Hotel)
Lat: 20º 33' 30" N
Long : 96º 56' 38" E
Measured By: Myo Kyaw Htun
Interval : 30 Seconds (24 Hrs)

No.	Date	Time	Mean Value	Weight	Day/ Night
1	13/12/2014	12:05:00-13:05:00	52.1	A	Day
2	13/12/2014	13:05:30-14:05:00	49.7	A	Day
3	13/12/2014	14:05:30-15:05:00	49.1	A	Day
4	13/12/2014	15:05:30-16:05:00	49.9	A	Day
5	13/12/2014	16:05:30-17:05:00	53.0	A	Day
6	13/12/2014	17:05:30-18:05:00	58.0	A	Day
7	13/12/2014	18:05:30-19:05:00	55.4	A	Day
8	13/12/2014	19:05:30-20:05:00	51.2	A	Day
9	13/12/2014	20:05:30-21:05:00	46.7	A	Day
10	13/12/2014	21:05:30-22:05:00	46.0	A	Day
11	13/12/2014	22:05:30-23:05:00	45.8	A	Night
12	13/12/2014	23:05:30-00:05:00	47.0	A	Night
13	14/12/2014	00:05:30-01:05:00	48.5	A	Night
14	14/12/2014	01:05:30-02:05:00	48.5	A	Night
15	14/12/2014	02:05:30-03:05:00	49.2	A	Night
16	14/12/2014	03:05:30-04:05:00	47.7	A	Night
17	14/12/2014	04:05:30-05:05:00	43.9	A	Night
18	14/12/2014	05:05:30-06:05:00	48.2	A	Night
19	14/12/2014	06:05:30-07:05:00	50.3	A	Day
20	14/12/2014	07:05:30-08:05:00	51.3	A	Day
21	14/12/2014	08:05:30-09:05:00	50.1	A	Day
22	14/12/2014	09:05:30-10:05:00	48.8	A	Day
23	14/12/2014	10:05:30-11:05:00	49.4	A	Day
24	14/12/2014	11:05:30-12:05:00	49.6	A	Day

Appendix 10: Detailed list of machineries and equipment for hotel

LIST OF CONSTRUCTION MATERIAL AND OTHER

Amata Hotel To be Imported

Exhibit No. (III)

Sr. No.	Particulars	A/U	Qtty Total	Qtty Phase I	Qtty Phase II	Unit Price US$	Amount US$ Phase I	Amount US$ Phase II	Total Amount US$	Total Amount US$
AA	**TOILET MATERIAL**									
1	Toilet (E.W.C)	Unit	210	-	210	75.00	-	15,750.00	15,750.00	
2	Flush Valve	Unit	210	-	210	7.00	-	1,470.00	1,470.00	
3	Wash Basin	Unit	210	-	210	20.00	-	4,200.00	4,200.00	
4	Faucet	Unit	210	-	210	30.00	-	6,300.00	6,300.00	
5	Drainer Pipe	Unit	210	-	210	5.00	-	1,050.00	1,050.00	
6	Bathtub	Unit	210	-	210	250.00	-	52,500.00	52,500.00	
7	Rainshower Indoor	Unit	210	-	210	95.00	-	19,950.00	19,950.00	
8	Stop Valve	Unit	420	-	420	3.00	-	1,260.00	1,260.00	
9	Stainless Steel Hoes	Unit	420	-	420	2.50	-	1,050.00	1,050.00	
10	P-Trap	Unit	210	-	210	4.50	-	945.00	945.00	
11	Toilet sprayer	Unit	210	-	210	12.50	-	2,625.00	2,625.00	
12	Towel Bar	Unit	210	-	210	20.00	-	4,200.00	4,200.00	
13	Glass shelf	Unit	210	-	210	12.50	-	2,625.00	2,625.00	
14	Paper Holder	Unit	210	-	210	7.00	-	1,470.00	1,470.00	
15	Hook	Unit	420	-	420	3.50	-	1,470.00	1,470.00	
16	Soap Dish	Unit	210	-	210	5.00	-	1,050.00	1,050.00	117,915.00
					AA	Sub Tot	-	117,915.00		
BB	**ELECTRIC EQUIPMENT**									
1	Television	Unit	260	62	198	150.00	9,300.00	29,700.00	39,000.00	
2	DVD Player	Unit	260	62	198	50.00	3,100.00	9,900.00	13,000.00	
3	Telephone	Unit	280	67	213	21.00	1,407.00	4,473.00	5,880.00	
4	Coffee Machine	Unit	100	24	76	250.00	6,000.00	19,000.00	25,000.00	
5	Minibar	Unit	260	62	198	65.00	4,030.00	12,870.00	16,900.00	99,780.00
					BB	Sub Tot	23,837.00	75,943.00		
CC	**HOTEL ACCESSORY & BEDDING**									
1	Shampoo	Unit	550	132	418	0.16	21.12	66.88	88.00	
2	Conditioner	Unit	550	132	418	0.16	21.12	66.88	88.00	
3	Lotion	Unit	550	132	418	0.16	21.12	66.88	88.00	
4	Bath Gel	Unit	550	132	418	0.16	21.12	66.88	88.00	
5	Cotton Buds	Unit	550	132	418	0.16	21.12	66.88	88.00	
6	Shower Cap	Unit	550	132	418	0.16	21.12	66.88	88.00	

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LIST OF CONSTRUCTION MATERIAL AND OTHER

Amata Hotel To be Imported

Exhibit No. (III)

Sr. No.	Particulars	A/U	Qtty Total	Qtty Phase I	Qtty Phase II	Unit Price US$	Amount US$ Phase I	Amount US$ Phase II	Total Amount US$	Total Amount US$
7	Soap	Unit	550	132	418	0.16	21.12	66.88	88.00	
8	Comp	Unit	550	132	418	0.16	21.12	66.88	88.00	
9	Toothbrush + Toothpaste	Unit	550	132	418	0.34	44.88	142.12	187.00	
10	Hair Dryer	Unit	270	65	205	6.50	422.50	1,332.50	1,755.00	
11	Towel (Blue/White)	Unit	1500	360	1140	7.50	2,700.00	8,550.00	11,250.00	
12	Hand Towel	Unit	550	132	418	0.65	85.80	271.70	357.50	
13	Bath Mat	Unit	550	132	418	3.55	468.60	1,483.90	1,952.50	
14	Face Towel	Unit	550	132	418	2.58	340.56	1,078.44	1,419.00	
15	Bath Robe	Unit	260	62	198	10.00	620.00	1,980.00	2,600.00	
16	Mattress 6.5' x 7'	Unit	90	22	68	150.00	3,300.00	10,200.00	13,500.00	
17	Mattress 3.5' x 6.5'	Unit	220	53	167	130.00	6,890.00	21,710.00	28,600.00	
18	Pillow Case Large	Unit	270	65	205	2.74	178.10	561.70	739.80	
19	Pillow Case Small	Unit	270	65	205	2.26	146.90	463.30	610.20	
20	Pillow Large	Unit	270	65	205	28.50	1,852.50	5,842.50	7,695.00	
21	Pillow Small	Unit	270	65	205	13.50	877.50	2,767.50	3,645.00	
22	Bed Sheet Large	Unit	270	65	205	15.00	975.00	3,075.00	4,050.00	
23	Bed Sheet Small	Unit	150	36	114	13.00	468.00	1,482.00	1,950.00	
24	Duvet Large	Unit	170	40	130	45.00	1,800.00	5,850.00	7,650.00	
25	Duvet Small	Unit	120	29	91	35.00	1,015.00	3,185.00	4,200.00	
26	Duvet Cover Large	Unit	170	40	130	20.00	800.00	2,600.00	3,400.00	
27	Duvet Cover Small	Unit	120	29	91	18.00	522.00	1,638.00	2,160.00	
28	Kettle	Unit	270	65	205	15.00	975.00	3,075.00	4,050.00	
29	Bin	Unit	550	132	418	15.50	2,046.00	6,479.00	8,525.00	
30	Safety Box	Unit	270	65	205	95.00	6,175.00	19,475.00	25,650.00	136,650.00
					CC	Sub Tot	32,872.30	103,777.70		
DD	**FITNESS EQUIPMENT**									
1	Treadmill	Unit	2	-	2	1,500.00	-	3,000.00	3,000.00	
2	Cross Trainer	Unit	1	-	1	950.00	-	950.00	950.00	
3	Pright Bike	Unit	1	-	1	950.00	-	950.00	950.00	
4	Cumbent	Unit	1	-	1	850.00	-	850.00	850.00	
5	Shoulder Press	Unit	1	-	1	950.00	-	950.00	950.00	
6	High Pully	Unit	1	-	1	950.00	-	950.00	950.00	

LIST OF CONSTRUCTION MATERIAL AND OTHER

Amata Hotel To be Imported

Exhibit No. (III)

Sr. No.	Particulars	A/U	Qtty Total	Qtty Phase I	Qtty Phase II	Unit Price US$	Amount US$ Phase I	Amount US$ Phase II	Total Amount US$	Total Amount US$
7	Seated Leg Curt	Unit	1	-	1	890.00	-	890.00	890.00	
8	Leg Extension	Unit	1	-	1	850.00	-	850.00	850.00	
9	Adjustable Bench	Unit	1	-	1	200.00	-	200.00	200.00	
10	Dumbbell Rack	Unit	1	-	1	720.00	-	720.00	720.00	
11	Dumbbell	Unit	1	-	1	650.00	-	650.00	650.00	
12	Gym Ball	Unit	2	-	2	8.00	-	16.00	16.00	10,976.00
					DD	Sub Tot	-	10,976.00		
EE	**ALUMINIUM DOORS & WINDOWS**									
1	Aluminium Door	Unit	500	120	380	1,250.00	150,000.00	475,000.00	625,000.00	
2	Aluminium Window	Unit	1750	420	1330	250.00	105,000.00	332,500.00	437,500.00	1,062,500.00
					EE	Sub Tot	255,000.00	807,500.00		
FF	**TEMPER GLASS**									
1	Temper Glass	Unit	200	48	152	450.00	21,600.00	68,400.00	90,000.00	90,000.00
GG	**WOOD DOORS & EQUIPMENT**									
1	Teak Wood Junior - 1	Unit	250	60	190	550.00	33,000.00	104,500.00	137,500.00	
2	Teak Wood Junior - 2	Unit	250	60	190	250.00	15,000.00	47,500.00	62,500.00	
3	Hinge	Unit	480	116	364	15.00	1,740.00	5,460.00	7,200.00	
4	Flush Bolt	Unit	182	44	138	7.00	308.00	966.00	1,274.00	
5	Door Lock	Unit	260	63	197	20.00	1,260.00	3,940.00	5,200.00	213,674.00
					GG	Sub Tot	51,308.00	162,366.00		
HH	**HOTEL LOCKING**									
1	Hotel Locking	Unit	260	63	197	65.00	4,095.00	12,805.00	16,900.00	
2	Key Tag	Unit	260	63	197	25.00	1,575.00	4,925.00	6,500.00	23,400.00
					HH	Sub Tot	5,670.00	17,730.00		
II	**FLOOR AND WALL FINISHING**									
1	Floor Tile	Unit	7000	1680	5320	28.00	47,040.00	148,960.00	196,000.00	
2	Marble 2' x 2'	Unit	3000	720	2280	35.00	25,200.00	79,800.00	105,000.00	
3	Marble 6' x 2' (or) 4' x 2'		100	24	76	95.00	2,280.00	7,220.00	9,500.00	
4	Wall Tile	Unit	3200	768	2432	25.00	19,200.00	60,800.00	80,000.00	
5	Wood Floor Indoor	Unit	6000	1440	4560	115.00	165,600.00	524,400.00	690,000.00	
6	Wood Floor Outdoor	Unit	4500	1080	3420	105.00	113,400.00	359,100.00	472,500.00	

LIST OF CONSTRUCTION MATERIAL AND OTHER

Amata Hotel To be Imported

Exhibit No. (III)

Sr. No.	Particulars	A/U	Qtty Total	Qtty Phase I	Qtty Phase II	Unit Price US$	Amount US$ Phase I	Amount US$ Phase II	Total Amount US$	Total Amount US$
7	PVC Wover	Unit	200	48	152	28.00	1,344.00	4,256.00	5,600.00	1,558,600.00
					II	Sub Tot	374,064.00	1,184,536.00		
JJ	**ROOFING**									
1	Asphalt Shingle	Kgs	150000	-	150000	0.50	-	75,000.00	75,000.00	
2	Shingle Mate (1 Roll = 1 U)	Unit	15000	-	15000	12.00	-	180,000.00	180,000.00	
3	Weatherwatch (1 Roll = 1 U)	Unit	15000	-	15000	18.00	-	270,000.00	270,000.00	
4	Attic Ventilation (1 Roll = 1 U)	Unit	15000	-	15000	36.00	-	540,000.00	540,000.00	
5	Starter Strip Shingle (1 Roll = 1 U)	Unit	15000	-	15000	3.00	-	45,000.00	45,000.00	
6	Ridge Cover	Kgs	30000	-	30000	0.50	-	15,000.00	15,000.00	
7	Roof (Aluzinc)	Unit	2160	-	2160	150.00	-	324,000.00	324,000.00	
8	OSB board	Unit	15000	-	15000	5.00	-	75,000.00	75,000.00	
9	Asia Reed	sqm	50000	-	50000	0.20	-	10,000.00	10,000.00	
10	Asia Reed ceiling	sqm	50000	-	50000	0.10	-	5,000.00	5,000.00	
11	Siding Adirondack	sqm	50000	-	50000	0.10	-	5,000.00	5,000.00	1,544,000.00
					JJ	Sub Tot	-	1,544,000.00		
KK	**KITCHEN APPLIANCES**									
1	Stock Pot Stove	Unit	3	1	2	350.00	350.00	700.00	1,050.00	
2	Chinese Range	Unit	3	1	2	390.00	390.00	780.00	1,170.00	
3	Six burner range with dual oven	Unit	3	1	2	550.00	550.00	1,100.00	1,650.00	
4	Griddle	Unit	3	1	2	450.00	450.00	900.00	1,350.00	
5	Deep Fat Fryer	Unit	3	1	2	350.00	350.00	700.00	1,050.00	
6	Table w/plain Shelf w/Backsplash	Unit	3	1	2	125.00	125.00	250.00	375.00	
7	Char Broiler	Unit	3	1	2	650.00	650.00	1,300.00	1,950.00	
8	Hood w/Fresh Air (well type)	Unit	3	1	2	850.00	850.00	1,700.00	2,550.00	
9	4-Door Upright Refrigerator	Unit	10	2	8	300.00	600.00	2,400.00	3,000.00	
10	4-Door Upright Freezer	Unit	10	2	8	300.00	600.00	2,400.00	3,000.00	
11	2-Swing Door Refrigerated Base	Unit	3	1	2	450.00	450.00	900.00	1,350.00	
12	2-Drawer & 2 Swing Door Cabinet	Unit	3	1	2	250.00	250.00	500.00	750.00	
13	Red Wine Refrigerator	Unit	3	1	2	350.00	350.00	700.00	1,050.00	
14	Pot Wash Sink	Unit	3	1	2	450.00	450.00	900.00	1,350.00	
15	4-Tier Slatted Shelf	Unit	3	1	2	250.00	250.00	500.00	750.00	
16	Dish washer	Unit	3	1	2	350.00	350.00	700.00	1,050.00	

LIST OF CONSTRUCTION MATERIAL AND OTHER

Amata Hotel To be Imported Exhibit No. (III)

Sr. No.	Particulars	A/U	Qtty Total	Qtty Phase I	Qtty Phase II	Unit Price US$	Amount US$ Phase I	Amount US$ Phase II	Total Amount US$	Total Amount US$
17	Espresso Machine	Unit	3	1	2	950.00	950.00	1,900.00	2,850.00	
18	Coffee Grinder	Unit	3	1	2	150.00	150.00	300.00	450.00	
19	4 Burner Oven	Unit	3	1	2	180.00	180.00	360.00	540.00	
20	Hot plate Oven	Unit	3	1	2	200.00	200.00	400.00	600.00	
21	Hot plate	Unit	3	1	2	250.00	250.00	500.00	750.00	
22	Convection Oven	Unit	6	1	5	250.00	250.00	1,250.00	1,500.00	
23	Show Case Table	Unit	5	1	4	350.00	350.00	1,400.00	1,750.00	
24	Waffle Maker	Unit	3	1	2	120.00	120.00	240.00	360.00	
25	2 Doors Chillier	Unit	10	2	8	180.00	360.00	1,440.00	1,800.00	
26	Display Chillier	Unit	5	1	4	150.00	150.00	600.00	750.00	
27	Counter Salad Bar	Unit	3	1	2	350.00	350.00	700.00	1,050.00	
28	Dough Shelter	Unit	3	1	2	500.00	500.00	1,000.00	1,500.00	
29	Giotto Super Maxi	Unit	2	1	1	350.00	350.00	350.00	700.00	38,045.00
					KK	Sub Tot	11,175.00	26,870.00		
LL	LAUNDRY EQUIPMENT									
1	Washing Machine	Unit	5	1	4	10,500.00	10,500.00	42,000.00	52,500.00	
2	Electric Dryer	Unit	4	1	3	12,900.00	12,900.00	38,700.00	51,600.00	
3	Flatwork Ironers	Unit	2	-	2	21,000.00	-	42,000.00	42,000.00	
4	Extractor	Unit	2	-	2	12,000.00	-	24,000.00	24,000.00	
5	Heavy Duty Iron	Unit	20	4	16	30.00	120.00	480.00	600.00	
6	Flatwork Ironers (King size)	Unit	1	-	1	15,000.00	-	15,000.00	15,000.00	
7	Boiler Steam System	Unit	1	-	1	26,000.00	-	26,000.00	26,000.00	211,700.00
					LL	Sub Tot	23,520.00	188,180.00		
MM	ELECTRIC EQUIPMENT & OTHERS									
1	Transformer 500 KVA	Unit	1	-	1	1,500.00	-	1,500.00	1,500.00	
2	Transformer 800 KVA	Unit	1	-	1	3,000.00	-	3,000.00	3,000.00	
3	Generator 500 KVA	Unit	2	-	2	85,000.00	-	170,000.00	170,000.00	
4	Generator 800 KVA	Unit	2	-	2	100,000.00	-	200,000.00	200,000.00	
5	Main distribution Board	Unit	2	-	2	68,000.00	-	136,000.00	136,000.00	
6	Sub distribution Board	Unit	12	-	12	4,000.00	-	48,000.00	48,000.00	
7	Load Center	Unit	83	-	83	400.00	-	33,200.00	33,200.00	
8	PVC Pipe ¾" Ø (10')	Unit	7600	-	7600	4.00	-	30,400.00	30,400.00	

LIST OF CONSTRUCTION MATERIAL AND OTHER

Amata Hotel — To be Imported — Exhibit No. (III)

Sr. No.	Particulars	A/U	Qtty Total	Qtty Phase I	Qtty Phase II	Unit Price US$	Amount US$ Phase I	Amount US$ Phase II	Total Amount US$	Total Amount US$
9	Conductor	Unit	7000	-	7000	150.00	-	1,050,000.00	1,050,000.00	
10	Fluorescent	Unit	500	-	500	100.00	-	50,000.00	50,000.00	
11	Downlight	Unit	2000	-	2000	35.00	-	70,000.00	70,000.00	
12	Downlight Halogen	Unit	540	-	540	40.00	-	21,600.00	21,600.00	
13	Wall Lamp	Unit	550	-	550	80.00	-	44,000.00	44,000.00	
14	Led Libbon	Unit	190	-	190	28.00	-	5,320.00	5,320.00	
15	Chandelier	Unit	20	-	20	3,500.00	-	70,000.00	70,000.00	
16	Spot Light	Unit	250	-	250	45.00	-	11,250.00	11,250.00	
17	Bollard Lamp	Unit	250	-	250	45.00	-	11,250.00	11,250.00	
18	Switch	Unit	1300	-	1300	5.00	-	6,500.00	6,500.00	
19	Plug	Unit	2300	-	2300	10.00	-	23,000.00	23,000.00	
20	Exhaust Fan	Unit	270	-	270	120.00	-	32,400.00	32,400.00	2,017,420.00
					MM	Sub Tot	-	2,017,420.00		
NN	**TELEPHONE EQUIPMENT**									
1	PABX Set	Set	2	-	2	1,045.00	-	2,090.00	2,090.00	
2	PVC Pipe ½" Ø (20')	Unit	2512	-	2512	4.00	-	10,048.00	10,048.00	
3	Conductor	Set	194	-	194	30.00	-	5,820.00	5,820.00	
4	Telephone Plug	Set	362	-	362	120.00	-	43,440.00	43,440.00	
5	Computer	Set	60	-	60	300.00	-	18,000.00	18,000.00	
6	Moderm	Set	50	-	50	150.00	-	7,500.00	7,500.00	
7	PVC Pipe ¾" Ø (20')	Unit	1620	-	1620	4.00	-	6,480.00	6,480.00	
8	Conductor	Set	138	-	138	40.00	-	5,520.00	5,520.00	
9	Network Plug	Set	270	-	270	120.00	-	32,400.00	32,400.00	
10	DVR control	Set	12	-	12	700.00	-	8,400.00	8,400.00	
11	CCTV Camera	Set	134	-	134	150.00	-	20,100.00	20,100.00	
12	PVC Pipe 1" Ø (20')	Unit	1080	-	1080	4.00	-	4,320.00	4,320.00	
13	Conductor	Set	150	-	150	40.00	-	6,000.00	6,000.00	
14	Seattleite Dish	Set	8	-	8	5,000.00	-	40,000.00	40,000.00	
15	Receiver	Set	25	-	25	2,000.00	-	50,000.00	50,000.00	
16	PVC Pipe 1½" Ø (20')	Unit	1680	-	1680	4.00	-	6,720.00	6,720.00	
17	Conductor	Set	250	-	250	40.00	-	10,000.00	10,000.00	
18	Television Plug	Set	290	-	290	120.00	-	34,800.00	34,800.00	

LIST OF CONSTRUCTION MATERIAL AND OTHER

Amata Hotel To be Imported

Exhibit No. (III)

Sr. No.	Particulars	A/U	Qtty Total	Qtty Phase I	Qtty Phase II	Unit Price US$	Amount US$ Phase I	Amount US$ Phase II	Total Amount US$	Total Amount US$
19	Fire Alarm Control	Set	2	-	2	4,200.00	-	8,400.00	8,400.00	
20	Graphic	Set	2	-	2	1,000.00	-	2,000.00	2,000.00	
21	PVC Pipe 2" Ø (20')	Unit	1418	-	1418	4.00	-	5,672.00	5,672.00	
22	Conductor	Set	250	-	250	400.00	-	100,000.00	100,000.00	
23	Smoke Detector	Set	300	-	300	110.00	-	33,000.00	33,000.00	
24	Heat Detector	Set	15	-	15	40.00	-	600.00	600.00	
25	Bell Station	Set	250	-	250	50.00	-	12,500.00	12,500.00	
26	Manual Station	Set	35	-	35	50.00	-	1,750.00	1,750.00	475,560.00
					NN	Sub Tot	-	475,560.00		
OO	SANITARY EQUIPMENT									
1	Transfer Pump (5 hp, 3 Bar)	Unit	2	-	2	7,500.00	-	15,000.00	15,000.00	
2	Booster Pump	Unit	2	-	2	6,500.00	-	13,000.00	13,000.00	
3	Septic Tank	Unit	8	-	8	5,500.00	-	44,000.00	44,000.00	
4	Bio Septic Tank	Unit	20	-	20	130.00	-	2,600.00	2,600.00	
5	Cold Water PVC Pipe ¾" Ø (20')	Unit	570	-	570	4.00	-	2,280.00	2,280.00	
6	Cold Water PVC Pipe 1" Ø (20')	Unit	660	-	660	4.00	-	2,640.00	2,640.00	
7	Cold Water PVC Pipe 2" Ø (20')	Unit	350	-	350	4.00	-	1,400.00	1,400.00	
8	Hot Water PPR Pipe ½" Ø (10')	Unit	920	-	920	4.00	-	3,680.00	3,680.00	
9	Drain Water PVC Pipe 1¼" Ø (20')	Unit	300	-	300	25.00	-	7,500.00	7,500.00	
10	Drain Water PVC Pipe 1½" Ø (20')	Unit	400	-	400	25.00	-	10,000.00	10,000.00	
11	Drain Water PVC Pipe 3" Ø (20')	Unit	260	-	260	25.00	-	6,500.00	6,500.00	
12	Drain Water PVC Pipe 4" Ø (20')	Unit	375	-	375	25.00	-	9,375.00	9,375.00	117,975.00
					OO	Sub Tot	-	117,975.00		
PP	AIR-CONDITION EQUIPMENT									
1	Air condition Wall Type	Unit	270	-	270	250.00	-	67,500.00	67,500.00	
2	Air condition Stand Type	Unit	50	-	50	850.00	-	42,500.00	42,500.00	
3	Air condition Ceiling Type	Unit	30	-	30	1,050.00	-	31,500.00	31,500.00	
4	Refrigerant Pipe 1" Ø (10')	Unit	1738	-	1738	65.00	-	112,970.00	112,970.00	
5	Insulation Pipe 1" Ø (10')	Unit	1738	-	1738	65.00	-	112,970.00	112,970.00	367,440.00
					PP	Sub Tot	-	367,440.00		
QQ	CEMENT & CHEMICAL									
1	Cement	Ton	1336	-	1336	85.00	-	113,560.00	113,560.00	

LIST OF CONSTRUCTION MATERIAL AND OTHER

Amata Hotel To be Imported

Exhibit No. (III)

Sr. No.	Particulars	A/U	Qtty Total	Qtty Phase I	Qtty Phase II	Unit Price US$	Amount US$ Phase I	Amount US$ Phase II	Total Amount US$	Total Amount US$
2	Grouting Cement	Ton	30	-	30	150.00	-	4,500.00	4,500.00	118,060.00
					QQ	Sub Tot	-	118,060.00		
RR	CONSTRUCTION STEEL									
1	H-200 x 200 x 49.9 Kg/M	Ton	77.84	-	77.84	420.00	-	32,692.80	32,692.80	
2	H-250 x 125 x 29.6 Kg/M	Ton	76.68	-	76.68	420.00	-	32,205.60	32,205.60	
3	H-200 x 100 x 21.3 Kg/M	Ton	120.13	-	120.13	420.00	-	50,454.60	50,454.60	
4	H-150 x 75 x 14.0 Kg/M	Ton	97.27	-	97.27	420.00	-	40,853.40	40,853.40	
5	H-350 x 175 x 49.6 Kg/M	Ton	89.28	-	89.28	380.00	-	33,926.40	33,926.40	
6	H-300 x 150 x 36.7 Kg/M	Ton	66.06	-	66.06	380.00	-	25,102.80	25,102.80	
7	H-400 x 200 x 66.0 Kg/M	Ton	79.2	-	79.2	380.00	-	30,096.00	30,096.00	
8	H-150 x 150 x 31.5 Kg/M	Ton	7.56	-	7.56	380.00	-	2,872.80	2,872.80	
	Total Tonnage		614.02	-	614.02					
9	100 x 50 U Channel	No.	2500	-	2500	30.00	-	75,000.00	75,000.00	
10	125 x 50 Lip Channel	No.	5000	-	5000	45.00	-	225,000.00	225,000.00	
11	12mm tk, MS Plate	No.	200	-	200	165.00	-	33,000.00	33,000.00	
12	18mm tk, MS Plate	No.	50	-	50	200.00	-	10,000.00	10,000.00	
13	3/4" Ø, 2.5" L B & N	No.	1200	-	1200	0.60	-	720.00	720.00	
14	3/4" Ø, 2" L B & N	No.	12001	-	12001	0.60	-	7,200.60	7,200.60	
15	5/8" Ø, 2.5" L B & N	No.	1500	-	1500	0.40	-	600.00	600.00	
16	5/8" Ø, 2" L B & N	No.	7000	-	7000	0.40	-	2,800.00	2,800.00	
17	Decking Sheet 945mm x 1mm	Feet	4000	-	4000	20.40	-	81,600.00	81,600.00	
18	Concrete Mixer	Unit	4	-	4	3,500.00	-	14,000.00	14,000.00	
19	Light Steel Gage Making Machine	Unit	3	-	3	5,500.00	-	16,500.00	16,500.00	714,625.00
					RR	Sub Tot	-	714,625.00		
SS	ELECTRICAL ACCESSORIES									
1	185mm Single Cable	Roll	10	-	10	1,650.00	-	16,500.00	16,500.00	
2	Cable Wire 7044	Roll	95	-	95	104.00	-	9,880.00	9,880.00	
3	Cable Wire 7036	Roll	120	-	120	45.00	-	5,400.00	5,400.00	
4	Cable Wire 3036	Roll	250	-	250	35.00	-	8,750.00	8,750.00	
5	Cable Wire 7029	Roll	400	-	400	15.00	-	6,000.00	6,000.00	
6	Cable Wire 6029	Roll	400	-	400	6.50	-	2,600.00	2,600.00	
7	Earth Wire (Copper) 12 G	Roll	6	-	6	250.00	-	1,500.00	1,500.00	

LIST OF CONSTRUCTION MATERIAL AND OTHER

Amata Hotel To be Imported

Exhibit No. (III)

Sr. No.	Particulars	A/U	Qtty Total	Qtty Phase I	Qtty Phase II	Unit Price US$	Amount US$ Phase I	Amount US$ Phase II	Total Amount US$	Total Amount US$
8	Refrigerator	Unit	270	-	270	150.00	-	40,500.00	40,500.00	
9	Room Heater	Unit	270	-	270	85.00	-	22,950.00	22,950.00	
10	Water Heater	Unit	270	-	270	110.00	-	29,700.00	29,700.00	
11	Electrical Pole	Unit	120	-	120	150.00	-	18,000.00	18,000.00	
12	Buggy	Unit	10	-	10	950.00	-	9,500.00	9,500.00	171,280.00
					SS	Sub Tot	-	171,280.00		
							799,046.30	8,290,553.70		9,089,600.00

AMATA INT'L COMPANY LIMITED.

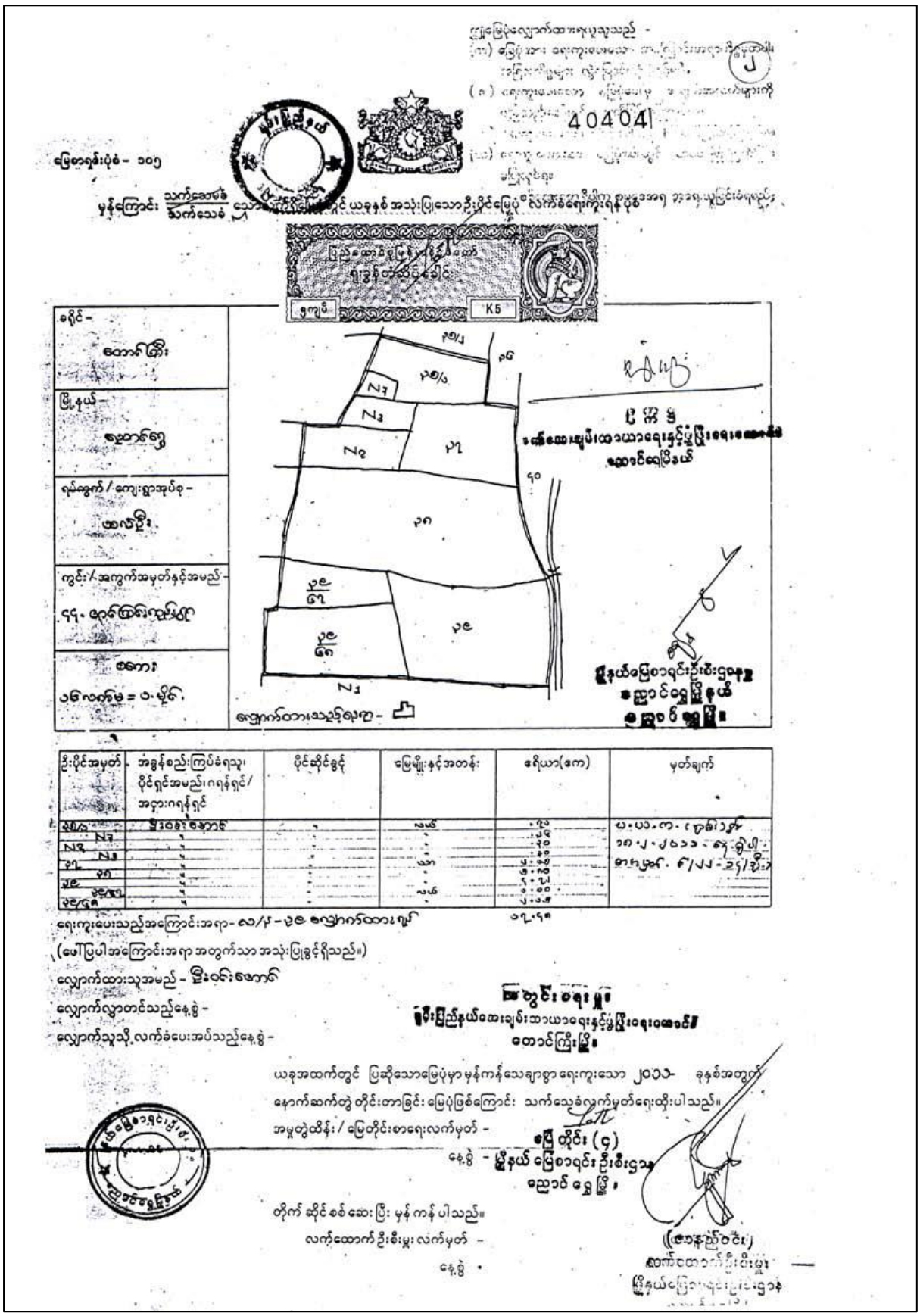
ThaLeOo Hotel

Rate 1 US$ = 960 Ks.

	US$
Phase I	799,046.30
Phase II	8,290,553.70
Total Amount	9,089,600.00

	Phase I US$	Phase II US$	Total US$	Equiv Ks. (000)
Hotel Equipment (B+C+D+H+K+L+N+P)	97,074.30	1,266,476.70	1,363,551.00	1,309,009
Construction Material	701,972.00	7,024,077.00	7,726,049.00	7,417,007
	799,046.30	8,290,553.70	9,089,600.00	8,726,016

Appendix 11: Official Location Map with Plots



Appendix 12: Notary for MIC Document

Limit
Notarial Translation

SEAL

Myanmar Investment Commission

Notification No – 58/2014 (MaNaTha)

13th October, 2014

1. The proposal for the permission and performance of international standard hotel service under Myanmar Citizen Investment Law on total land 17.48 acre of field No 44, holding No 35/1, N7, N2, N3, 37, 38, 39, 67, 39, 68 in Ingyin Gone Village, Thalae Oo Village Tract, Naung Shwe Township, Taung Gyi District, Shan State (South), Inlay lake wild life sanctuary, Naung Shwe Township, Taung Gyi District, Shan State (South) belonging to the forestry department, environmental conservation and forestry ministry has been submitted to the commission meeting 22/2014 on 19th September, 2014 and decision has been made "to issue permit". Under the above-cited decision, MIC has been exercising its authorization under Chapter 7, section 12 B of Myanmar Citizen Investment Law and issued permit No MaNaTha 996/2014 to be able to run international standard hotel service from Amata International Co., Ltd.
2. Under this permit, this notification has been issued to be able to entitle income tax exemption and the following tax exemption and relief under the Myanmar Citizen Investment Law Chapter 11 to run the service from AhMaTa International Co., Ltd.
   (a) Under law section 20A, income tax exemption has been given until consecutively for 5 years including commencement year of commercially service given.
   (b) Under the law section 20C, the profit available from the service has been reserved for specific fund and income tax exemption on the profit or relief of the profit on re-investment within one year and after the expiry of income tax exemption period, on actual re-investment, the application shall be submitted to this commission stating the service implementation condition as a matter of fact.
   (c) Under the law section 20 (f), Within consecutively 2 years of the entitlement of income tax exemption, the actually lost money and as of the year of loss, application shall be submitted to this commission stating the real condition of

Limit

Limit
Notarial Translation

the implementation of the bringing and setting-off until consecutively for three years.
   (d) Under the law section 20 (g), the exemption or relief shall be submitted and applied to this commission for custom duty or other domestic taxes on the mechanism, machinery, equipment, applicable apparatus, machinery component, machine spare-parts and business-use materials imported from abroad as required to actually utilize within the commencement period of the construction work.
   (e) Under the law section 20 (h), the value reduction rate shall be submitted and applied to this commission in respect of deduction out of the profit on the item value deduction calculation as per the rate stipulated by the state on mechanism, equipment, building, or other business-use capitalized properties in order to the assessment of income tax.
   (f) Under the law section 20 (i), as required to actual-use of the permitted initial investment within the term on the increase of investment amount, exemption or relief shall be submitted and applied to this commission on custom duty or other domestic taxes of the on the mechanism, machinery, equipment, applicable apparatus, machinery component, machine spare-parts and business-use materials imported from abroad as required to actually utilize within the commencement period of the construction work.
3. Under the Myanmar Citizen Investment Law Section 20(g), in the importation of mechanism, machinery, appliance, the component of machinery, machine spare-parts and business-use items, the inspection shall be made under the inspection agency acknowledged by the international with regard to description of the item, quality, standard, and the suitability of the prices.
4. Under this permit, implementation shall be made as service objective or minimum objective stated in the initial proposal in running service Amata International Co., Ltd.
5. Amata International Co., Ltd shall specifically prepare the statistics of this proposed service.
6. In running the proposed service, environmental conservation and forestry ministry, Department of Forestry and Amata International Co., Ltd shall follow the terms and conditions of land lease agreement ratify by MIC.

Limit

7. For the performance of the proposed service, the term of the land lease has commenced as of date of contract signing and the initial term 50 years and extension 10 years for 2 times. The extension of contract term shall be lodged to the commission and ratification is made merely on achieving permit.
8. Account No MD 010613 opened under the name of forestry department in Nay Pyi Taw Myanmar Economic Bank shall be paid as per the following 3 times divided of a total Kyat 874000 for land 17.48 acre thru the rate of Kyat 50000 (Kyat fifty thousand) per acre as land used premium from Amata International Co., Ltd to the department of forestry and Ministry of Environmental Conservation and Forestry.
   (a) Within 30 days of the agreement execution of the first time total premium 30%, Kyat 26220;
   (b) 6 months after the agreement execution of the first time total premium 30%, Kyat 26220;
   (c) 24 months after the agreement execution of the first time total premium 30%, Kyat 26220;
9. Kyat 3496000 (Kyat thirty four lakh ninety six thousand definitely) for a total area 17.48 acre thru the rate of Kyat 200000 per acre shall be paid in advance within 60 days after the agreement as annual land rent by Amata International Co., Ltd
10. The rental rate shall be amended and stipulated thru the rate not in excess of 10% of the rent of the agreement under mutual coordination with the market price and when remaking the agreement, the land rent is to be amended and prescribed again once in every 5 years.
11. Amata International Co., Ltd shall construct and open hotel within a total month of 24, hotel construction term is 18 months and land renovation term is six months beginning the date of contract signing of the international standard hotel project.
12. To be able to perform the proposed work, 5 copies of demised agreement affixed appropriate stamp revenue and signed to be executed by the forestry department, Ministry of Environmental Conservation and Forestry and Amata International Co., Ltd shall be sent and lodged without fail to this Commission.

13. On accomplishment of hotel building, Amata International Co., Ltd shall apply to the Ministry of Hotel and Tourism Industry for the availability of hotel service license.
14. Amata International Co., Ltd shall perform sublease, mortgage, share transfer and operation transfer under the commission permission to anyone else within the term of the demised agreement.
15. Amata International CO., Ltd shall guarantee for the bank within 30 days of the contract signing to the account number MD 010613 opened under the name of the forestry department in Nay Pyi Taw, Myanmar Economic Bank, Kyat annual rent 3496000 Ks thirty-four lakh, ninety six thousand definitely as economic performance of the bank guarantee.
16. In performing the proposed service, regarding land utilization, the terms and condition prescribed and provided with regard to land from the state government shall strictly be followed.
17. The Amata International Co., ltd shall follow the relevant provision of the law, rules and regulations to be compatible on the emergence of the provision of relevant law and to be compatible with urban project in economic performance.
18. Amata International Co., Ltd shall follow under the stipulation of Myanmar Engineering Association and Statement of BQ Description and Quantity of the Item when importing from abroad of the necessary construction application materials as a matter of fact for the building in the proposed business performance.
19. Amata International Co., Ltd shall arrange and perform as per submitted in the proposal to systematically obtain the statistics and worksite pleasantness and great importance shall be attached to have good dealing of the employer and employee. The company shall coordinate with the directorate of the labor, Ministry of Labor in the employment of domestic workers to run the proposed operation.
20. Amata International Co., Ltd shall perform systematically as per verification of the precautionary measure of necessary environmental pollution in order not to occur fire danger, air, water and land pollution in running service under this permit. Further, the company shall follow the provision of environmental conservation policy, law, and other environmental conservation directives and

procedure. For so condition of the performance, the report shall be sent to this commission without fail.

21. Amata International Co., Ltd shall report to this commission within 3 months after achieving this permit on initial business performance without failure. Moreover, the condition of implementation shall be reported regularly once in every three months thru the stipulated template without failure. The commencement of commerce of the proposed business shall be reported within one month to this commission without failure.
22. On alteration of residential address (office address and phone number of the company) of investor stated in Myanmar Investment Commission shall be acquired the ratification and permission on submission to this commission without failure.
23. Amata International Co., Ltd shall follow existing rules and regulations and stipulation of MIC and relevant ministries.
24. Having performed the proposed service in accordance with Myanmar Citizen Investment Law, it shall not be owned or managed in someway to any foreigner or any foreign organization. The permit issued by MIC and business license issued by the relevant department and the items imported from abroad through the MIC permit shall not be sold and sub-transferred. In the event of inspection and finding of sale and management in someway to the imported items with business license, permit or ownership of a foreigner or foreign organization, action will be taken as required and coordination will be made with the relevant government and organization and under the Myanmar Citizen Investment Law section 32 (c), the company shall be listed in the blacklist of the business and no permit will be issued hereinafter.
25. Within one year beginning of the date of this permit issuance, in case of not commencement of performance of the proposed service, it shall be deemed that this permit is to automatically be null and void.

Sd.

(Zayar Aung)

Chairman

Letter No. YaKa-4/Ma-1428/2014 (252)

date – 13th Oct, 2014

DISTRIBUTION

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Ministry of National Planning and Economic Development

Ministry of Construction

Ministry of Labor, Employment and Social Security

Ministry of Hotel and Tourism Industry

Shan State Government, Taunggyi

DG, Directorate of Telecommunication

MD, Myanmar Telecommunication Enterprise

DG, Forestry Department

DG, Department of Environmental Conservation

MD, Myanmar Electric Power Enterprise

DG, Immigration and National Registration Department

DG, Directorate of Trade

DG, Customs Department

DG, IRD

MD, Myanmar Insurance Enterprise

DG, Directorate of Investment and Company Administration

DG, Human Settlement and Housing Development Department

DG, Directorate of Labor

DG, Directorate of Hotel and Tourism Industry

DG, Myanmar Hotel and Tourism Industry

Chairman, Myanmar Engineer Association, Yangon

MD, Amata International Co., Ltd

AUTHENTICATED, true and correct English translation.

Reg: No.157/2016
- 3 MAR 2016

U BA ZAW (B.A., B.L)
Divisional Law Officer (Retd.,)
Advocate and Notary Public
No.60, Mahabandoola Garden Street,
Kyauktada Township, Yangon
☎ 252924

Appendix 13: Notary for Forest Department Documents

Notarial Translation

Demise Contract of Land 17.48 acre in the Territory of Inlay Lake Wild Life Sanctuary

Of

The Department of Forestry, Ministry of Environmental Conservation and Forestry

Vs

"AMATA GARDEN RESORT HOTEL INLE"
AMATA INTERNATIONAL COMPANY LIMITED

U BA ZAW NOTARY PUBLIC

Date- 21st November, 2014

Notarial Translation

U BA ZAW NOTARY PUBLIC

Demise Contract of Land 17.48 acre in the Territory of Inlay Lake Wild Life Sanctuary of the Department of Forestry, Ministry of Environmental Conservation and Forestry Vs "AMATA GARDEN RESORT HOTEL INLE" AMATA INTERNATIONAL COMPANY LIMITED to run hotel industry in Naung Shwe Township, Taung Gyi District, Shan State (South)

Dr. Nyi Nyi Kyaw, DG, under the authority of Ministry of Environmental Conservation and Forestry located in office No 39, Nay Pyi Taw, Republic of the Union of Myanmar, representing for Forestry Department (hereinafter referred to as "The lessor" – the expression shall be deemed to include, unless repugnant on the context or sense, their living representative and assigns under the law) is one part

Vs

U Win Aung, NRC No – 12/PaZaTa(N)028732, Managing Director of AMATA INTERNATIONAL CO., LTD representing for AMATA GARDEN RESORT HOTEL INLE located in southern Shan state has been a public Myanmar Company incorporated under the companies Act of Republic of the Union of Myanmar (hereinafter referred to as "The lessee" – the expression shall be deemed to include, unless repugnant on the context or sense, their living representative and assigns under the law) is another part have entered into this contract agreement (hereinafter referred to as "The Agreement")under the following terms and conditions on 21st November, 2014.

Article 1 – Objective

1.1. "The lessor" has official title of 17.48 acre of his naming and regarding leased land, the map and land title evidences have been attached and stated thru annexure A.

1.2. "The lessee" is to construct international standard hotel as per quantity and drawing pursuant to the building class and site plan attached and stated thru annexure B of room 250 contained hotel on demise of leased land belonging to the lessor.

Article 2 – Investment

2.1. The lessee will run the above-cited operation under the contribution of investment amount Kyat million 14400 (USD 9.55 million included).

Article 3 – Representing and Warranty

3.1. Out of the signed contractual parties, the lessor official title of 17.48 acre to be demised and permit of demised has been obtained under the procedure and the decision of the meeting of management committee 17/2013 of Ministry of Environmental Conservation and Forestry convened on 5 August, 2013. (Annexure C)

3.2. The lessee has guaranteed to have been financial soundness to run the operation of this agreement and the lessor and the lessee have respectively guaranteed and represented for authorized parties under the law to sign in this contract.

Article 4 – Terms Preceding

4.1. In making operational implementation as per terms and conditions of this contract, stipulation is made to do so merely obtaining necessary ratifications and permit to acquire from relevant government authorities in the Republic of the Union of Myanmar.

Article 5 – Leased land and its term

5.1. The location of the leased land is area 17.48 acre in the marked box of the map described in the annexure A of the prescribed land as Inle lake wild life sanctuary, a natural territory authorized for management from the forestry department, Ministry of Environmental Conservation and Forestry on behalf of the Republic of the Union of Myanmar.

5.2. The term of the lease has been for initially 50 years beginning the contract signing date and 2 times term can be extended thru once in every 10 years.

5.3. The extension of the lease is binding only after obtaining MIC permit.

Article 6 – Lease Term Extension and Registration

6.1. The lease term has been for 50 years, from 2014 until 2064 having right for further 2 more time extension in every 10 years.

6.2. This contract shall be registered in the instrument registration office. The lessee shall incur stipulated full registration fees.

Notarial Translation

6.3. In order to pay registration fees, it shall be paid as stipulated in relevant township instrument registration office.

Article 7 – Contract Extension

7.1. The contract term has been initially for 50 years as of the contract signing date. In case the lessee wants to extend contract term, 3 months notice shall be submitted at the minimum prior to the expiry of initial term. Subsequent to initial term 50 years, both parties shall adjust for tenancy extension of the term further the extension of the contract term shall binding merely on the ratification of the submission to MIC.

Article 8 – Date of Enforcement

8.1. This contract shall come into force beginning the contract signing date ratify by both parties.

Article 9 – Land Utilization Premium

9.1. The lessee shall pay the following to the lessor Kyat 874000 (Kyat eight lakh and seventy-four thousand definitely) for land 17.48 acre thru the rate Kyat 50000 (Kyat fifty-thousand definitely) per acre as land utilization premium.

(a) 30% of total premium, Kyat 262200 (Kyat two lakh and sixty-two thousand two hundred definitely) shall be paid in 30 days after contract signing as the first installment.

(b) 30% of total premium, Kyat 262200 (Kyat two lakh and sixty-two thousand two hundred definitely) shall be paid in 6 months after contract signing as the first installment.

(c) 40% of total premium, Kyat 349600 (Kyat three lakh forty-nine thousand six hundred definitely) shall be paid in 24 months after contract signing as the first installment.

(d) In the payment of land utilization premium, it shall be paid to the account No MD 010613 opened under the name of forestry department, the lessor, Nay Pyi Taw Myanmar Economic Bank.

9.2. Land utilization premium shall be paid within stipulated period. For being late more than due date, late charge Kyat 2000 (two thousand definitely) per day shall be paid.

Article 10 – Annual Rental Payment

10.1. The lessee shall pay Kyat 3496000 (Kyat thirty-four lakh ninety-six thousand definitely) thru 200000 (Kyat two lakh definitely) per acre for the leased land area 17.48 acre in advance to the lessor in 60 days after the contract signing of both. In the years ahead, it shall be paid 60 days in advance prior to the commencement of annual term. For being late more than due date, Kyat 5000 (Kyat five thousand definitely), late charge per day shall be paid.

10.2. The rent is to be amended and prescribed again once in 5 every five years and when re-executing of the agreement, both parties shall coordinate, amend and stipulate the rent with market price thru the rate not in excess of 10% of the rent.

Article 11 – Responsibilities of the Lessor

11.1. The lessor shall follow and perform the following responsibilities-

(a) Land Tax for the leased land shall be paid.

(b) Assistance shall be provided in acquisition of necessary permits registrations and licenses for the relevant organizations.

(c) All the taxes and charges due to the state organizations for the tenancy and running of this real estate to be able to be paid with Myanmar Kyat, the lessor shall provide assistance.

(d) The lessee shall permit to be able to make necessary construction and renovation for betterment and progress of the buildings in the leased land.

(e) The lessee has right to utilize the land peacefully within the tenancy period without interruption and involvement of the truster of the lessor or under the nature of the lessor.

Notarial Translation

Article 12 – Responsibilities of the Lessee

12.1. The lessee shall follow and perform the following responsibilities.

(a) International standard hotel contain 250 rooms will be constructed on the leased land thru capital amount USD 15 million and run hotel industry with the expenses of the lessee.

(b) The lessee shall construct, accomplish and open within land renovation period 6 months and hotel construction period 18 months, totaling 24 months beginning from the contract signing date.

(c) The lessee shall construct only as per side plan and drawing on quantity and class of the building as proposed in the agreement and for modification and re-construction, 3 months notice shall be given to the lessor. Construction shall be permitted only after achieving ratification of the lessor.

(d) The lessee shall pay land utilization premium and annual land lease rental within fixed period stated in article 9 and 10 of this agreement.

(e) Sub-lease, mortgage, share transfer and operation transfer to someone else for the operation of the real property lease and permitted under the permit during the contract term thru the permit of MIC shall be made.

(f) Under existing law, this contract shall be affixed reasonable stamp revenue for not getting stamp revenue, assumption or relief of this agreement.

(g) The state policies shall be complied and illegal works shall be refrained.

(h) During the tenancy, other taxes and charges referring to operation other than land tax shall regularly be paid to the relevant departments.

(i) For achieving hotel and guest house operation permit, permit shall be acquired from the Ministry of Hotel and Tourism Industry.

(j) In addition to following terms and conditions of the state and relevant ministries from the lessee, gambling and inappropriate entertainment with Myanmar culture shall not be performed.

Article 13 – Insurance Cover

13.1. The lessee shall retain insurance coverage of fire for the building to be constructed and for the operation to be run under this agreement and requirement and Myanmar Insurance Law.

Article 14 – Mineral Resources

14.1. During the tenancy period, on unexpected finding of objects and natural resources imperative in natural history and science, cultural heritages, gem, mineral resources of the ground of the lease real estate under the agreement, the lessee shall instantly submit to the lessor. Those asset shall be owned by the Government of the Republic of the Union of Myanmar and the lessee shall transfer and its lodge them to the relevant organization of the Republic of the Union of Myanmar Government. Further, the above-cited items shall be and shall have right to unearth and excavate freely by the state government.

Article 15 – Termination of the Agreement

15.1. The party shall have right to terminate this agreement on the emergence of any of the following elements.

(a) Sustainable and enormous loss in the business;

(b) Non-compliance of the legalize notice from the other parties on default of any of the terms of the agreement from one side of the party within 30 days;

(c) Occurrence of force majeure for 6 months consecutively;

(d) Inability of making consecutive implementation of the primary objective of the operation.

15.2. In case both parties notify wanting for the termination of this agreement, it shall be enforced merely on the availability of MIC permission.

Article 16 – Re-entry to the Land

16.1. In default of compliance of performance of the terms of the agreement for the lessee and default of remedy of non-compliance or non-performance within the

Notarial Translation

notice period from the lessor, the lessor shall have right to re-enter and possess the entire properties inclusive and referring to this agreement peacefully. In that case, the agreement has been terminated and ended under the mutual agreement. The privilege of such contract termination and re-entry shall not affect the privilege and claims to be obtained from the lessee by the lessor of this agreement.

Article 17 – Re-transfer

17.1. The lessee shall re-transfer the land 17.48 acre leased under proper condition on clearance and removal of the buildings not included in the primary tenable condition of the land within 90 days of the plan of the lessee beginning the date of termination or expiry of the agreement.

17.2. No delivery of the lessee until excess of the fix period set forth in above-cited clause 17-1, late charge 100000 (Kyat one lakh definitely) per day shall be paid for the exceeded term.

Article 18 – Force Majeure

18. 1. Force majeure means natural catastrophes such as flood, storm, fire and earth quake and the prohibition and limitation of the state government, nullification of rule of law and peace and stability, warfare, boycott and the like occurrences un-overwhelming despite putting necessary diligence from a party and due to force majeure leading to the damage and loss of the lease and utilization, the lessee has no right to claim for the compensation of damages and losses from the lessor.

18.2. For force majeure to be arisen, the lessee shall instantly notify to the lessor within 14 days of the terms of occurrence. On acceptance and ratification of the lessor, force majeure has constituted and the land rent may be relieved for the interim period directly referring to the land utilization.

Article 19 – Settlement of Dispute

19.1. Regarding this agreement, in the event of any dispute to be arisen, both parties shall negotiate and tackle amicably. For so not tackling, the decision of the competent and relevant Court shall be undergone under the law on that dispute.

Article 20 – Discussion and Contract Amendment, Coordination

20.1. On requirement of amendment and addition and modification without consistency to the terms of this agreement of the condition or terms arisen in operational implementation, both parties shall adjust and discuss and the contract may be amended and made under mutual agreement. The amendments shall be binding only after obtaining approval of MIC.

Article 21 – Confidentiality

21.1. Both parties signed in this agreement shall not transfer important documents, information to the third party. However, for the purpose of the interests of the company, it shall be transferred to the other parties under the permission of the lessor, approval and decision of the board of director.

Article 22 – Environmental Conservation

22.1. The lessee is responsible for the conservation of environment of the operational site to be performed. Furthermore, air, water and land pollution and other environmental damages and losses shall be controlled and conserved, water treatment plant installation shall be made under the existing law and necessary prevention and plan referring to harmlessness of the portions wasted and vavor in order not to be air polluted.

Article 23 – The Action of Corresponding

23.1. Notices or other information shall be written in Myanmar or English and they can be sent with registered mail by post or telex or fax or international communication system and communication address to the relevant association as in the following address stated in this agreement.

(a) For the lessor –

(1) Name – Dr. Nyi Nyi Kyaw

(2) Rank – DG

(3) Address – Office No – 39, Nay Pyi Taw

Notarial Translation

(4) Phone No – 067-405018

(5) Fax No – 067-405018

(6) E-mail – dg.fd@mptmail.net.mm

(b) For the lessee –

(1) Name – U Win Aung

(2) Rank – MD

(3) Address – No (10) Inya Avenue, Mayan Gone Township, Yangon

(4) Phone No – 09-5147201

(5) E-mail – winaung66@gmail.com

23.2. In communication and sending of document like so; the sending may be ratify only on achieving any of the evidence from the other party. For the change of the address, notice shall be sent in writing to the other party.

Article 24 – Bank Guarantee

24.1. Bank guarantee shall be deposited in account No MD 010613 opened under the name of forestry department in Myanmar Economic Bank, Nay Pyi Taw of the lessor on Kyat 3496000 (Kyat thirty four lakh ninety-six thousand definitely) equivalent to yearly rent as bank guarantee for the operation from the lessee. The aforesaid bank guarantee shall be paid within the following 30 days after contract signing. The lessee may withdrawal bank guarantee over the expiry of the term of the rental.

24.2. In breach of any terms of the agreement from the lessee, the lessor shall confiscate bank guarantee of the above-cited clause 24.1.

Article 25 – Operation Transfer

25.1. Within the lease period, the lessee shall notify in advance to the lessor on the privilege, right of the lessee and transfer to another person or party.

Notarial Translation

25.2. Under the approval of the lessor, it shall be performed under the submission and permission to MIC.

Article 26 – Miscellaneous

26.1. The annexure such as map, land profile documents, building design and evidences attach and express together with this agreement shall be deemed to be an integral part of it.

26.2. This agreement shall be signed 2 copies respectively being justify and legalize under the law and original one shall be prescribed for each party.

Both parties' legal representatives themselves have read and comprehended the terms of this agreement and their signatures and office seals have been affixed respectively in the presence of the following witnesses in Nay Pyi Taw on 21st November, 2014 stated above.

The lessor (on behalf of)	**The lessee (on behalf of)**
Dr. Nyi Nyi Kyaw	U Win Aung
Director General	Managing Director

Witnesses

1	2
Name	Name
Rank	Rank
Address	Address

AUTHENTICATED, true and correct English translation.

U BA ZAW (B.A., B.L)
Divisional Law Officer (Retd.,)
Advocate and Notary Public
No.60, Mahabandoola Garden Street,
Kyauktada Township, Yangon
☎ 252924

Reg: No.158.1.2016
- 3 MAR 2016

Appendix 14: Commitment Letter

AMATA INTERNATIONAL COMPANY LTD.

No.10, Inya Yeik Tha Rd, Mayangone Tsp, Yangon, Myanmar.
Tel: 01 657050, 657690, 665126 Fax: 01 - 657050

Commitment to follow Environmental Conservation Laws, Standards and Mitigation Measures Standards and Mitigation Measures State in the Environmental Management Plan (EMP) of the Initial Environmental Examination (IEE) Report

With regard to the above matter, we, **Amata International Co., Ltd**. will construct ***Amata Garden Resort*** to provide services concerning with hotel business in **Nyaung Shwe Township**. Our company strongly commits that all our operations will be performed in an environmentally friendly manner by following Environmental Conservation Law 2012, Environmental Conservation Rules 2014, and relevant environmental standards through successful implementation of mitigation measures stated in the Environmental Management Plan (EMP) of Initial Environmental Examination (IEE) Report.

Yours Sincerely,

Win Aung
Managing Director
Amata International Co., Ltd.

Appendix 15: Commitment Letter for EMP Implementation

AMATA INTERNATIONAL COMPANY LTD.

No.10, Inya Yeik Tha Rd, Mayangone Tsp, Yangon, Myanmar.
Tel: 01 657050, 657690, 665126 Fax: 01 - 657050

သို့

ညွှန်ကြားရေးမှူးချုပ်
ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန
နေပြည်တော်။

ရက်စွဲ ။ ။ ၂၀၁၇ ခုနှစ်၊ ဇွန်လ၊ ၁၉ ရက်နေ့။

အကြောင်းအရာ ။ ။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်အား လိုက်နာဆောင်ရွက်မည်ဖြစ်ကြောင်း ဂတိကဝတ်ပြုခြင်း။

ရည်ညွှန်းချက် ။ ။ စာအမှတ် အီးအိုင်အေ - ၁/၇ (၉၆၃/၂၀၁၇)

အထက်ပါအကြောင်းအရာနှင့် ပတ်သတ်၍ Amata Garden Resort (Inle) အတွက် ကနဦး ပတ်ဝန်းကျင်ဆန်းစစ်ခြင်း (IEE) လေ့လာမှုများပြုလုပ်ထားပြီး အဆိုပြုပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ် (EMP) အစီရင်ခံစာအား တတိယအဖွဲ့အစည်းမှ ပြင်ဆင်ပေးထားသည်။ ထိုအစီရင်ခံစာတွင် ပါဝင်သည့် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ် (EMP) အားလုံးကို စီမံကိန်းအဆိုပြုသူ Amata International Company Limited မှ အကောင်ထည်ဖော်လိုက်နာဆောင်ရွက်မည် ဖြစ်ကြောင်း ဂတိကဝတ်ပြုအပ်ပါသည်။

လေးစားစွာဖြင့်

AMATA INTERNATIONAL CO., LTD.

အမည် - ဦးအောင်စန်း
ရာထူး - Liaison Manager
ကုမ္ပဏီ -Amata Hotel Group

Report Disclosure;

Disclosure at IFC web: https://disclosures.ifc.org/#/projectDetail/ESRS/37848

Amata Inle Lake: http://www.amatainleresort.com/category/news/

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