Draft Initial Environment Examination Report

Project Number: 48271-001
December 2014

PHI: Mactan Cebu International Passenger Terminal Project
(Philippines)

Prepared by Woodfields Consultants, Inc for GMR-Megawide Cebu Airport Corporation and the Asian Development Bank.

Draft Initial Environmental Examination

Mactan-Cebu International Airport Rehabilitation, Expansion and Operation (Philippines)

December 2014

Prepared for: GMR-MEGAWIDE CEBU AIRPORT CORPORATION

WOODFIELDS CONSULTANTS, INC.
A Planning and Engineering Consulting Firm
ISO 9001 : 2008 QUALITY MANAGEMENT SYSTEM

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ANNEX 11: GMCAC Presentation for Community Consultation

Abbreviations

ADB	Asian Development Bank
AMSL	AboveMean Sea Level
AOC	Airline Operators Council
ATM	Aircraft Traffic Movement
BCM	Business Chairman
BFL	Busted Fluorescent Lamp
BOD	Biochemical Oxygen Demand
CA	Concession Agreement
CAAP	Civil Aviation Authority of the Philippines
CAB	Civil Aeronautics Board
CCTV	Closed Circuit Television
CEA	Chief Executive Advisor
CENRO	Community Environment and Natural Resources Office
CLIP	Cebu Light Industrial Park
CLUP	Comprehensive Land Use Plan
COD	Chemical Oxygen Demand
CPDO	City Plannng and Development Office
CSR	Corporate Social Responsibility
DAO	Department Administrative Order
DENR	Department of Environment and Natural Resources
DepEd	Department of Education
DFMD	Door Frame Metal Detector
DMC	Developing Member Country
DO	Dissolved Oxygen
DOLE	Department of Labor and Employment
DOTC	Department of Transportation and Communications
DPWH	Department of Public Works and Highways
DSWD	Department of Social Welfare and Development
DTI	Department of Trade and Industry
ECA	Environmentally Critical Area
ECC	Environmental Compliance Certificate
ECP	Environmentally Critical Project
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EMB	Environmental Management Bureau
EMP	Environmental Management Plan
EPRMP	Environmental Performance Report and Management Plan
ESSD	Emergency and Security Services Department
FGD	Focused Group Discussion
FPIC	Free, Prior and Informed Consent
GAD	Gender and Development
GMCAC	GMR Megawide Cebu Airport Corporation
GMR	Grandhi Mallikarjuna Rao
GOCC	Government Owned and Controlled Corporation
GPS	Geographic Positioning System
GRC	Grievance Redress Committee
HR	Human Resource
IATA	International Air Transportation Association
ICAO	International Civil Aviation Organization
ICF SH&E	Inner City Fund Safety, Health, and Environment
IEC	Information, Education and Communication

IEE	Initial Environmental Examination
IFC	International Financial Corporation
ILS	Instrument Landing System
IP	Indigenous People
IRA	Internal Revenue Allotment
IRR	Implementing Rules and Regulations
LEED	Leadership in Energy and Environmental Design
LGU	Local Government Unit
MAEP	MCIA Airport Emergency Plan
MARS	MULTIPLE AIRCRAFT RECEIVING STAND
MCIA	Mactan Cebu International Airport
MCIAA	Mactan Cebu International Airport Authority
MCWD	Metro Cebu Water District
MEP	Mechanical, Electrical, and Plumbing
MEZ	Mactan Economic Zone
MGB	Mines and Geosciences Bureau
MIA	Mactan International Airport
MOA	Memorandum of Agreement
NCIP	National Commission on Indigenous Peoples
NEDA	National Economic and Development Authority
NGO	Non-Government Organization
NPCC	National Pollution Control Commission
OOG	Out of Gauge
OTS	Office for Transportation Security
PAF	Philippine Air Force
PAGASA	Philippine Atmospheric Geophysical and Astronomical ServicesAdministration
PCN	Pavement Classification Number
PCUP	Presidential Commission on the Urban Poor
PD	Presidential Decree
PEISS	Philippine Environmental Impact Statement System
PFZ	Philippine Fault Zone
PGA	Peak Ground Acceleration
PGR	Population Growth Rate
PHIVOLCS	Philippine Institute of Volcanology and Seismology
PNEL	Permissible Noise Exposure Level
PNP	Philippine National Police
PPE	Personal Protective Equipment
PPP	Public Private PartnershipPractice
PRM	Passengers with Reduced Mobility
PTB	Passenger Terminal Building
PWD	Persons with Disability
QSMR	Quarterly Self-Monitoring Report
RA	Republic Act
RWY	Runway
SDP	Social Development Plan
SMM	Safety Management Manual
SPS	Safeguard Policy Statement
SSS	Social Security System
STD	Sexually Transmitted Disease
STP	Sewage Treatment Plant
TESDA	Technical Education and Skills Development Authority
TN	Total Nitrogen
TP	Total Phosphorus
TSP	Total Suspended Particulate
PM	Particulate Matter

TSS	Total Suspended Solids
UPAO	Urban Poor Affairs Office
USGS	U.S. Geological Survey
VIP	Very Important Person
WCI	Woodfields Consultants, Incorporated
WEM	Work Environment Measurement

1. Introduction

The Government of the Philippines through the Department of Transport and Communication (DOTC) in conjunction with Mactan Cebu International Airport Authority (MCIAA) (together known as the "Grantors") has awarded the Project titled "Mactan Cebu International Airport Project" to a consortium comprising of GMR Infrastructure Limited and Megawide Construction Corporation, by way of Public Private Partnership (PPP) model on 22 April 2014. To this effect, a 25 year Concession Agreement (CA) has been granted to GMR Megawide Cebu Airport Corporation (GMCAC) a company incorporated by the consortium and registered within the Philippines.
The development works are planned to be executed in two phases.

- Phase 1 is for all the works to be developed for the requirements based on the forecasted demand upto the design year 2024
- Phase 2 is for all the works to be further developed for the requirements based on the forecasted demand upto the design year 2039

The operations and maintenance of the airport terminal shall be turned over by the Mactan-Cebu International Airport Authority (MCIAA) to GMCAC, beginning in November 2014 while MCIAA continues to have responsibility of airside operations. Part of the agreement is that the concessionaire shall expand the capacity of the existing airport by building a new passenger terminal which must be completed in 36 months from start of the construction date. This new terminal, to be placed right beside the existing passenger terminal, shall be devoted to international flights. Concurrent to the construction of the new terminal, GMCAC shall start the renovation works on the existing terminal, hereafter referred to as subject facility, which is expected to be completed in 48 months from the start of the date of construction.

In view of this, GMCAC has conducted an Initial Environmental Examination (IEE) on the subject facility, and requested Woodfields Consultants, Incorporated (WCI) to carry out the same. In response, WCI prepared the IEE based on the documents made available by GMCAC, and due diligence on existing facility. The subject facility has been visited and inspected by WCI. Key interviews with the airport's corporate management and employees, as well as representatives from nearby local communities, have also been carried out.

As part of this study, an Environmental and Social Compliance and Performance Review of the subject facility was carried out, which integrates the compliance and audit reviews with ongoing industrial practices and operation. These reviews include assessing the policies and practices of the MCIAA and GMCAC, its compliance with legislative requirements and ADB policies,and review of best environmental management practices.

2. Brief Description of the Project

Airport operations in Mactan Island started in 1966 with the inauguration of the Mactan Alternate International Airport (MAIA). MAIA was established as the replacement to the Lahug Airport located within Cebu City due to the physical and safety problems the old airport was facing. MAIA was later expanded to become the Mactan Cebu International Airport (MCIA) under the jurisdictions of the Mactan Cebu International Airport Authority(MCIAA)by virtue of Republic Act 6958 promulgated in 1990. **Figure 1** shows the location of MCIA.

The existing airport consists of a passenger terminal building with six aerobridges (serves both the domestic and international flights), a parking bay (425 x 295 m), a

parking ramp, two (2) aprons: south apron (250 x 100 m) and north east apron (220 x 95 m), a single runway, and General Aviation. **Table 1** shows the existing major facilities in the airport, and **Figure 2** shows the current layout of MCIA.

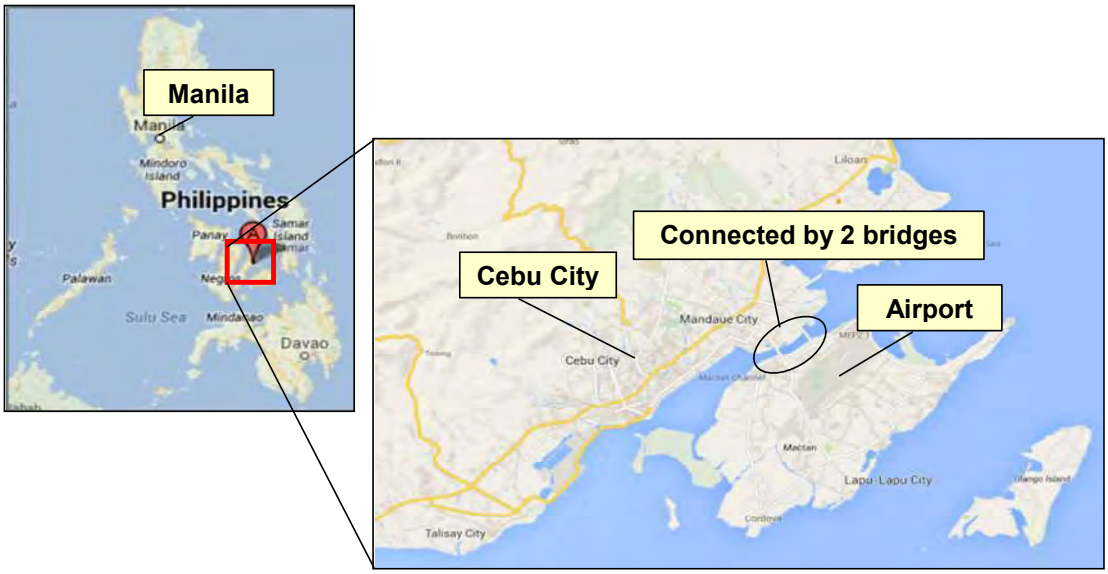


Figure 2-1
Location Map of the Project site

Table 2-1
Summary of the major facilities at MCIA.

Facilities	Dimension	Description
Runway	3,300m x 45m	Designation: 04-22, PCN 70/F/B/W/T
Approach category	-	ILS Cat I for RWY 04 and RWY 22
Parallel Taxiway	3,300m x 23m	With two Rapid Exit Taxiway and five Perpendicular Exit Taxiway
Civil Aviation Apron	113,350m^2	Six parking stands for B747 and A330 etc.
North-East Apron	220m x 95m	Five parking stands B737 and smaller aircraft
Passenger Terminal Building	Domestic: 18,575m^2 International: 19,950m^2	
Cargo Terminal Facilities	Domestic: 12,400m^2 International: 11,800m^2	Individual cargo handling facilities operated by airlines and logistics companies
Rescue and Fire Fighting	-	Meets ICAO Level 9

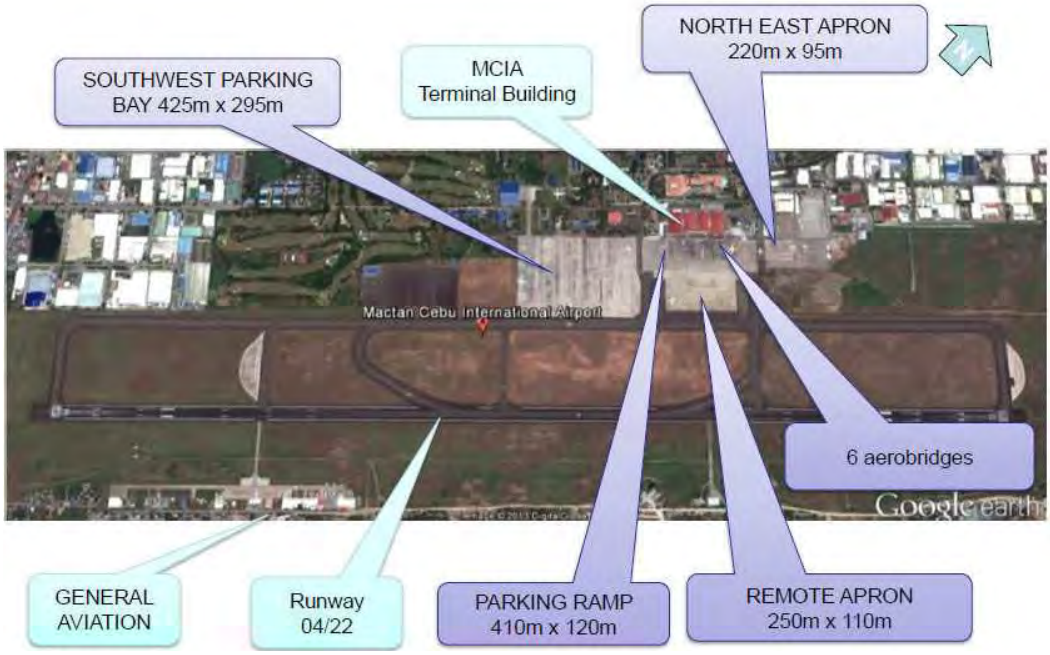


Figure 2-2
Current layout and study area of the subject facility

The annual International and Domestic passenger movements[1] from 1991 to 2011 are shown in **Figures 2-3a** and**2-3b**, respectively.

[1]Assistance for MCIAA for preparation of Mactan (Cebu) International Airport Improvement and Development Plans, 2013

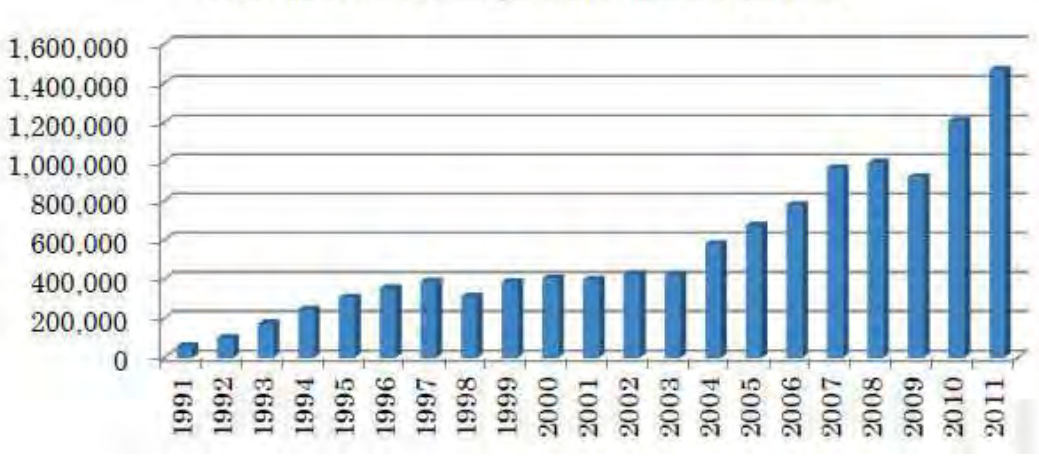


Figure 2-3a
International passenger movement at MCIA (source: JICA, 2013)

Figure 2-3b
Domestic passenger movement at MCIA (source: JICA, 2013)

The increasing trends on the movements of passengers, both domestic and international, provide merits for expanding the current capacity of the existing airport by building a new passenger terminal. **Figure2-4** shows site photos of some of the existing facilities in MCIA.

Flight Frequency

The international flight frequencies are estimated per aircraft for years 2024 and 2039, as shown in **Table 2-2**. The present-day flight frequency is represented by year 2014.

Table 2-2
International flight frequency

Aircraft	2014	2024	2039
	Flights/week	Flights/year	Flights/year
A320	54	5524	15240
A319		671	1851
A321	30	3069	8467
B 737	18	1841	5080
B 747	7	716	1976
A 330-300	5	511	1411
B 777-200	1	102	282
B 777-300ER	1	102	282
A340-300		102	282
B787		102	282

The domestic flight frequency will increase by 196.5% based on 2014 performance, and will further increase to 276.2% by based on 2024 performance.

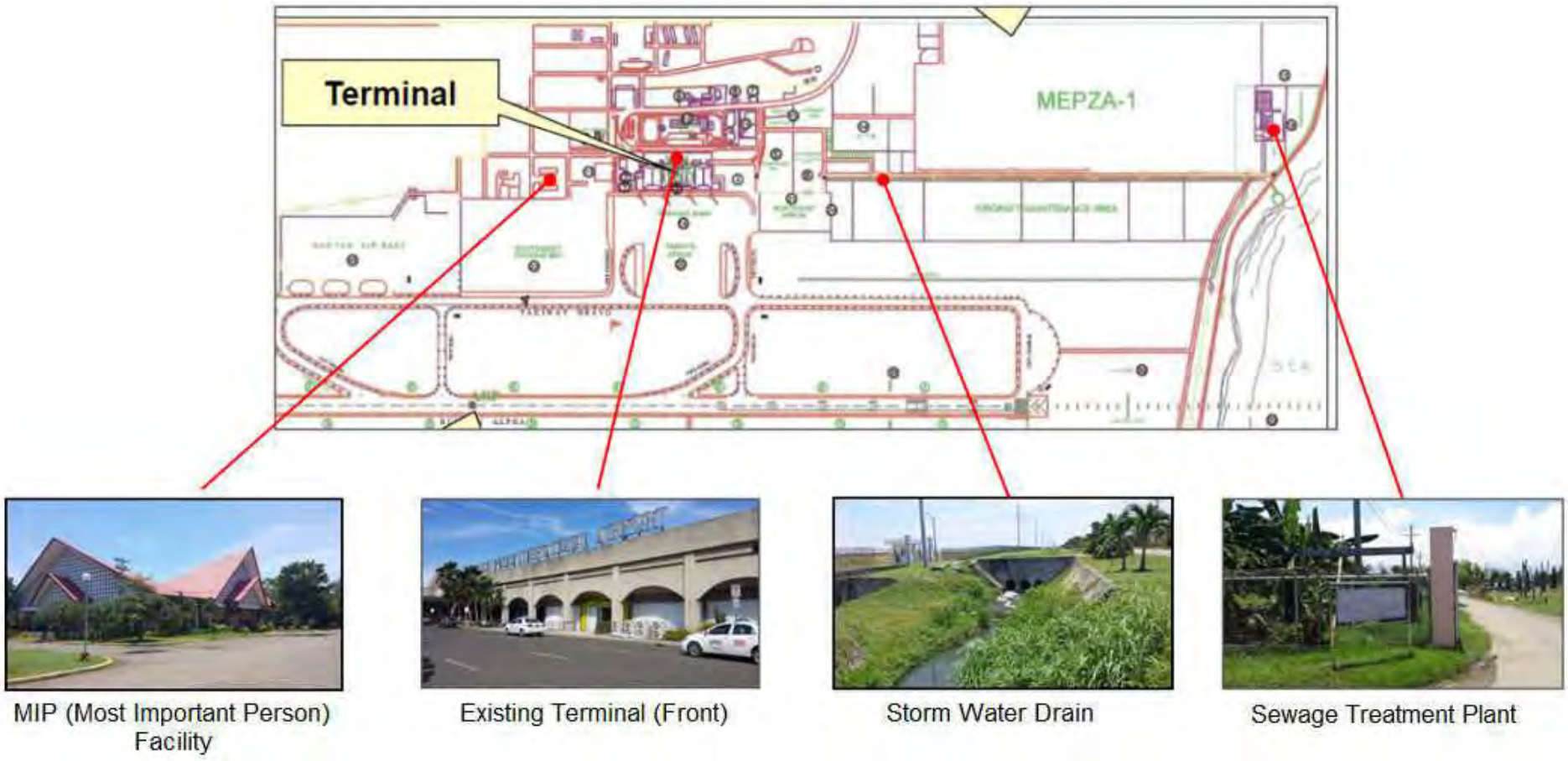


Figure 2-4
Photos and layout of MCIA including the subject facility

Passenger Terminal Building

The existing passenger terminal building, which was completed in 1998 under the MCIA Development Project[2], is being used to cater to both international and domestic passengers. The terminal building consists of two levels for passenger processing with small mezzanine level and roof level. The first level is used for arriving passengers, and the second level serves as the departureprocessing area. The original passenger handling capacity of the passenger terminal building was approximately 4.6 million passengers per annum (4.1 million domestic and 0.5 million international). In 2013, 5.2 million domestic and 1.5 million international passengers were processed in MCIA. A simple assessment would show that the capacity limit of the existing passenger terminal building has already been exceeded.

Apron

There are three aircraft parking aprons: i) the main apron in front of the existing passenger terminal building, ii) the northeast apron in front of the existing Reduced Mobility Operations (RMO) facility, iii) and the existing military apron which will be reconstructed for the new passenger terminal. The pavement for Code C aircrafts on the northeast apron is already seriously damaged and requires immediate reconstruction. A vacant area to the east of the northeast apron can be utilized for expansion of the northeast apron. The existing military ramp, built 50 years ago by the US Forces for C130 class aircraft, is still in fair condition, but its pavement will be reconstructed to be utilized as the new apron for the new international passenger terminal.

3. Planned improvements for MCIA

The general plan for the expansion and improvement of the existing airport is summarized as follows:

- Construction of T2, along with all Associated Facilities (such as car park, road network, Commercial Assets, Meeter Greeter Area)
- Renovation and expansion, but not the demolition of T1 and Associated Facilities;
- Complete reconstruction of T2 Apron;
- Capacity Augmentation in accordance with Concession Agreement;
- Development of adequate customer vehicle parking;
- Development of Commercial Assets;
- Installation of all required information technology and other equipment for the proper operation and maintenance of the above facilities.

The renovation of the existing terminal (T1) will be completed in 4 years, while the new terminal (T2), will be finished in 3 years, along with the completion of the landside development. The new apron will be completed in 18 months.

The development of the project will be spread into two phases: Phase 1 (2014 – 2024) and Phase 2 (2024 – 2039). Phase 1 pertains to all the developments based on the 2024 forecasted demands whilePhase 2 is for all further developments based on the 2039 forecasted needs.

For Phase 1, GMCAC will simultaneously build a new passenger terminal building (T2), renovate the existing terminal (T1), demolish and rebuild the existing PAF apron, and

[2] Assistance for MCIAA for preparation of Mactan (Cebu) International Airport Improvement and Development Plans, 2013

develop the landside for parking and commercial purposes all within the first 4 years of operation. **Figure 3-1** shows the planned completion schedule of the four developments for Phase 1.

Figure 3-1
Development plan and schedules for the new airport

T2 will be completed – along with the landside development– within the first 3 years of the project. T1, while still under continuous operation, will be renovated gradually within 4 years. The existing PAF apron will be demolished and rebuilt in 1½ years.

In building T2, some facilities of PAF will be affected, and according to the memorandum of agreement signed on the 15thof November 2013 between MCIAA and PAF (refer to **Annex 1** of the MOA), all the affected facilities of PAF will be replicated within the area defined by Presidential Proclamation 784 series of 1996, the reservation of 153.93 hectares of land from the airport lands for the Military Use purposes of PAF.

Phase 2 developments are planned to ensure that the capacity of the airport facilities are adequate up to year 2039. Construction, renovation, and other developments are planned to start in 2024.

Figure 3-2 and **3-3** shows the future layout of MCIA based on the proposed Master Plan for 2024 and 2039, respectively. The new terminal will be constructed adjacent to the existing terminal, but currently occupied by the Philippine Air Force (PAF). Based on a memorandum of agreement between MCIAA and PAF (signed on 15th November 2013) (refer to **Annex 1** for the MOA), all the facilities of PAF will be replicated prior to the construction of the new terminal.

Details of the proposed developments are elaborated in the following sections.

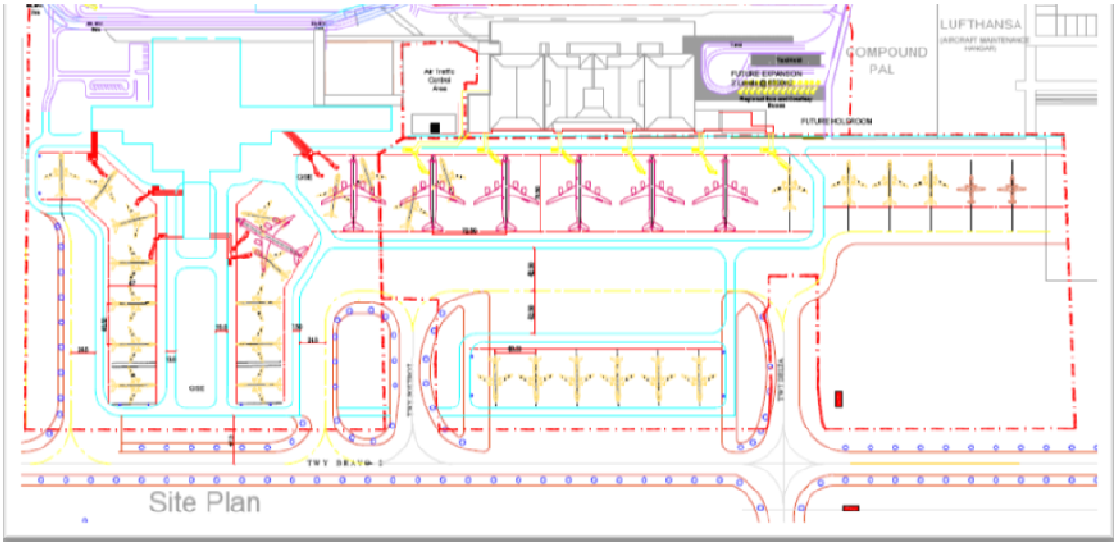


Figure 3-2
Layout of terminals & Apron – Year 2024 development

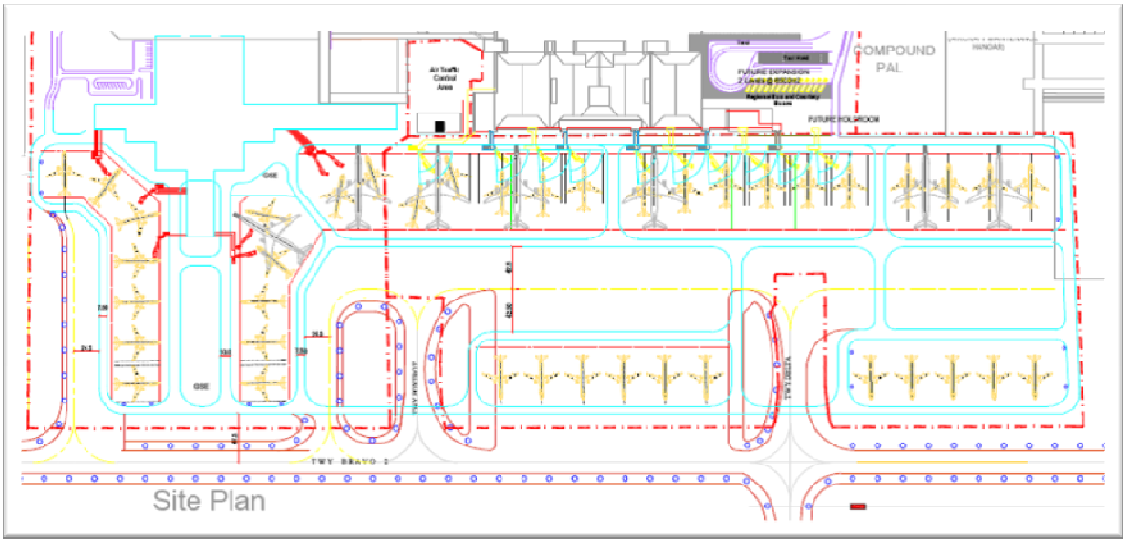


Figure 3-3
Snapshot of Terminals & Apron – Year 2039 development

3.1 Air Traffic Forecast

The master plan development plan of the concession is considerably anchored on the air traffic demand forecast. The traffic forecasting for Mactan Cebu International Airport has been done by ICF SH&E.

ICF SH&E is a premier transportation and tourism consultancy specializing in commercial aviation. For almost 50 years, it has provided real world solutions on a broad range of economic, financial, strategic and operational issues connected to the areas of airports,

airlines, and aviation. For the last three decades, ICF SH&E has spent advising airlines worldwide on strategic, financial, and marketing issues, bringing a unique perspective to airport consulting, and an in-depth and practical understanding on an airport's most important tenant base and largest source of revenue.

The analysis performed by SH&E considers historic and current traffic at the airport and provides details of future traffic expected during the concession period on an annualized basis and also busy hour.

Table 3-1 briefly shows the details of annualized passenger traffic for design years 2024 & 2039 are as follows:

Table 3-1
Projected passenger traffic for 2024 and 2039

Year	International Annual Passengers	Domestic Annual Passengers
2024	4,127,048	11,654,641
2039	8,068,000	20,243,972

Table 3-2 briefly shows the details of busy period passenger traffic for design years 2024 & 2039 are as follows:

Table 3-2
Projected busy periods for 2024 and 2039

Year	International	Domestic
2024	Arriving 30th Busy day of year – 4664 30th Busy hour of year – 1216 Departing 30th Busy day of year – 4390 30th Busy hour of year – 878 Both Ways 30th Busy day of year – 8952 30th Busy hour of year – 1975	Arriving 30th Busy day of year – 13198 30th Busy hour of year – 1574 Departing 30th Busy day of year – 13140 30th Busy hour of year – 1492 Both Ways 30th Busy day of year – 26337 30th Busy hour of year – 2820
2039	Arriving 30th Busy day of year – 8660 30th Busy hour of year – 2082 Departing 30th Busy day of year – 8580 30th Busy hour of year – 1676 Both Ways 30th Busy day of year – 15158 30th Busy hour of year – 3344	Arriving 30th Busy day of year – 22915 30th Busy hour of year – 2733 Departing 30th Busy day of year – 22814 30th Busy hour of year – 2591 Both Ways 30th Busy day of year – 45730 30th Busy hour of year – 4899

Table 3-3 shows details of annualized air traffic movements for design years 2024 & 2039.**Table 3-4** shows details of the busy period air traffic movements for design years 2024 & 2039.

Table 3-3
Projected air traffic movement for 2024 and 2039

Year	International Annual ATM	Domestic Annual ATM
2024	22856	91546
2039	38315	122832

Table 3-4
Air traffic movements on 2024 and 2039

Year	International	Domestic
2024	Arriving 30th Busy day of year – 36 30th Busy hour of year – 9 Departing 30th Busy day of year – 32 30th Busy hour of year – 6 Both Ways 30th Busy day of year – 63 30th Busy hour of year – 14	Arriving 30th Busy day of year – 139 30th Busy hour of year – 13 Departing 30th Busy day of year – 135 30th Busy hour of year – 11 Both Ways 30th Busy day of year – 263 30th Busy hour of year – 22
2039	Arriving 30th Busy day of year – 49 30th Busy hour of year – 13 Departing 30th Busy day of year – 44 30th Busy hour of year – 10 Both Ways 30th Busy day of year – 86 30th Busy hour of year – 20	Arriving 30th Busy day of year – 168 30th Busy hour of year – 16 Departing 30th Busy day of year – 163 30th Busy hour of year – 15 Both Ways 30th Busy day of year – 317 30th Busy hour of year – 28

Table 3-5 shows details of 30th busy hour fleet mix of aircraft for design years 2024 and 2039, and **Table 3-6** shows the expected air traffic movement of aircraft mix in 25 years.

Table 3-5
30th busy hour fleet mix for 2024 and 2039

Aircraft Type	2024	2039
International		
Code C	10	14
Code E	4	6
Domestic		
Code C	22	27
Code E	0	1

Table 3-6
Aircraft mix

Aircraft Type	Expected ATM's in 25 years
Airbus A320	192,844
Airbus A319	23,451
Airbus A321	107,135
Boeing 737-800	64,281
Boeing 747-400	24,998
Airbus A 330-300	17,856
Airbus A 340-300	3,571
Airbus A 340-600	3,571
Boeing 777-200	3,571
Boeing 777-300 ER	3,571
Boeing 787 Dreamliner	3,571

3.2 Aircraft Stand Planning

Stand Occupancy Times for Domestic. **Table 3-7** shows the aircraft stand requirement for Domestic flights.

- Code C aircraft – 45 minutes
- Code E aircraft – 60 minutes

Table 3-7
Aircraft Stand Requirement for Domestic

Year	Aircraft Type	Number of Stands
2024	Code C	17
2024	Code E	0
2039	Code C	21
2039	Code E	1

Stand Occupancy Times for International is shown below. **Table 3-8** shows the aircraft stand requirement for international flights.

- Code C aircraft – 45 to 60 minutes
- Code E aircraft – 75 to 90 minutes

Table 3-8
Aircraft Stand Requirement for International

Year	Aircraft Type	Number of Stands
2024	Code C	10
2024	Code E	4
2039	Code C	10
2039	Code E	6

The peak stand demand of domestic operations is estimated as 17 Code C in 2024. Stand availability shall be met as follows:

- 6 Code C contact stands of domestic Terminal
- 5 Code C remote stands opposite to domestic terminal
- 3 Code C stands of north-east apron as remote
- 2 Code C stands of T2 Terminal which is designed for swing operations between Terminals
- 1 Code C remote stand close to T2

The estimated numbers of boarding passengers for Terminals 1 and 2 for the years 2024 and 2039 are shown in **Table 3-9**.

Table 3-9
Number of Passenger Boarding Bridges

PBBs	Terminal 2		Terminal 1	
Available in year	2024	2039	2024	2039
Total Number	7	12	6	10

With above number of stands, we will be able to achieve more than 90% of International ATM's through contact stands as required by Concession Agreement.**Table 3-10** shows the number of remote stands for each terminal and apron.

Table 3-10
Number of Remote Stands

Remote stands	Terminal 2		Terminal 1		North & South East Apron	
Available in year	2024	2039	2024	2039	2024	2039
Total Number	7	2	6	6	3	9

In the year 2039 the airport will have up to 40 numbers of Code C stand configuration to cater to the traffic needs for 2039.

3.3 Airside Roads

The new development envisages an efficient airside road network consisting of apron head-of-stand road 10m wide, an aircraft tail-of-stand road 7.50m wide and intermediate connecting roads 7.50m wide.**Figure 3-4** shows the layout of the airside roads for the 2024 development.

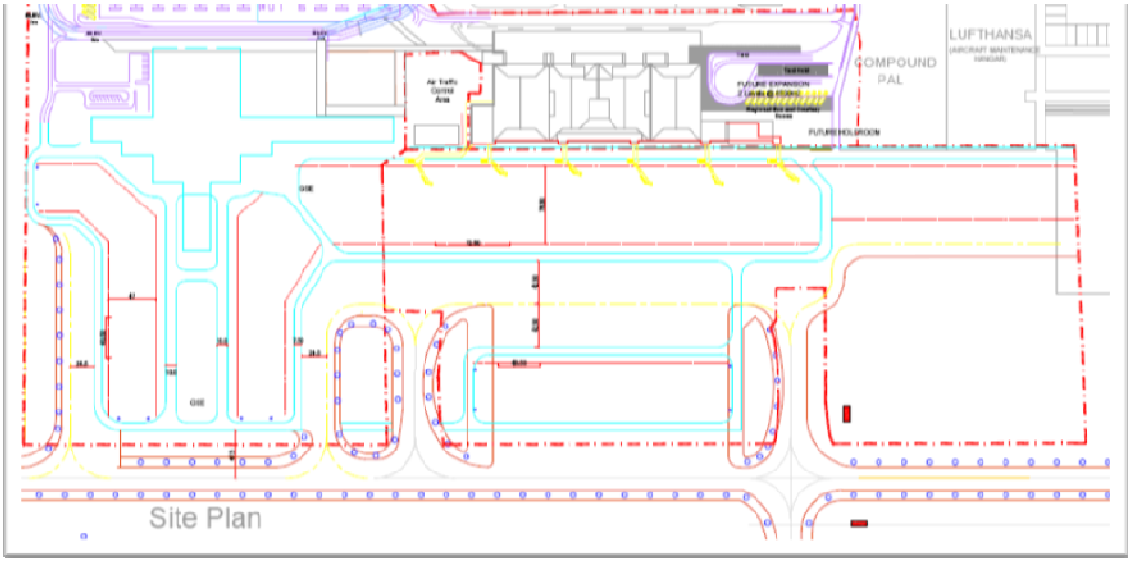


Figure3-4
Layout of Airside roads – 2024 development

3.4 New Terminal Building

3.4.1 Design basis

Terminal with state of the art technology is planned to be built in three levels keeping in mind the segregation of arriving and departing passengers. Sizing of the terminal was determined based on the International Air Transport Association (IATA) service level "C" calculations, Traffic forecast, Minimum Performance Standards and Specification (MPSS requirements), various standards & specifications mentioned in the concession agreement, passenger convenience and comfort.

3.4.2 Concept and Size

As per concession, a new terminal T2 building is to be developed and constructed for the International sector flights on the West side of existing air traffic control (ATC) tower and Terminal 1**. Figure 3-5** shows a conceptual layout of Terminals 1 and 2.

International terminal with 3 piers flexible to accommodate swing operations, segregation of arrival and departing passengers by levels, with no pre-check-in baggage screening, in-line screening, efficient passenger and baggage flow, process efficient, energy efficiency, people with reduced mobility (PRM)-friendly are some of the key principles while conceptualizing the terminal layout. The look and feel shall reflect local Cebuano architecture.

Terminal 2 (Phase 1) is designed with a terminal floor space of approximately 44,000 sqm with facilities to process international departing and arriving passengers to Cebu. Requirements for passenger facilities, commercial services for Phase 2 have been estimated and an additional area of 10,900 sqm is provided and is sufficient to meet the traffic demand.

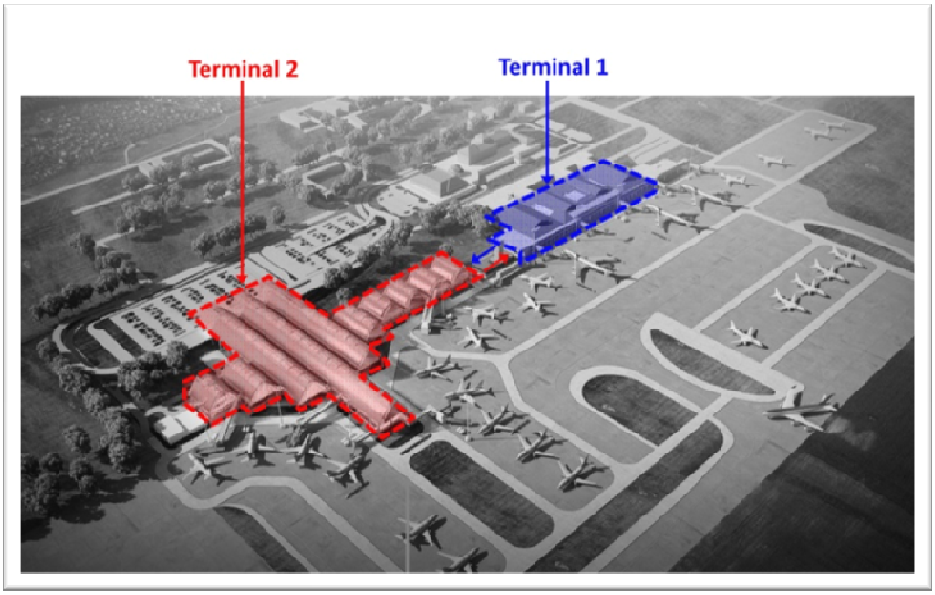


Figure 3-5
Layout showing the passenger terminal (Terminal 1) and international terminal (Terminal 2)

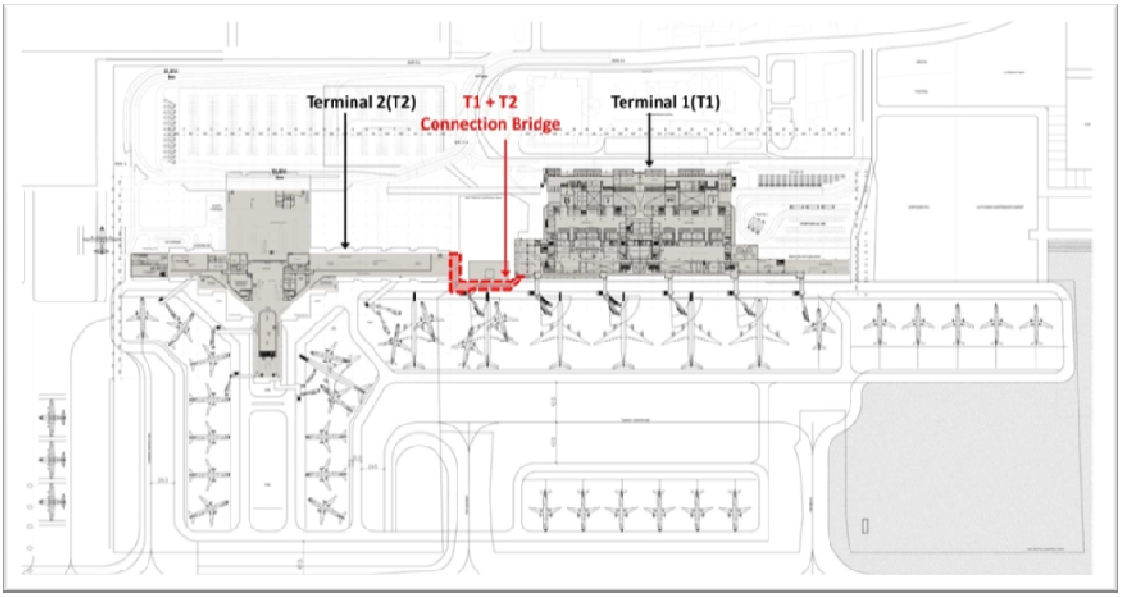


Figure 3-6
Layout of terminal T1 and terminal T2 connected by a bridge

The arrangement of swing operations between domestic and international operations, whilst providing connectivity for transfer passengers to transit between domestic and International flights is achieved by the connecting bridge between the two terminals as shown in **Figure 3-6**.

3.4.3 Building Heights& Levels

Terminal 2 datum levels are designed with Departure level being at +9m, Arrivals / Immigration at +4.5m and baggage reclaim / Apron level considered at ±0.0m.

The floor height of 4.5m for arrivals floor plate is derived to provide minimum headroom clearance of around 4.0m underneath fixed link bridges for airside vehicles. The 4.5m difference between arrivals floor plate and departure floor plate ensure that 3m clear false ceiling height is achieved in arrivals corridor and immigration areas after deducting the structural depth and MEP services. The baggage reclaim hall is designed as double height volume underneath the check in hall which provides sufficient space for check in hall feeder belts to route through the plenum space still providing 6m clear false ceiling height in the baggage reclaim hall. **Figure 3-7** shows the layout of proposed building levels. The arrivals level of terminal 2 provides seamless connectivity to Terminal 1 at +5.5m with a gentle ramp to make up the level difference of 1m.

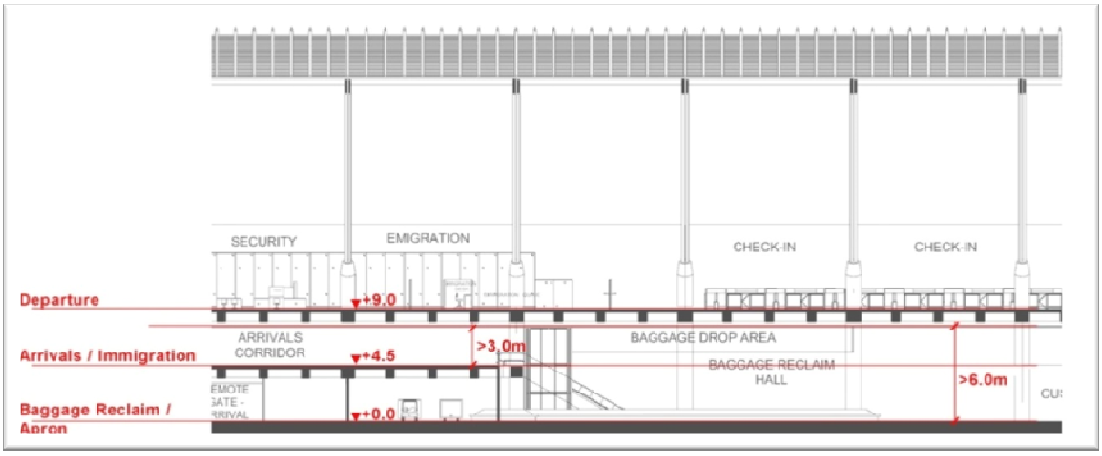


Figure 3-7
Layout of proposed building levels

3.4.4 Landside Connectivity

The existing approach road to Terminal 1 will be further extended to Terminal 2 with an elevated road network connecting to the departure forecourt at +9.0m and on grade road connecting the arrivals pickup below as shown in **Figure 3-8**. The vehicles departing the forecourt after dropping off the passengers will continue further and ramp down to alight back to merge with the existing road edge. Sufficient landside car park, Bus Park and taxi stands will be developed as an integral part of the commercial development.

Figure 3-9 shows the layout of the proposed upper level road network. The access road for the arrival area (located at the upper level) is depicted by the “pink” color, while the blue color indicates a portion of T2. Loading bays and VIP lounge is located on the landside of western pier providing on grade access leading from T2 arrivals road. The same road connects to the airside road after passing through a security check post.

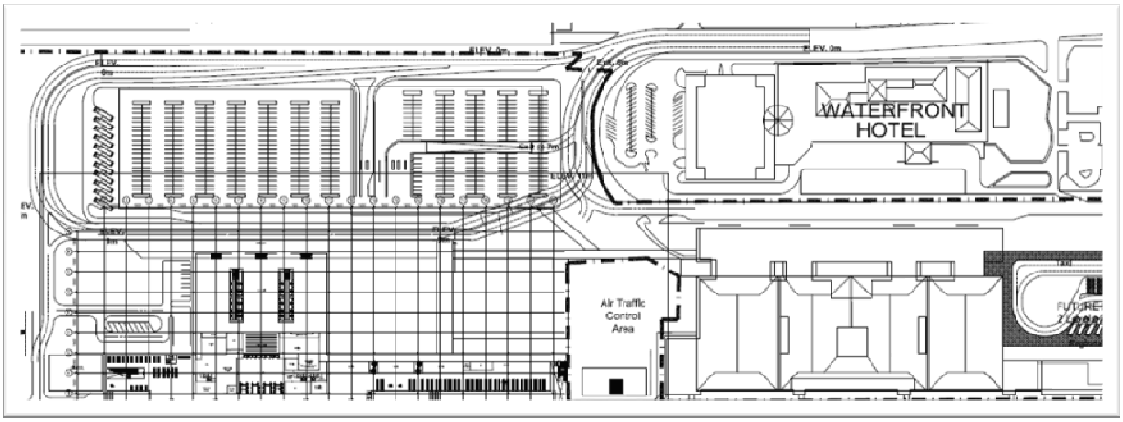


Figure 3-8
Proposed lower level road network

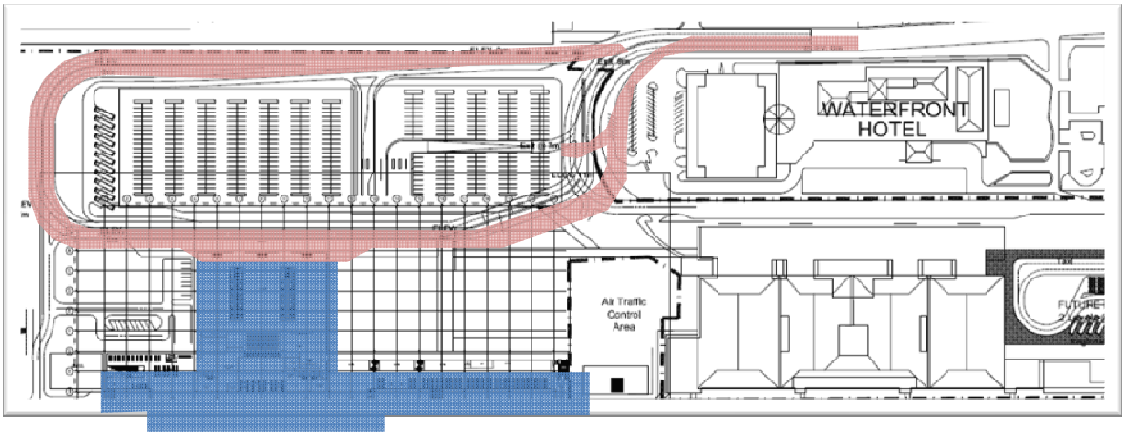


Figure 3-9
Proposed development of upper level road network

3.4.5 Passenger Flows

Departing passengers alighting at the departure kerb at +9.00 m level shall walk into the terminal at the same level into the check-in hall. After check-in, the passenger walks towards the airside passing in a linear fashion through the immigration and security checks. After security, the passenger will be directed into the security hold areas interlined with retail into the three piers at the same level. The remote gate hold areas are positioned at the ground level +0.00 m towards the west end of the terminal. After security clearance, the passengers shall reach the remote boarding gate by level change arrangements of lift, staircase and escalators. Boarding of contact stands will be through a fixed link bridge connected to the departure level except for fixed link connecting to a MARS stand in the southern pier at arrival level wherein the passengers shall change level before entering the fixed link bridge.

Passengers arriving by contact gates, shall enter through the fixed link bridge into the arrival level at +4.50 m level and are directed into the immigration hall. While passengers from remote gates shall be dropped off at the apron level +0.00 m level shift level to +4.50 m level

into the immigration hall. After immigration clearance, the passengers move into the baggage reclaim hall at +0.00 m level and are moved through set of level changers. After collecting the baggage, the passengers cross the Custom's area and reach the airport village for further departure into the city side.

The terminal design shall enable smooth moving of passengers transferring at the airport from International to International, International to Domestic and Domestic to International. **Figures 3-10** and **3-11** depict the passenger movements in terminal during Phase 1 and 2 of the Project.

3.4.6 Baggage Flows

Departures baggage flow

In the new terminal building, Baggage Handling System with inline screening is proposed to handle departures baggage. Baggage flows process is described below:

The departures system consists of two check-in islands with 24 counters each. The hold baggage check-in at a particular check-in island gets inducted into the system and travels through the transport conveyors from departures level to arrivals level wherein Level 1 automatic screening machines are proposed to be located. From the Level 1 screening, cleared bags are transported to the baggage make-up area through conveyors which are located at a high level in the double height space. The un-cleared bags undergo Level 2 screening by an operator and cleared bags are transported to the make-up area. Un cleared bags from Level 2 screening are transported to a Level 3 machine located near the baggage make-up area on ground floor. After completion of necessary Level 3 or Level 4 screening, these bags are manually transported to the make-up area.

The baggage make-up area has two make-up carousals which are used for making up departures baggage on containers or dollies for each flight. From the baggage make-up area, containers / dollies are transported to the apron stand for loading.

Out of gauge (OOG) Baggage: The OOG baggage will be subjected to a standalone screening at the departures level and will be transported to the baggage make-up area through an elevator. The OOG bags will be stored in the make-up area before being taken to the apron for loading into the aircraft.

Arrivals baggage flow

The arrivals baggage handling system comprises of four reclaim carousals located in the baggage reclaim hall. These reclaim carousals are fed through in-feed conveyors located behind the reclaim hall. The arrivals baggage is off loaded from aircraft and brought into baggage break up area where they are off loaded into in-feed conveyors. Passengers collect their baggage from reclaim carousal and leave the reclaim hall through customs channels into the airport village area

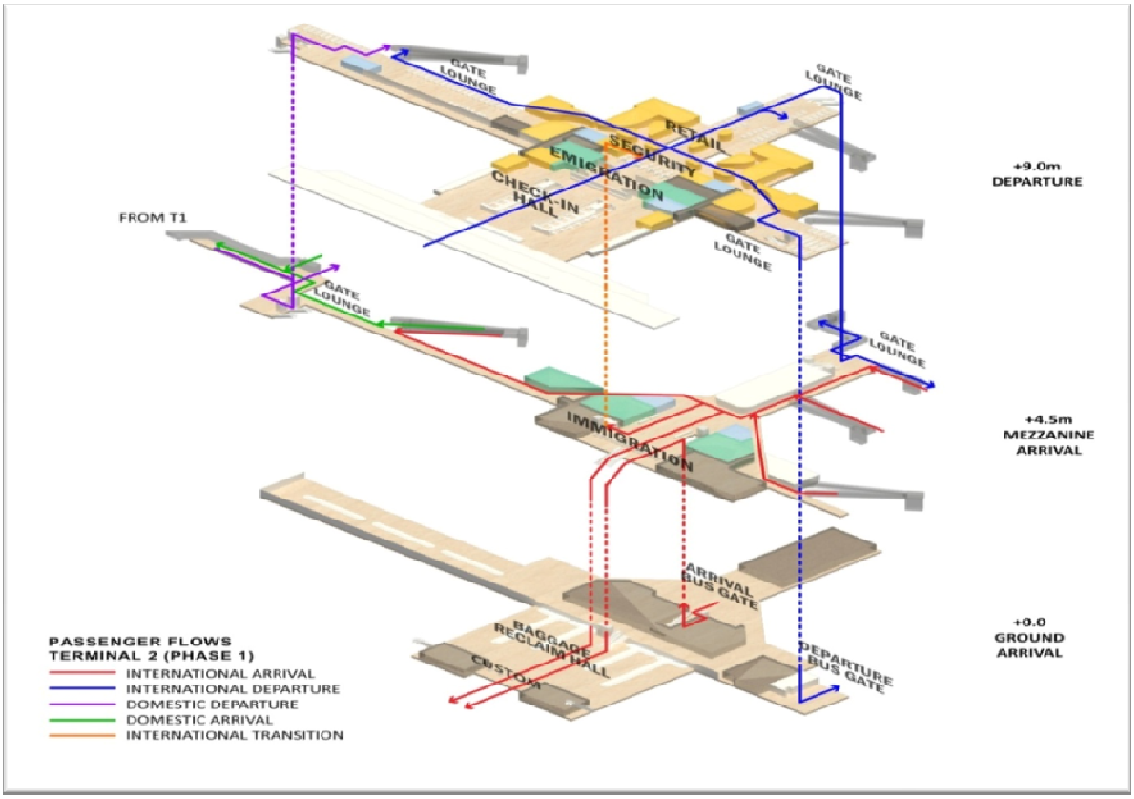


Figure 3-10
Passenger flow in Terminal 2 (Phase 1)

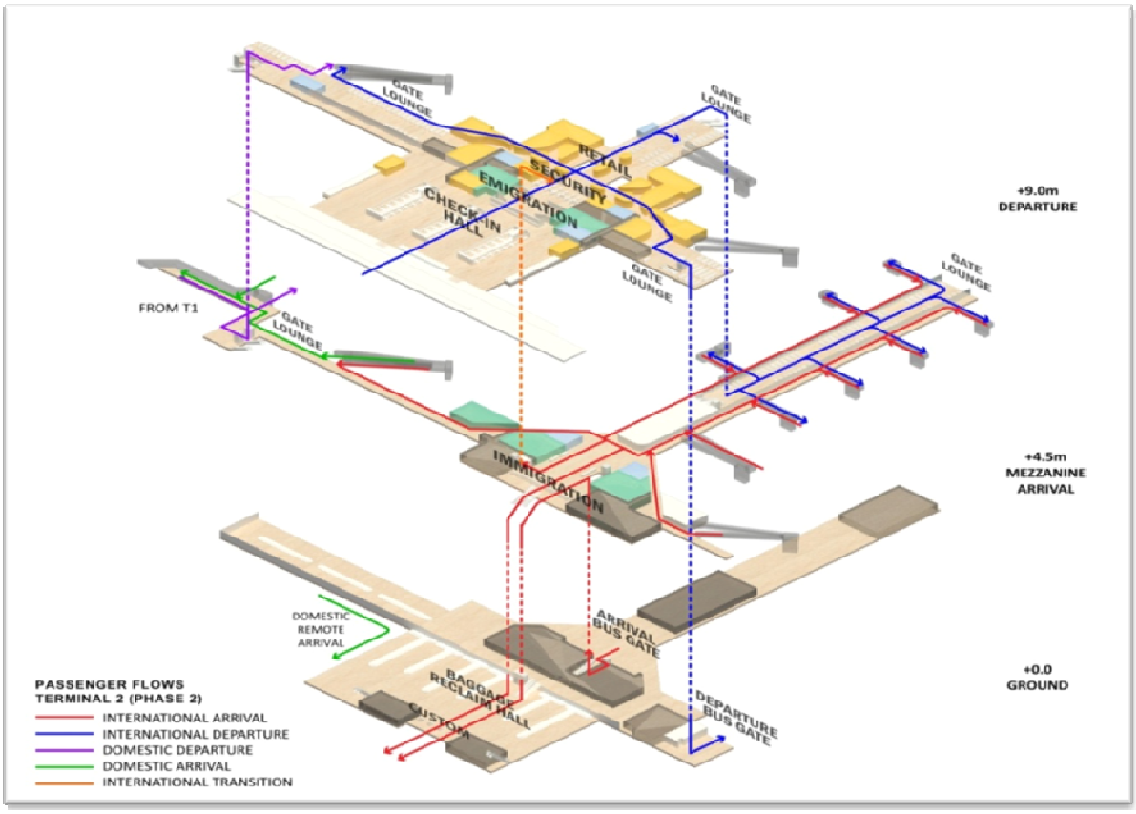


Figure 3-11
Passenger flow in terminal 2 (Phase 2)

3.4.7 Specific provisions for Disabled/ Passengers with Reduced Mobility (PRM)

Terminal 2 will be designed to comply with Philippine Accessibility Law and the Philippines Magna Carta for Disabled Persons by satisfying the requirements of PRM. The terminal is designed to have minimal level changes with ramps, Lifts provided to assist passengers where level change is required. Toilets for disable persons will be provided at major locations along with other toilet facilities. (Tactile protection will be provided as required by regulations.) The facility counters specifically designed to adjust to wheelchair height will be provided at the end of aisle to assist PRM passengers with increase aisle width between the counter and assisted at security X-ray screening.

3.4.8 Specific provisions for nursing mothers and baby changing rooms/ space.

Both terminals 1 and 2 shall have provisions for nursing mothersin compliance to Section 10 of the implementing rules and regulations of RA 10028, otherwise known as “An act providing incentives to all government and private health institutions with rooming-in and breastfeeding practices and for other purposes”.

Moreover, recognizing the needs of various passengers including parents and small children, changing rooms for babies (installed in specific male and female wash room areas) shall be provided as well.

3.5 Phased expansion Strategy

The developments through the concession will cater to two design Phases (2024 and 2039) which will provide sufficient passenger facilities, operational areas to fulfill the expected Air traffic movements and peak passenger growth for both Terminals.

Phase 1 will provide fully functional passenger processing Terminal 2 for International traffic whilst converting Terminal 1 for domestic traffic as shown in **Figure 3-12**.

Phase 2 will be expanding terminal 2 towards east adding processing facilities like check in aisle at departure and baggage reclaim belts at arrivals and extending southern pier to increase contact stands by 5 nos. of Code C as shown in **Figure 3-13**. Total area increase is considered as approx.10,900 sqm for Terminal 2.

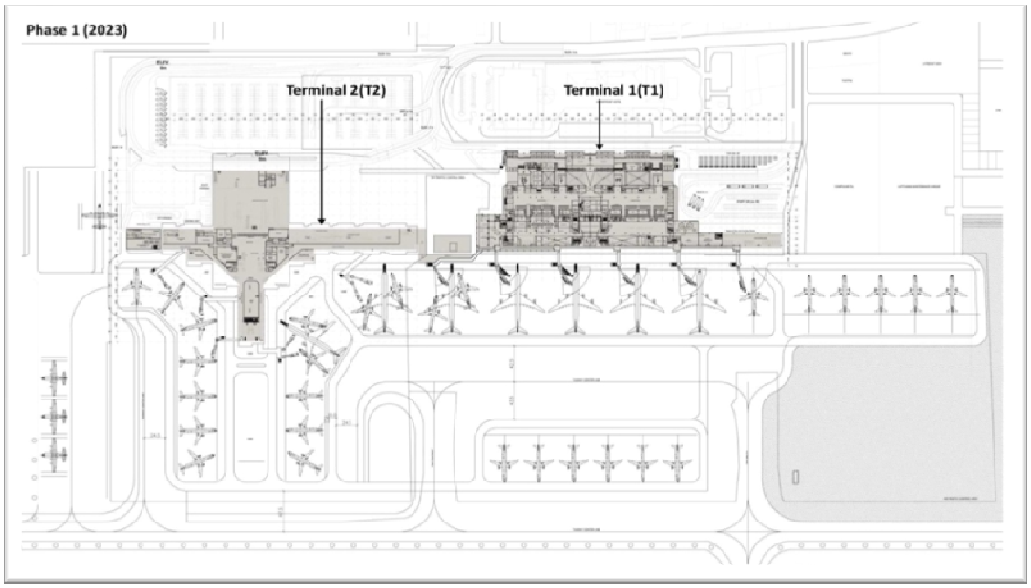


Figure 3-12
Phase 1 Expansion

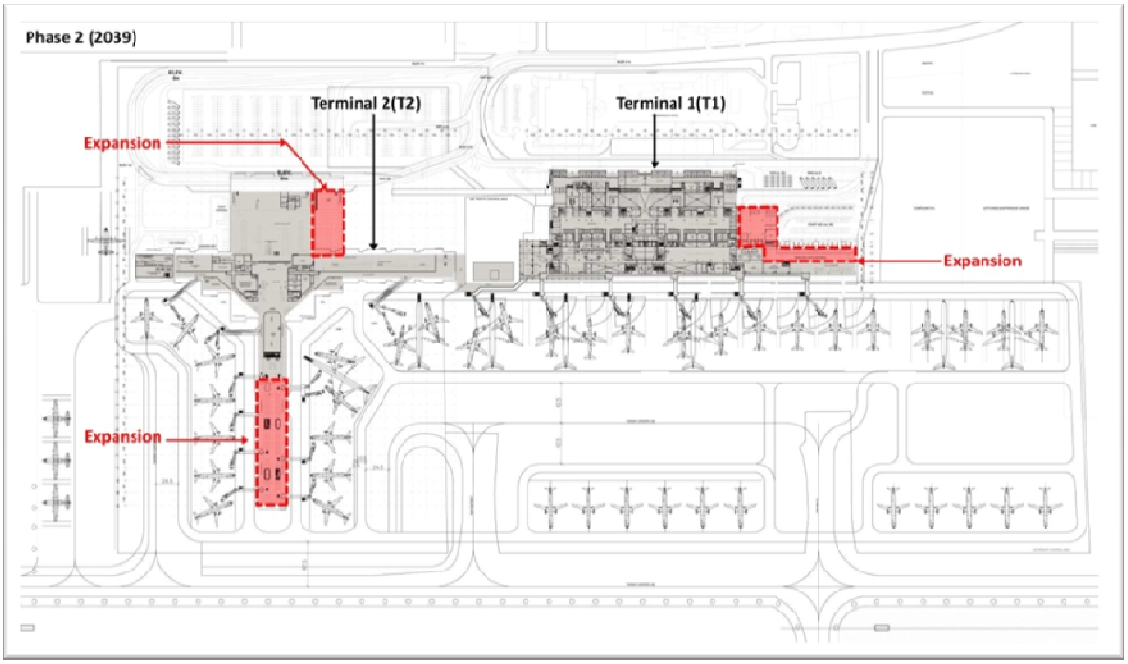


Figure 3-13
Phase 2 Expansion

Demand – Capacity Analysis

As per traffic forecast, the international passenger traffic will reach 4.1 and 8.1 million per annum by 2024 and 2039, respectively. The peak hour (1200H – 1259H) international passenger traffic as per forecast for these years are shown in **Table 3-11**:

Table 3-11
Passenger traffic forecast for 2024 and 2039 during peak hour.

Year	2024	2039
Arrival	1,216	2,082
Departure	878	1,676
Total	1,975	3,344

Summary of Terminal 2 Area
The terminal area requirement during Phase 1 and 2 are shown in **Table 3-12**.

Table 3-12

Area requirement during Phase 1 and 2

	Phase 1	Phase 2
Departure Level	18,092	20,129
Arrival Level	11,904	16,230
Ground Level	14,353	18,890
Total	**44,349**	**55,249**

Note : Above area calculations are estimated factoring deductions and cut-outs in the floors.

In addition to the information in **Table 3-12**, the following are also part of the new terminal:

Fixed link bridges having a total area of 937 sqm.
Two & half levels utility block planned to the west side of Terminal T2 with a foot print of 962 sqm.

3.6 Landside Development

Landside development comprises of Road network, Car Park, Commercial Assets, Airport Village (Meeter-Greeter Area).

3.7 Road Network Development

An efficient road network has been planned considering the limited land availability. Following points have been considered in the process of design:

- Airport road network is connected to the 4-lane main access road leading to the city forming a loop near the airport and the vehicles have to return using the same road. This will not entail acquisition of additional land.
- Separation of domestic and international Passengers vehicular flows – Since the two terminals are standalone buildings, the vehicle flows to domestic and international terminals have been separated to reduce congestion in front of the terminals and will also facilitate the availability of adequate kerb lengths.
- Signal-free crossings – The road network is planned in such a way that there will be no traffic signals required and therefore the traffic flow will be free flowing in the airport vicinity. This is achieved by means of providing grade separating roads.
- Kerbside – Presently terminal T1 is equipped with a two level kerb side separating arrival and departure levels. Departure level kerb side will continue to exist while arrival kerb will be modified for arriving passengers. As per CA, T2 shall be equipped with a two level kerb side which is also being implemented. Currently we have proposed a 3 lane ramp which will be validated during detailed design for adequacy of lanes. The availability of the kerb side lengths has been assessed for both 2024 and 2039 phases and is found to be adequate. Detailed calculations will be provided during the detailed design phase. Part of the kerb side will also serve a holding position for tourist bus considering the aspect that Cebu is a tourist place.
- To meet vehicular traffic requirements till the 25th year of concession i.e. 2039.

- Account the vehicular traffic arising out of Commercial development – The road network to and fro to the Commercial Development areas are planned in such a way that the flow is gradual and mixes with the normal traffic flow.

Currently, the main access road to the airport branches out of a city main road. It provides two decision points the first one offering choice to go to cargo terminal and the second one to the passenger terminal. A new road (< 500m) within the airport will be developed,the alignment of which would pass through the existing motor workshop (which needs to be relocated) and will extend towards the project land earmarked for T2 thereby creating a 'T' junction.

Passengers approaching T2 will continue to travel this main access road which will be 4 lanes. The four lane road will provide third decision point at an appropriate distance for arrival and departure levels. As specified in CA, T2 should be provided with a 2-level kerbside and therefore demands construction of an elevated road way. Departing passengers will take the elevated road way and arrival passengers will continue to travel at grade level. The departure level is 9m above the grade level approximately. Therefore a gradually ascending ramp from the main access road will be built.

The ascending ramp will be two lanes at the entry point and widens to 3 lanes as it reaches the departure level. At the departure level, the three lane road will continue to be flat and will also provide adequate drop off zone for cars and buses. Further, three lane road will converge to a two lane descending ramp to reunite the passengers to the main access road. The road leading to arrival level of T2 will continue to be grade level and will diverge to a four lane road in front of T2 and will further continue to meet the main access road.**Figures 3-14** and **15** show the traffic flow at the departure and arrival areas of T2, respectively.**Figure 3-16** shows the future traffic flow at T1

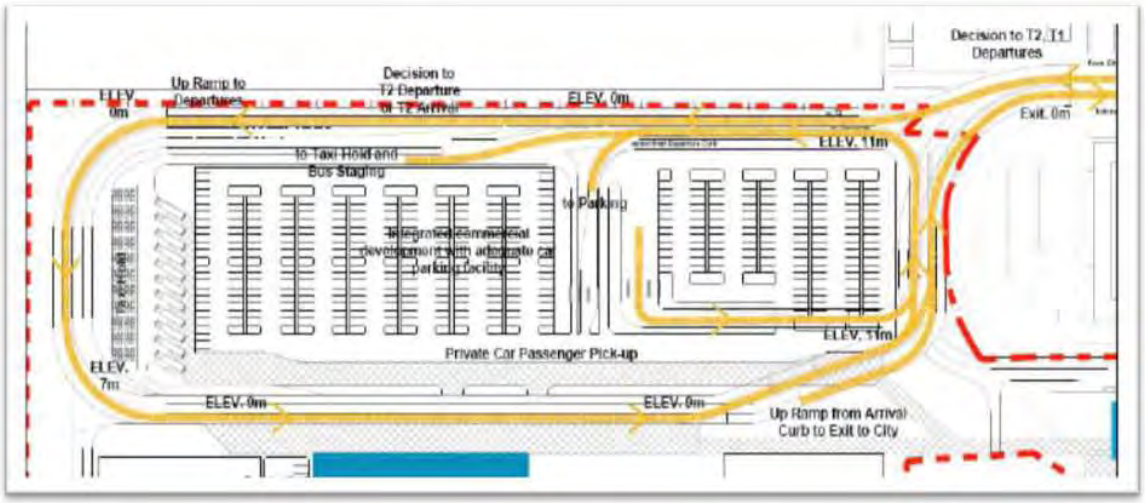


Figure 3-14
Departure traffic flow at T2

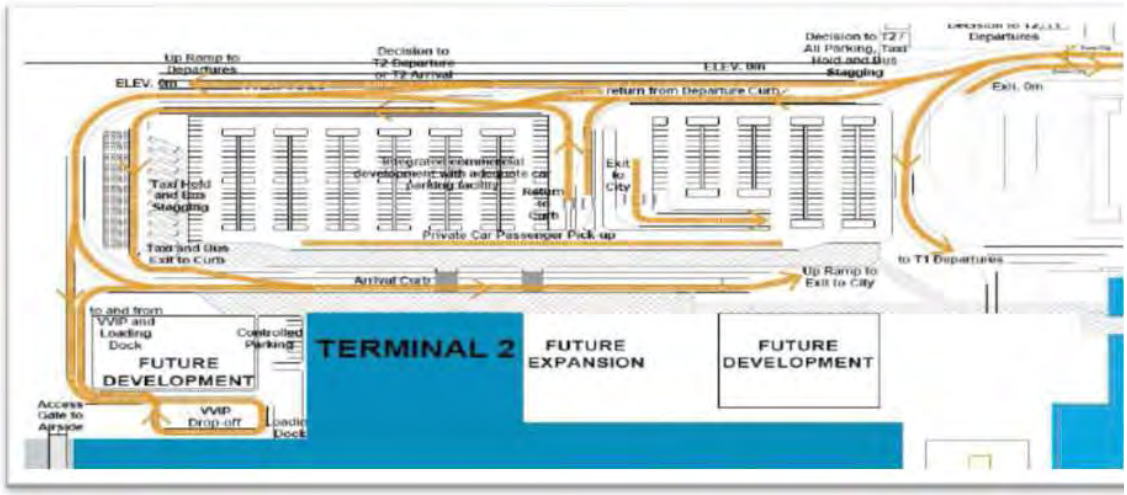


Figure 3-15
Arrival traffic flow at T2

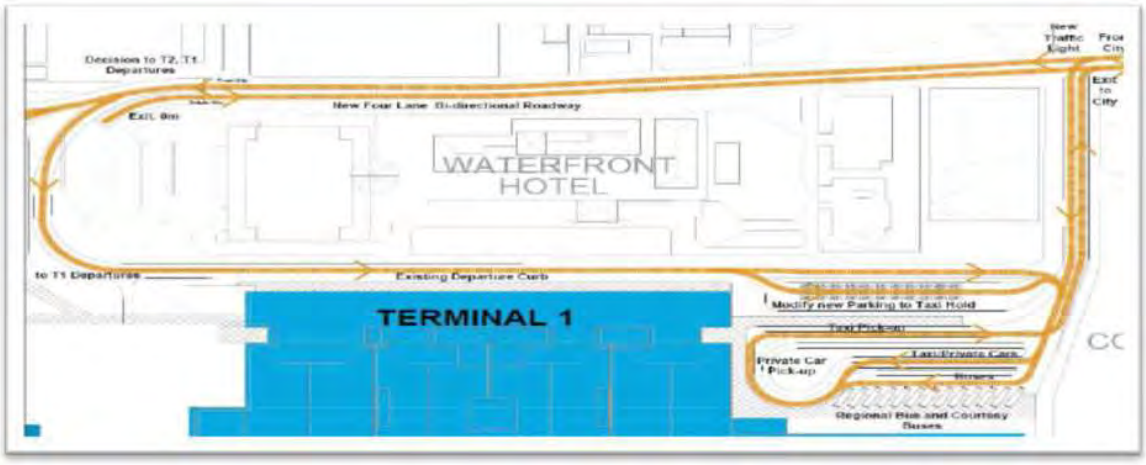


Figure 3-16
Future traffic flow at the arriving gate of T1

Passengers approaching T1 will take a left turn at the second decision point and will proceed to reach departure level of T1. They can proceed further to exit T1 and meet the traffic on main access road i.e. current flow model will continue as it is. For the T1 arriving passengers, a new road loop will be created on the east side of a terminal which will cater to the to and fro movement of arriving passengers of T1. Also, a taxi / cars staging area will be created to facilitate the staging of vehicles for early pick up of passengers.

The overall road network will be equipped with appropriate way finding signage to facilitate decision making for the passengers. Adequate lighting for road network will be provided as per the lux levels specified in Philippines local regulations.

3.8 Airport Village (Meeter/Greeter Areas)

A new meeter-greeter space has been planned at arrival level to cater to the needs of meeters and greeters. It has been observed that meter-greeters are in- convenience due to lack of protected space provided to them With the revised arrival road scheme for T1, the existing four lane arrival road at T1 will be converted to an Airport village. This area is proposed to be served by natural light coming from the skylights coming out the openings at the departure levels. These openings will be covered by canopies to protect from weather.

For the new terminal T2, Airport village will be developed at arrival level in front of the façade of the building.

3.9 Car Park Development

The demand is estimated to be at 550 car park slots for design year 2024 and 650 Car park slots for design year 2039.The car parking slots will be completed and commissioned along with New Terminal T2.

Necessary space will be allocated for providing the requisite car parks in the proposed commercial development area.To facilitate the passenger movement from T1 to car park, covered walkways will be developed. The existing car park for staff will continue to exist near the east side of T1. However this will be re-aligned or modified as per the T1 road network development.
The details of the project captured in this document are as captured from the Preliminary Design submitted to the Grantors.GMCAC is progressing the detailed design and more improvements are expected to be incorporated in finer details.

4. Environmental and Social Standards, Policies and Regulatory Framework

4.1 MCIAA and GMCAC Concession Agreement

In Section 14.2, the Concessionaire must carry out an environmental and social impact assessment not later than one hundred twenty (120) days from approval of the Preliminary Design by the Independent Consultant or Grantors.

In Section 15.1.a, the Concessionaire must obtain requisite Environmental Compliance Certificate and procure all other relevant consents required to initiate Construction before undertaking Works for T1, T2 and T2 apron.

In Section 18.8, the Grantors attach special significance to the safety of the Passengers. If the Grantors are aware of any action or inaction on the part of the Concessionaire that indicates a failure to operate and maintain the Concessionaire operations and maintenance facilities with due regard to safety, the Grantors may forthwith exercise their rights under Section 18.7 (*Breach*).

4.2 Republic Act (RA) 9497

There are two government bodies that regulate aviation in the Philippines: the Civil Aviation Authority of the Philippines (CAAP) by virtue of Republic Act (RA) 9497 and the Civil

Aeronautics Board (CAB) promulgated by RA 776 and amended by Presidential Decree (PD) 1462. The CAAP regulates the technical, operational, safety and security aspects of aviation while the CAB regulates the economic aspect of air transport.

Under Section 27 of RA 9497, the CAAP Director General is authorized "...to issue and adopt rules and regulations and other issuances of the ICAO" (or the International Civil Aviation Organization).

ICAO recently issued two resolutions related to environmental protection: ICAO Resolution A37-18 or "The Consolidated statement of continuing ICAO policies and practices related to environmental protection – General provisions, noise and local air quality" and ICAO Resolution A38-19 or "The Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change."

Both ICAO Resolutions A37-18 and A37-19 aim to:

limit or reduce the number of people affected by significant aircraft noise;
limit or reduce the impact of aviation emissions on local air quality; and
limit or reduce the impact of aviation greenhouse gas emissions on the global climate

4.3 Presidential Decree (PD) 1151 (Philippine Environmental Policy)

Issued in 1977, Presidential Decree 1151 (PD 1151) embodies the policy of the state to create balance between socio-economic progress and care for the environment and enshrines the right to have a healthy environment.

It mandated every entity, whether government or privately owned, to issue a detailed Environmental Impact Statement (EIS) on the environmental effect of a proposed action, project or undertaking.

4.4 PD1152 (Philippine Environmental Code)

This decree issued in 1977 mandated the National Environmental Protection Council (now DENR) to launch a comprehensive program of environmental protection and management.

The Council coordinates the enforcement of ambient air quality emission and noise standards, including the monitoring and surveillance of air pollutants, licensing and permitting of air pollution control facilities, and the promulgation of appropriate rules and regulations.

4.5 PD 1586 (Philippine Environmental Impact Statement System)

Issued in 1978, this decree formally established the Philippine Environmental Impact Statement System (PEISS). It delineated developmental activities that would require environmental impact assessment.

The decree required all project proponents of an Environmental Compliance Certificate (ECC) for projects with a significant impact to the environment (Environmentally Critical Project or ECP) and projects located within a critical area (Environmentally Critical Area or ECA).

4.6 National Pollution Control Commission (NPCC) Memorandum Circular 002, Series of 1980 (Amendments to Article 1 (Noise Control Regulations), Chapter IV

(Miscellaneous Regulations), Rules and Regulations of the National Pollution Control Commission (1978))

The standards for the ambient noise in general areas is governed by this Memorandum Circular.It establishes the noise standards at the different classified general areas across 4 time segments of the day. Classification of the general areas considers the land use, zoning, and presence of sensitive receptors within the community.

4.7 RA 8749 (Philippine Clean Air Act of 1999)

This law provides for a comprehensive air quality management policy and program in the Philippines which aim to achieve and maintain healthy air for all.

Peculiar to this law which is related to this project is that, it gives the Department of Transportation and Communication (DOTC) the jurisdiction to impose appropriate fines and penalties to mobile sources of air pollutants other than those specified in Section 21 of the Act, which presupposes the inclusion of emissions from aircraft engines.

The Implementing Rules and Regulations (IRR) of this Act is contained in the Department of Natural Resources (DENR) Administrative Order (DAO) No. 81, Series of 2000.

The Air Quality Improvement Framework – Air Quality Control Action Plan of RA 8749 on the other hand is embedded in DAO 82, Series of 2000 which aims to serve as the official blueprint with which all government agencies must comply with to attain and maintain clean and healthy air.

4.8 RA 9275 (Philippine Clean Water Act of 2004)

This law provides for a comprehensive water quality management in the Philippines. DAO 1990-34 and 1990-35 embodies the environmental quality guidelines on water quality.

4.9 RA 9003 (Ecological Solid Waste Management Act of 2000)

4.10 DENR Administrative Order (DAO) 2001-34

This is the Implementing Rules and Regulations of Republic Act 9003.

4.11 RA 6969 (Control Toxic Substances and Hazardous and Nuclear Wastes).

The IRR defined the administrative procedures to be followed in the adjudication of cases governing the control of toxic and hazardous substances.

4.12 DAO 29 Series of 1992 described the IRR of this Act.

4.13 RA 9147 (An Act on Conservation of Wildlife Resources and their Habitats)

Construction of a major project (such as an airport) poses a risk to wildlife and biological resources through habitat encroachment or degradation. This law prohibits infrastructure development in areas already classified as protected, and provides ways to conserve wildlife resources and their habitats.

4.14 RA 6958 (Charter of the Mactan Cebu International Airport Authority)

The act that creates the MCIA and transfers the authority of its operation to the MCIAA.

4.15 1985 Executive Order 1035

The land acquisition is to be based on fair market value, which will be negotiated between the owner and the appraiser. Financial assistance to displaced tenants, cultural minorities and settlers equivalent to the average annual gross harvest for the last 3 years and not less than P15,000 per hectare. Disturbance compensation to agricultural lessees equivalent to 5 times the average gross harvest during the last 5 years. Compensation shall be given for improvements on land. Government has power to expropriate in case agreement is not reached.

4.16 Supreme Court Ruling 1987

Defines just compensation as fair and full equivalent for the loss sustained, taking into account improvements, location, capabilities, etc.. The value given by the appraiser can only serve as a guide for negotiation. The objective is to enable the Displaced Person to replace affected assets at current market price.

4.17 Department of Public Works and Highways (DPWH) Department Order 142 1995

This aims to avoid unnecessary delays in civil works. Inclusion of parcellary plans and cost estimates for right of way acquisition in detailed engineering stage.

4.18 RA 6389 (Amending Agricultural Land Reform Code)

This provides for disturbance compensation to agricultural lessees equivalent to 5 times the average gross harvest in the last 5 years.

4.19 RA 7279 Urban Development and Housing Act of 1992

Provides guidelines for resettlement of persons living in danger areas, e.g. riverbanks, shorelines, and waterways or areas where government infrastructure projects are about to be implemented. Guidelines cover the provision of basic services and facilities in resettlement sites, livelihood support, meaningful participation and adequate social preparation for the affected households, close coordination between sending and host LGUs, grievance, redress and related aspects. Informal settles who built their houses on or before the effectivity date (March 28, 1992) are entitled to all benefits and considerations prescribed in the said act.

4.20 RA 8974 of 2000 “An Act to facilitate the acquisition of right-of-way, site or location for national government infrastructure projects and for other purposes”

Aims at ensuring that owners of real property acquired for infrastructure projects are promptly paid just compensation. It also provides for the compensation of affected improvements and structures at replacement cost (without depreciation and inclusive of labor costs for reconstruction) and the arrangement of independent appraisers for a more accurate determination of the market values of lands and improvements.

4.21 Commonwealth Act 141 (CA 141); Public Lands Act of 1936

This institutes classification and means of administration, expropriation and disposition of alienable lands of the public domain. Under Section 112, lands awarded for Free Patent are subject to a right-of-way not exceeding 6o meters in width for public highways, railroads, irrigation ditches, aqueducts, telegraph and telephone lines and similar works that the Government or any public or quasi-public service or enterprise including mining or forest concessionaires, may reasonably require for carrying on their business, with damages for the improvements only.

4.22 National Commission on Indigenous People(NCIP) Administrative Order No. 3, Series of 2002

Stipulates the processes necessary for securing Free, Prior and Informed Consent (FPIC) from Indigenous People (IP) communities and Executive Order (EO) 132 designating Presidential Commission on the Urban Poor (PCUP) as clearing house for the conduct of demolition and eviction since both have bearing on actions related to IPs.

5. Audit Approach and Findings

5.1 Overview

The objective of this audit is to identify the environmental and social risks associated with the implementation of the Project. This includes determining the performance and effectiveness of the current environmental and social management measures/ programs in place, as well as compliance status to local and international regulatory requirements.

The audit was carried out using the information from available records, technical plans, and environmental programs furnished by GMCAC.

5.2 Compliance to local and international regulatory requirements and Asian Development Bank (ADB) Safeguard Policy Statement (SPS) and other social requirements, and Performance against the International Financial Corporation (IFC) Performance Standards

This preliminary audit was carried out to identify the current status of the airport against the existing local and international regulatory requirements (as set in Section 4). Compliance to ADB's SPS and IFC's performance standards is discussed in the succeeding sections.

5.2.1 ADB SPS (2009) requirements

Safeguard policies are generally understood to be operational policies that seek to avoid, minimize, or mitigate adverse environmental and social impacts, including protecting the rights of those likely to be affected or marginalized by the development process.

ADB's SPS sets out the policy objectives, scope and triggers, and principles for three safeguard areas:

- Environmental safeguards
- Involuntary resettlement safeguards, and
- Indigenous peoples safeguards

5.2.1.1 ADB Safeguards Policy Statement – Safeguards requirement 1 on the Environment

The ADB classification system is used to reflect the significance of the proposed Project's environmental impacts. Based on initial assessment, the Project falls under **Category B**, which classifies the potential impacts as site-specific, reversible and can readily be mitigated through engineered measures. ADB thus sets out that an initial environmental examination be prepared, to include environmental management and monitoring plans

5.2.1.2 ADB Safeguards Policy Statement – Safeguards requirement 2 on Involuntary Resettlement

According to the Concession agreement between GMCAC and MCIAA, the property adjacent to the existing passenger terminal building, which is covered by Presidential Proclamation No. 784 (delegation of the administration of the MCIA lands to MCIAA), shall be used for the development of a new terminal building and other landside facilities. At present, the area needed for the development of the new terminal is host to several PAF facilities. A memorandum of agreement between PAF and MCIAA was signed on 15th November 2014, which stated that MCIAA will replicate all PAF facilities on MCIA lands, including the areas covered by the Concession agreement.

The information above indicates that there is no involuntary acquisition of land, nor is there any involuntary restriction on land or on access to legally designated parks and protected areas. The implementation of the proposed Project thus will not result to involuntary resettlement.

5.2.1.3 ADB Safeguards Policy Statement – Safeguards requirement 3 on Indigenous People

A project should give special considerations for Indigenous Peoples. The borrower/client will explore to the maximum extent possible alternative project designs to avoid physical relocation of Indigenous Peoples that will result in adverse impacts on their identity, culture, and customary livelihoods. In the case of the proposed Project area, there is no existing record of the presence of indigenous people living in or around the proposed Project site.

5.2.1.4 ADB's Gender and Development Policy (1998)

ADB's policy on GAD includes the following.

- *Gender sensitivity*: to observe how ADB operations affect women and men, and to take into account women's needs and perspectives in planning its operations.
- *Gender analysis*: to assess systematically the impact of a project on men and women, and on the economic and social relationship between them.
- *Gender planning*: to formulate specific strategies that aim to bring about equal opportunities for men and women.
- *Mainstreaming*: to consider gender issues in all aspects of ADB operations, accompanied by efforts to encourage women's participation in the decision-making process in development activities.
- *Agenda setting*: to assist DMC governments in formulating strategies to reduce gender disparities and in developing plans and targets for women's and girls' education, health, legal rights, employment, and income-earning opportunities.

5.2.1.5 ADB's Social Protection Strategy (2001)

ADB's Social Protection Strategy (2001 SPS) requires the Borrower to comply with applicable labor laws in relation to the Project, and take the following measures to comply with the core labor standards[3]for the ADB financed portion of the Project:

(a) carry out its activities consistent with the intent of ensuring legally permissible equal opportunity, fair treatment and non-discrimination in relation to recruitment and hiring, compensation, working conditions and terms of employment for its workers (including prohibiting any form of discrimination against women during hiring and providing equal work for equal pay for men and women engaged by the Borrower);
(b) not restrict its workers from developing a legally permissible means of expressing their grievances and protecting their rights regarding working conditions and terms of employment;
(c) engage contractors and other providers of goods and services:

    (i) who do not employ child labor[4] or forced labor;[5]
    (ii) who have appropriate management systems that will allow them to operate in a manner which is consistent with the intent of (A) ensuring legally permissible equal opportunity and fair treatment and non-discrimination for their workers, and (B) not restricting their workers from developing a legally permissible means of expressing their grievances and protecting their rights regarding working conditions and terms of employment; and
    (iii) whose subcontracts contain provisions which are consistent with paragraphs (i) and (ii) above.

5.2.2 IFC Performance Standards on Environmental and Social Sustainability

The sustainability framework of IFC comprises policy and performance standards on Environmental and Social Sustainability. The Performance Standards are directed towards clients, providing guidance on how to identify risks and impacts, and are designed to help avoid, mitigate, and manage risks and impacts as a way of doing business in a sustainable manner, including stakeholder engagement and disclosure obligations of the client pertaining to project-level activities.

The following Performance Standards are relevant to and required for the Project:

- Performance Standard 1. Assessment and management of environmental and social risks and impacts – it establishes the importance of (i) integrated assessment to identify the environmental and social impacts, risks, and opportunities of projects; (ii) effective community engagement through disclosure of project-related information and consultation with local communities on matters that directly affect them; and (iii) the client's management of environmental and social performance throughout the life of the project.

[3]the core labor standards are the elimination of all forms of forced or compulsory labor; the abolition of child labor; elimination of discrimination in respect of employment and occupation; and freedom of association and the effective recognition of the right to collective bargaining, as per the relevant conventions of the International Labor Organization;
[4] child labor means the employment of children whose age is below the statutory minimum age of employment in the relevant country, or employment of children in contravention of International Labor Organization Convention No. 138 'Minimum Age Convention" (www.ioo.org)
[5] forced labor means all work or services not voluntarily performed, that is, extracted from individuals under threat of force or penalty

- Performance Standard 2. Labor and Working Conditions – it recognizes that the pursuit of economic growth through employment creation and income generation should be accompanied by protection of the fundamental1 rights of workers. For any business, the workforce is a valuable asset, and a sound worker-management relationship is a key ingredient in the sustainability of a company.

- Performance Standard 3. Resource Efficiency and Pollution Prevention- it recognizes that increased economic activity and urbanization often generate increased levels of pollution to air, water, and land, and consume finite resources in a manner that may threaten people and the environment at the local, regional, and global levels.

- Performance Standard 4. Community Health, Safety and Security Performance Standard- it recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition, communities that are already subjected to impacts from climate change may also experience an acceleration and/or intensification of impacts due to project activities.

- Performance Standard 5. Land Acquisition and Involuntary Resettlement- it recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons that use this land. Involuntary resettlement refers both to physical displacement (relocation or loss of shelter) and to economic displacement (loss of assets or access to assets that leads to loss of income sources or other means of livelihood1) as a result of project-related land acquisition and/or restrictions on land use. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in physical or economic displacement.

- Performance Standard 6. Biodiversity Conservation and Sustainable Management of Living Natural Resources- it recognizes that protecting and conserving biodiversity, maintaining ecosystem services, and sustainably managing living natural resources are fundamental to sustainable development.

- Performance Standard 7. Indigenous Peoples- it recognizes that Indigenous Peoples, as social groups with identities that are distinct from mainstream groups in national societies, are often among the most marginalized and vulnerable segments of the population. In many cases, their economic, social, and legal status limits their capacity to defend their rights to, and interests in, lands and natural and cultural resources, and may restrict their ability to participate in and benefit from development.

- Performance Standard 8. Cultural Heritage- it recognizes the importance of cultural heritage for current and future generations.

6. Existing Conditions

6.1 Description of present environmental conditions

6.1.1 Land

6.1.1.1 Land use

The area surrounding MCIA is composed of various land uses. On the north and on the southwest of the airport are two Special Economic Zones. The west side MCIA is dominated by urban/commercial area. On the east and south east side, low level residential land use dominates. A few hundred meters distance on the northeast side of MCIA is the Mactan Bay Area.

The Project Area is within MCIA, thus included in the land classification identified as Mactan Airport in the 2013 Comprehensive Land Use Plan of Lapu-lapu City. **Figure 6-1** shows the land use classifications in the Mactan Island.

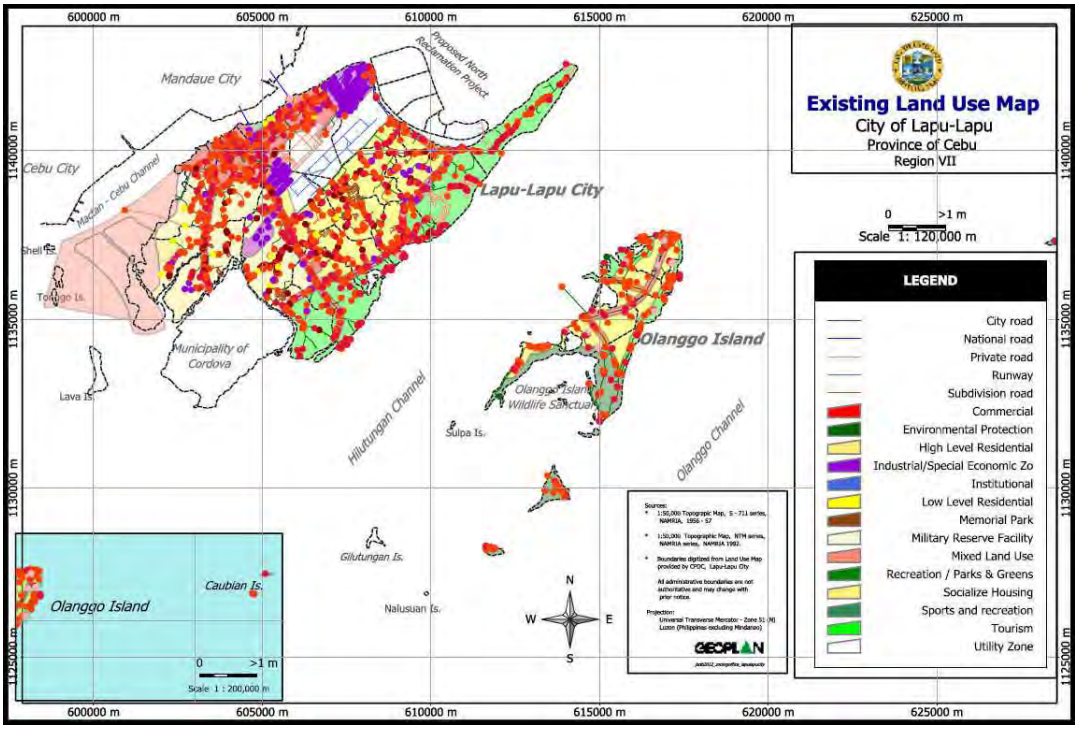


Figure 6-1
Existing Land Use Map of Lapu Lapu City (source: CLUP Lapulapu City, 2013)

6.1.1.2 Geomorphology

The topography of the entire Mactan Island is generally indicated by nearly flat terrain and is generally characterized with the occurrence of coralline limestone over much of the island. The entire island displays a terrain with elevations ranging from 0 to less than 10 meters

above mean sea level (amsl). While the whole island is made-up mainly of hard coralline rocks, the entire landmass belongs to a one-slope category that ranges from 0 to 3%.

The entire island has no notable surface water domains that serve as the natural drainage system of the area. The shoreline is generally indicated by numerous raised corals, which makes the tidal inundated area moderately rugged in terrains. Limestone terraces within the inter-tidal zone become submerged during high tides and full exposures are distinct during low tides. Thin silty to sandy fragments of limestone generally covers the inundated surface.

6.1.1.3 Regional geology

The stratigraphy and structure of mainland Eastern Cebu is generally controlled by several succeeding phases of orogenic and volcanic activity since the late Cretaceous period. The oldest basement rock of metasediments is known to occupy the high-elevated areas in the central core of the island. Younger sedimentary strata of lower Miocene age occupy the flanks of the central highlands whereas the eastern and western rock successions towards the central highlands become older in deposition.

The older strata and other clastic sediments of the late Cretaceous period were covered uncomformably by the lower Miocene Malubog Formation (Argao Group), consisting predominantly of shale, siltstones and occasional beds of sandstone and minor conglomerates and limestone layers. Successive earth movements and continuous volcanic activity by intrusion of volcanic rocks (andesite) were followed by sedimentation and deposition of limestone. Due to several depositional breaks and numerous faulting, the sedimentary units of younger succession become complex in occurrence. **Figure 6-2** shows the Geologic Map of Eastern Central Cebu.

In general, though the stratification of Cebu has the younger sedimentary rocks concentrate along the coastline and becoming older towards the center of the island. The geo-anticlinal evolution of Cebu has formed an elongated narrow shaped island, which abruptly terminates to the sea on both the eastern and western coasts of the island providing limited catchment basins for fresh surface and groundwater occurrences.

The Carcar Limestone is generally coralline which forms an almost continuous margin around the islands of Cebu and Mactan. Deposited under a Plio-Pleistoceneperiod of marine transgression and regression, the Carcar Limestone has anestimated thickness of about 500 meters towards near the alluvial toe in the coastal areas. Evaluation of the lithologic logs of some wells drilled in the Carcar Limestone reveals that the entire formation consists essentially of conglomeratic and brecciated limestone with lenses of sandy/marly fragments. Porosity and permeability are enhanced with sufficient fracturing and occurrences of small-scale karstic holes and/or cavities. The presence of marly matrix and lenses of silty fines in the serial layers however, have somewhat lessened the total permeability potential of the rock formation.

6.1.1.4 Structural Geology

Mainland Cebu is an anticlinal structure with its long axis (NNE-SSW) highlighted by a backbone of mountainous highland and rugged terrains. The relatively younger sedimentary rocks generally dip towards SE and the strikes trend towards its long axis (NE).

Fault systems are almost parallel to the island's southwest-northeast trend. The most prominent of the faults are the Cantabaco Fault having many auxiliary faults that emanate from it and merge with other minor parallel faults. These faults were observed cutting

through the younger Carcar formation and Quaternary alluvium. Other fault lines can be traced in mainland Cebu but none has been observed in the island of Mactan.

Local Geology

Only two (2) rock types have been identified in the entire landmass of Mactan Island – the Alluvial deposit and the Coralline Limestone. The alluvium covers practically about 40% of the entire island and is generally prevalent in the southern part of the island. It is formed by thin sequence of alternating layers of unconsolidated clay, silt and sand with minor lenses of marl and gravels (limestone origin). The relatively porous characteristics of the soil make the runoff smaller around the island as the water more often seeps into the ground surface. While the whole island is basically flat, the ground slopes and its geologic topography are not susceptible to erosion. Unconsolidated mantle of soils is thin so that hard rocks of limestone formation are often exposed everywhere.

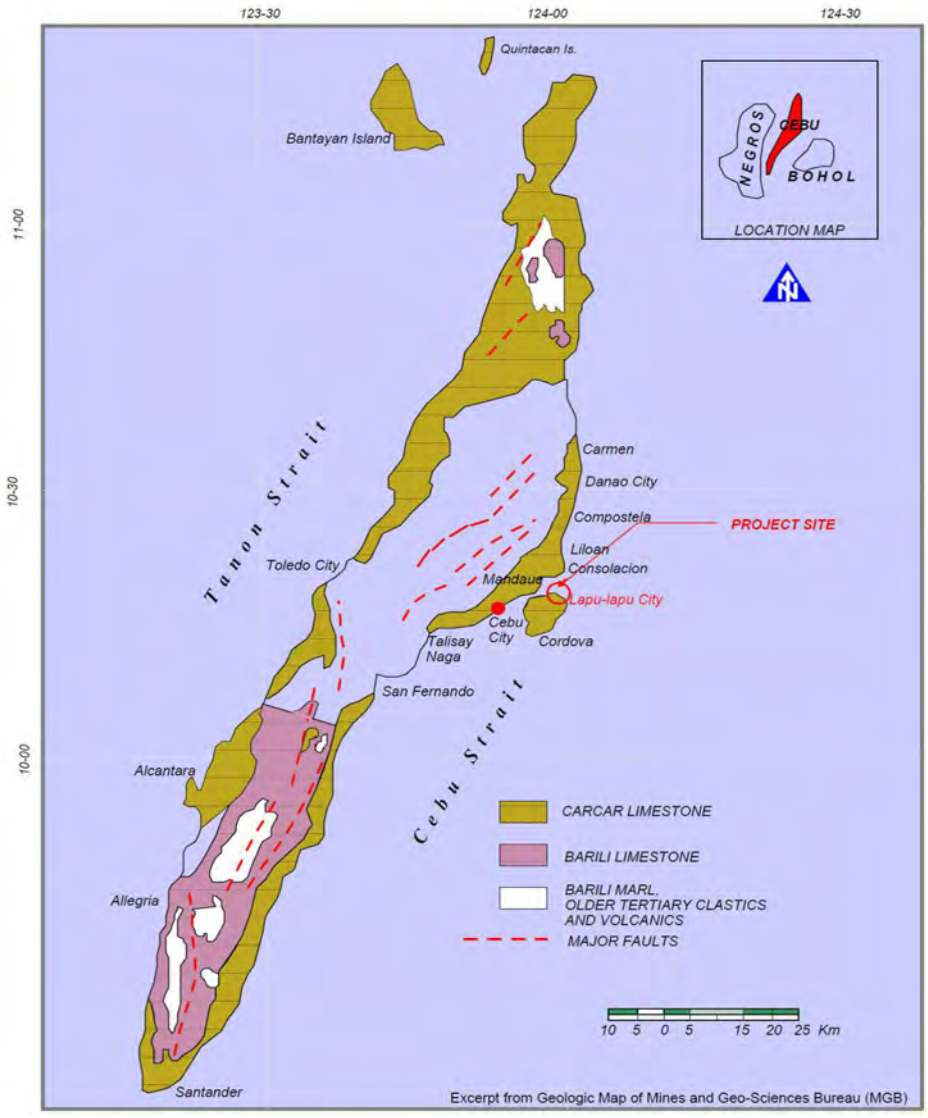


Figure 6-2
Regional Geologic Map of Cebu

The Carcar Limestone in Mactan is a massive, sandy and rubbly coralline limestone with near-continuous coastal occurrence. It is deposited in the Plio-Pleistocene period of marine transgression and regression environment.

The limestone formation in the island is generally buff to beige in color, and is locally, moderately hard, porous and karstic. Karsticity in the limestone is generated by small-scale pores and cavities, which predominates along and near the shoreline where terraced coralline rock mass are often exposed.

6.1.1.5 Hydrogeological baseline

Mactan Island covers a total land area of nearly 59 km^2, of which about 50 km^2 or 85% are exposed to the supposed limestone aquifer unit of the Carcar Formation. This area basically becomes the most important physiographic control in the island because of the occurrence of the productive aquifer whereby considerable amount of groundwater abstraction have been exercised since the proliferation of drilling of wells in the early 1970's wherein the water supply system could no longer cope up with the increasing water demands of the island. The province of Cebu has an average year-round rainfall record of about 1,740 mm and slightly lower variation may be registered at 1,650 mm along the eastern coastal plain, including the Mactan Island with a pronounced low-rainfall season from January-May.

The main aquifer or water-bearing formation in the entire Mactan Island consists mainly of the limestone unit of the Carcar Formation in a relatively flatter coastal slope. The increasing demand in the water requirements apparently calls for an effective management of the still available groundwater resources in the island as the on-going changes in the groundwater storage of the aquifer has already lead to the apparent deterioration in the quality (saline intrusion) of pumped water because of the reported localized over-abstraction of groundwater in some areas, particularly in the southern section of the island.

The main current source for domestic and industrial supply of the island is groundwater through wells and from desalination plants (coastal wells) by private owners for bulk selling. The rest comes from importation of water from the mainland Cebu. The main water supply is taken cared of the Metro Cebu Water District (MCWD). Groundwater withdrawal had been used by MCWD as early as 1959. Since then, groundwater sources had become the major water supply in the island both by MCWD and private users.

6.1.1.6 Seismicity

The Philippine Archipelago is a north-south strip of lithosphere squeezed between 2 opposing subducting tectonic plates – the Eurasian and Pacific plates. The Manila and Negros-Sulu Trench-arc systems dip eastward while the Philippine Trench-arc system is northwestward. The latter being the most seismically active trench-arc system in the entire archipelago has formed several faults within its lithosphere. Of these faults, the Philippine Fault Zone (PFZ) is the most active and is physiographically traceable to about 1,200km starting from Luzon to Mindanao, passing through Visayas Islands. PFZ has many structure extensions and actually consists of a number of sub-parallel faults, branches and splays scissoring in part.

The Visayan segment of the Philippine Trench and Philippine Fault Zone (see **Figure 6-3**) and its numerous branches are mainly responsible for the high seismicity in the Visayas Islands. Eastern Visayas bounded by the said earthquake generators and Western Visayas bounded by Tablas – Antique Lineament and Negros-Sulu Trench frequently experience large earthquakes. In contrast, records show that prior to the 1990 Bohol earthquake,

Central Visayas had no earthquake with magnitude greater than Ms = 6.0. The Visayas region has been experiencing about 17% of the yearly earthquake occurrences in the country. At least 3,000 earthquake epicenters were plotted in Visayas from 1900 to present and twenty-two destructive earthquakes were recorded to be destructive from 1589 to 1994.

In Cebu Province, most parts of the mainland are seismically quiescent compared to the rest of the Visayas and entire Philippine Archipelago. Existing seismicity records show no sizable earthquake (magnitude $\geq$5) originating within Cebu from 1907 to present (PHILVOCS Earthquake Catalogue). In addition, no major active earthquake faults have, heretofore been identified in the island. Although tectonic faults have been recognized and mapped by DENR-MGB (1983) and Electrowatt Engineering (1991), they have not been studied with respect to their earthquake potential.

Accordingly, probabilistic estimates of ground motion hazards made by a PHILVOCS-USGS team (Thenhaus and others, in press) show that Cebu Island has relatively low seismic potential. This study estimated peak ground acceleration (PGA) values in Cebu of 0.11*g* for rocks, 0.17*g* for medium soil and 0.27*g* for soft soil, with 90% probability for non-exceedence in 50 years. On a regional scale, five (5) earthquake generators as identified by PHIVOLCS generally bound the entire mainland of Cebu and the island of Mactan. The geologic structures include the: Philippine Fault Zone in the east; Antique-Tablas Fault in the northwest; the Negros Trench and Sulu Trench in the southwest and; the Mindanao Fault in the southern tail of the island. The entire Province of Cebu has not been recorded of destructive earthquakes in the past.

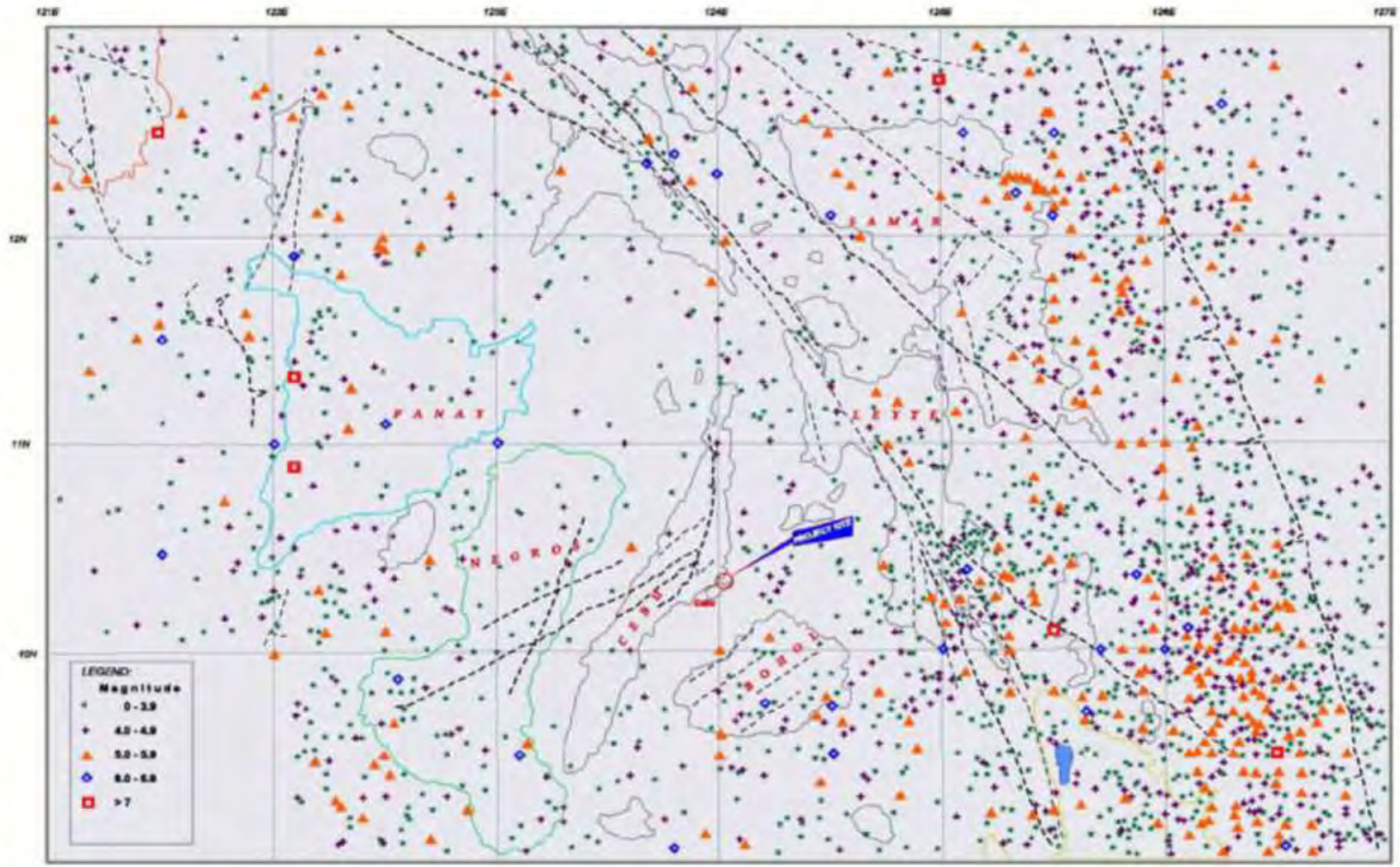


Figure 6-3 Visayan Segment of the Philippine Trench and Philippine Fault

6.1.1.7 Terrestrial Biology

Generally, the Project area (**Figure 6-4**) is highly built-up with sparse vegetation primarily for ornamental and/or orchard purposes. Vegetation present is a combination of shrubs, herbs, palms, vines, ferns,and scattered trees. Open spaces are mostly paved for access roads and parking areas with some occupied by grasses and shrubs.

Figure 6-4
Project Area

The observation for both the flora and fauna diversity was carried outfrom October 1 to 2, 2014**.** **Table 6-1** shows the coordinates of the areas to be developed by the proposed Project.

Table 6-1
Coordinates of the Project Area

GPS Readings (Coordinates)	
Northing	**Easting**
10°18'56.70"N	123°58'43.44"E
10°18'49.34"N	123°58'36.00"E
10°18'52.10"N	123°58'32.31"E
10°18'46.65"N	123°58'40.59"E

Terrestrial Flora

Since the study area only covers meager vegetation and the boundary is definitely identified on the ground, the use of any sampling methodology is not necessary. A 100 percent survey was conducted up to the MIP facilities. However, the survey was not carried out in the Philippine Air Force reservation area due to security reasons. To supplement the lack of data, secondary data was collected from the DENR CENRO Cebu. On 21 February 2014, the Forest Management Services of the CENRO Office conducted a tree inventory survey upon request of the Philippine Air Force for which the result was utilized for this report.

1. Distribution of species and population

There are about 47 species of plants (27 WCI survey, 20 CENRO Survey), predominated by the Families of Meliaceae, Arecaceae, Fabaceae, and Casuarinaceae, that are found in the study area. **Tables 6-2 and 6-3** enumerate the different species and their population/number identified in the study area.

Table 6-2
Plant Species surveyed by WCI

No.	Common Name	Scientific Name	Population
1	Fire Tree	*Delonixregia*	1
2	Gmelina	*Gmelinaarborea*	13
3	Bo Tree	*Ficusreligiosa*	6
4	Talisay	*Terminalliacatappa*	2
5	Big-Leaf Mahogany	*Switeniamacrophylla*	4
6	Acacia Auri	*Acacia auriculiformes*	1
7	Smooth Narra	*Pterocarpusindicus spp. Indicus*	1
8	Agoho	*Casuarinaequisetifoloia*	13
9	Neem Tree	*Azadirachtaindica*	3
10	Ipil-ipil	*Leusinaleucocephala*	1
11	Manila Palm	*Adonidiamerrilii*	16
12	Travellers Palm	*Ravenalamadagascariensis*	1
13	San Francisco	*Codiaenumvariegatum*	2
14	Bastonni San Jose	*Corlylinefruticosa*	3
15	Duranta	*Durantaerecta*	-
16	Carabao grass	*Paspalumcongugatum*	-
17	Bermuda grass	*Cynodondactylon*	-
18	Skyflower	*Thunbergiagrandiflora*	-
19	Salisi	*Ficusbenjamina*	4
20	India Rubber	*Ficuselastica*	1
21	False bird of paradise	*Heliconiaplastachys*	-
22	Nangka	*Arthocarpusheterophyllus*	1
23	Botong	*Barringtoniaasiatica*	1
24	Pakpaklawin	*Aspleniumnidus*	3
25	Banana	*Musa sapientum*	2
27	Mango	*Mangiferaindica*	5

Table 6-3
Plant Species surveyed by DENR CENRO Cebu (February 21, 2014)

No.	Common Name	Scientific Name	Population
1	Gmelina	*Gmelinaarborea*	24
2	Talisay	*Terminalliacatappa*	6
3	Big-Leaf Mahogany	*Switeniamacrophylla*	65

No.	Common Name	Scientific Name	Population
4	Smooth Narra	*Pterocarpusindicus spp. Indicus*	8
5	Agoho	*Casuarinaequisetifoloia*	27
6	Neem Tree	*Azadirachtaindica*	42
7	Ipil-ipil	*Leusinaleucocephala*	31
8	Travellers Palm	*Ravenalamadagascariensis*	1
9	India Rubber	*Ficuselastica*	6
10	Alim	*Melanolepismultiglandulosa*	3
11	Nangka	*Arthocarpusheterophyllus*	23
12	Kamansi	*Arthocarpuscamansi*	6
13	Mango	*Mangiferaindica*	12
14	Bitanghol	*Callophylumblancoi*	1
15	Pandan	*Pandanustectorius*	1
16	Raintree	*Samaneasaman*	6
17	Bagalunga	*Meliadubia*	1
18	Kaimito	*Chrysophullumcainito*	3
19	Lanete	*Wrightia pubescent*	1
20	Sampaloc	*Tamarindusindicus*	1
21	Pandan	*Pandanustectorius*	1

Leading in the list of species in terms of their population include Big-Leaf Mahogany, Neem Tree, Ipil-ipil, Gmelina, and Agoho.

2. Plant forms in the study area

There are 7 plant forms identified in the area as shown in **Figure 6-5**. Tree species dominate with 66 % of identified species found in the area. Shrubs and Herbs followed with both having 8 % in proportions. Monocots such as palms and grasses also have similar percentage with both having 6 %. With lesser number, ferns and vines both registered with 3 % a piece.

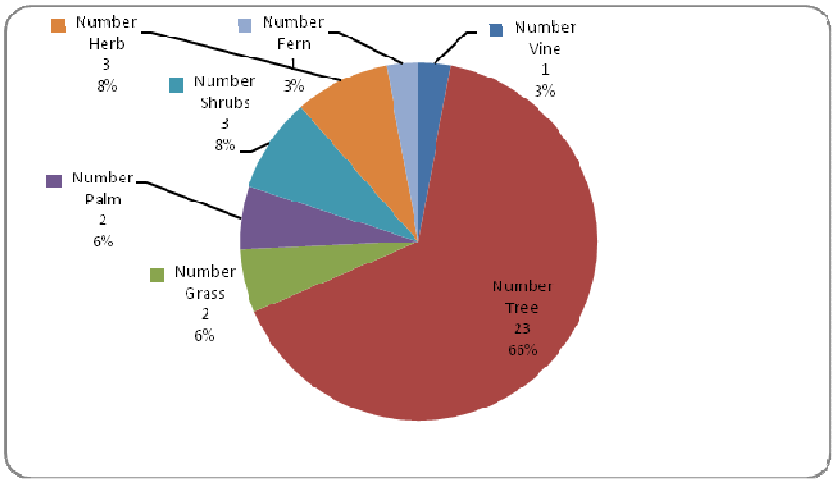


Figure 6-5
Proportion of Species per Plant Form

The complete list of species of plants recorded with their corresponding plant form is shown in **Table 6-4.**

Table 6-4.
Number of Species per Plant Form

No.	Common Name	Scientific Name	Plant Form
1	Fire Tree	*Delonixregia*	Tree
2	Gmelina	*Gmelinaarborea*	Tree
3	Bo Tree	*Ficusreligiosa*	Tree
4	Talisay	*Terminalliacatappa*	Tree
5	Big-Leaf Mahogany	*Switeniamacrophylla*	Tree
6	Acacia Auri	*Acacia auriculiformes*	Tree
7	Smooth Narra	*Pterocarpusindicus spp. Indicus*	Tree
8	Agoho	*Casuarinaequisetifoloia*	Tree
9	Neem Tree	*Azadirachtaindica*	Tree
10	Ipil-ipil	*Leusinaleucocephala*	Tree
11	Manila Palm	*Adonidiamerrilii*	Palm
12	Travellers Palm	*Ravenalamadagascariensis*	Palm
13	San Francisco	*Codiaenumvariegatum*	Shrub
14	Bastonni San Jose	*Corlylinefruticosa*	Shrub
15	Duranta	*Durantaerecta*	Shrub
16	Carabao grass	*Paspalumcongugatum*	Grass
17	Bermuda grass	*Cynodondactylon*	Grass
18	Skyflower	*Thunbergiagrandiflora*	Vine
19	Salisi	*Ficusbenjamina*	Tree
20	India Rubber	*Ficuselastica*	Tree
21	False bird of paradise	*Heliconiaplastachys*	Herb
22	Nangka	*Arthocarpusheterophyllus*	Tree
23	Botong	*Barringtoniaasiatica*	Tree
24	Pakpaklawin	*Aspleniumnidus*	Fern
25	Banana	*Musa sapientum*	Herb
26	Mango	*Mangiferaindica*	Tree
27	Bitanghol	*Callophylumblancoi*	Tree
28	Pandan	*Pandanustectorius*	Herb
29	Raintree	*Samaneasaman*	Tree
30	Bagalunga	*Meliadubia*	Tree
31	Kaimito	*Chrysophullumcainito*	Tree
32	Lanete	*Wrightia pubescent*	Tree
33	Sampaloc	*Tamarindusindicus*	Tree
34	Alim	*Melanolepismultiglandulosa*	Tree
35	Kamansi	*Arthocarpuscamansi*	Tree

Trees are dominant in the study area primarily to provide shade for humans working in the area as well as to important structural and transportation facilities inside MCIA concession. Palms, shrubs, ferns, and other grasses are planted for their aesthetic values.

3. Ecological status of species

In terms of endemicity, **Figure 6-6** shows that indigenous species make up 74% of the total species counted in the study area. Indigenous species are those that have wider geographical ranges than endemics but are found nowhere else in the world. Exotic species make up only 26% of the total species recorded. There is no endemic species in the study area since most of the species recorded are common types of species and can be found all over the country.

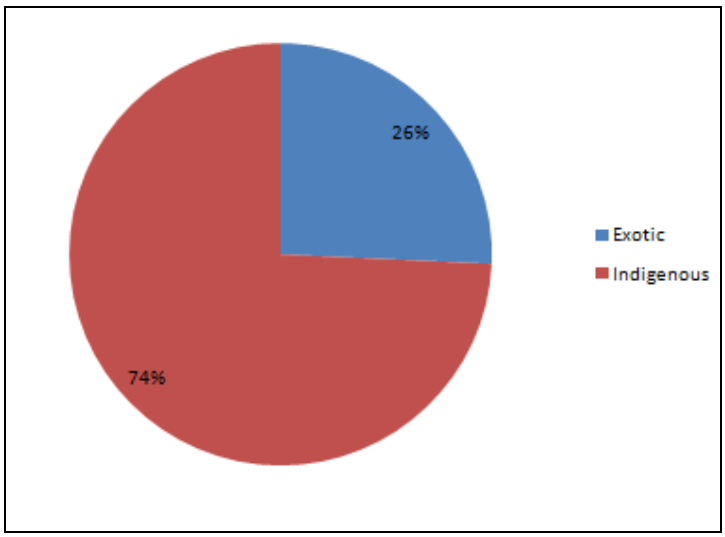


Figure 6-6
Ecological status of species

4. Threatened /Endangered species

There are 2 species listed under DENR DAO 2007-01 or the "National List of Philippine Plants" pursuant to Republic Act 9147 or "Wildlife Resources Conservation and Protection Act". It is also noteworthy that these 2 species are included in the IUC N or CITE Appendix II. The two species are Smooth Narra (*Pterocarpusindicus spp. Indicus*) and Manila Palm (*Adonidiamerrilii*). The Narra species are considered as Category A species (Critically endangered) while Manila Palm is listed in Category B (Endangered). For IUCN and CITES classifications,Narra and Manila Palm are considered to be Vulnerable and Near Threatened, respectively.

5. DENR Declared Protected Areas

According to DENR CENRO Cebu, 76.3% of Cebu is under the National Integrated Protected Area System. These include declared protected areas such as Kotkot, Lusaran, and Mananga watersheds, the Central Cebu National Park, Sudlon National Park, and Cebu Watershed Reservation. On the other hand, the Island of Mactan, wherein the project site is located is not included in any declared protected area. Whatsoever, the Olango Island Wildlife Sanctuary can be considered as the nearest protected area with an approximate distance of 16-20 kilometers from the Project site.

6. Tree Inventory and Tree Cutting Permit

Simultaneous with terrestrial flora survey, a tree inventory was also conducted to determine the number and volume of trees present in the area. Under DENR policy specifically DENR Administrative Order No. 2000- 21, dated 28 February 2000, Tree Inventory is required to be conducted for the issuance of necessary Tree Cutting Permits.

Procedures in the conduct of Tree inventory survey

Prior to the actual Tree Inventory, preparatory activities were conducted to make the survey as smooth as possible. An ocular inspection accompanied with maps indicating the alignment was done to determine the boundary of the project area. Different inventory materials and equipments were secured and prepared (e.g. Meter Tape, Diameter tape, Abney-hand level, GPS, Camera, Tree markers, Inventory Tally Sheets, Stand and Stock Table, etc.). The following discusses the procedures followed during the tree inventory survey:

(a) Identification and plotting of the boundary of the study area to provide clear reference line on whether trees are counted and included.
(b) Only trees found growing within the boundary which may be affected by the project shall be counted/marked.
(c) Measurement of the diameter of each tree was done using diameter tape or its equivalent. Diameter tapes are calibrated and can be used to take direct measurements. Tree diameter was measured approximately 1.3 meters from the ground. For trees with buttress, diameter was measured 30cm above the enlargement of main width of buttress.
(d) Merchantable heights were obtained using the meter tapes or its equivalent. Coordinates for each tree was determined using Global Positioning Systems (GPS).
(e) Local name, diameter in cm, height in meters, species number, and coordinates were recorded in the field tally sheets.Tree marking is done using brush and paint;
(f) The volume of each tallied trees was computed from the equation of the standing trees applicable for a locality/region pursuant to DENR-FMB Technical Bulletin No. 3 dated 31 October 2012. For the Central Visayas region (Region 7), the applicable volume equation is V= 0.00004649 x D2 x H
(g) The stand and stock tables are prepared by species with corresponding Diameter at Breast Height (DBH) classes. Fruit trees shall be segregated from the list since these kinds of trees are not the jurisdiction of the DENR but rather under DA supervision. If fruit trees have been cut and needs to be transported to other areas, DENR will have authority and hence a transport permit of logs/lumber should be accomplished.

Procedures in the Acquisition of Tree Cutting Permit

The application for tree cutting permit is filed and processed initially at the concerned CENRO office. The CENRO Officer shall refer the application to the Chief of the Forest Management Services (FMS) who will assign FMS staffs that will conduct site inspection, validation, and assessment and asks for necessary requirements. Inspection report with recommendation is prepared then by the FMS Staff. If all requirements have been submitted, FMS shall Prepare Tree Cutting Permit to be signed by issuing authority. The following requirements shall be submitted by the applicant for the issuance of Tree Cutting Permit:

(a) Duly accomplished application form
(b) Authenticated copy of the land title/CLOA together with sketch map

(c) LGU endorsement (any of the Barangay Chairman. Municipal Mayor or Provincial Governor)
(d) Certification from Local DAR officer for CLOA areas.
(e) Initial Environmental Examination (IEE)
(f) Inventory fee based on existing regulations

Table 6-5 shows the DENR issuing authority responsible for the approval of Tree Cutting Permit.

Table 6-5
Approving authority for the issuance of Tree Cutting Permit

Volume (cu. m)	Approving Authority
1-50	CENRO
51-100	PENRO
101-500	RED
501-1000	USEC for Field Operations
Above 1000	Secretary

Note:
CENRO – Community Environment and Natural Resources Office
PENRO – Provincial Environment and Natural Resources Office
RED – Regional Executive Director
USEC – Under Secretary

Tree Inventory Results

The result of the tree inventory survey for carried out by GMCAC(Through WCI) and DENR CENRO Cebu is shown in **Annex 2**. The computed total merchantable volume is about 46.49 cubic meters. Following DENR policy, the issuing authority for such volume of merchantable wood will be CENRO Cebu.

Terrestrial Fauna

Opportunistic observations were employed for birds as well as for amphibians and reptiles. Secondary data gathering, such as key informant survey, was utilized to gather other information that otherwise would not be covered by the primary data gathering. Field investigations focused on four animal groups: birds, mammals and herps (amphibians and reptiles)

Knowing the busy condition and frequent human activities in the study site, it is expected that faunal behavior are less than normal. The airport operation started early morning and halted very late in the evening near midnight. In addition, the noise that is attributed to the operation of the Philippine Air Force also could alarm fauna from staying within or near the study site. Moreover, it is noteworthy to say that during the survey, the animals that were encountered are the following: Monitor Lizard (Varanusvarius), Common toad (Ingerophrynusphilippinicus) and a group of common Eurasian tree sparrow (Passer montanus).

1. Noteworthy species of Cebu

Cebu is home to numerous species of birds many of which are considered endangered and under strict management of the DENR. According to IUCN, the following species of birds are highly endemic to the island of Cebu **Table 6-6**:

Table 6-6
Endemic species of Birds according to IUCN

Species	IUCN Category
Philippine Spinetail (*Mearnsiapicina*)	Near Threatened
BalckishCuckooshrike (*Coracinacoerulescense*)	Least Concerned
Streak-breasted Bulbul (*Ixossiquironensis*)	Endangered
Black Shama (*Copsychuscebuensis*)	Endangered
Philippine leafbird (*Chloropsisflavipennis*)	Vulnerable
Cebu Flowerpecker (*Dicaeumquadricolor*)	Critically Endangered

The cebuflowerpecker was considered extinct since 1906 until it was rediscovered in 1992 in a remnant of largely degraded forest near the village of Tabunan. With this condition, the IUCN have considered the bird species as one of the rarest species in Cebu.

2. Olango Wildlife Santuary

Located 4 kilometers of the Coast of Mactan Island and around 20 kilometers in the project area, the Olango wildlife sanctuary is the Philippines first wetland of international importance for waterfowl. In 1987, approximately 10,000 migratory birds was discovered in the island. In 1992, President Corazon Aquino declared the island as protected area. The island became more significant with the sighting of near threatened and vulnerable species such as the Asia Dowitcher and Chinese Egret.

Other species of birds that can be found in the area are shown in **Table 6-7**.

Table 6-7
List of species found in Olango Wildlife Santuary

a. Little Egret	q. Terek Sandpiper
b. Little Heron	r. Grey-tailed Tattler
c. Grey Plover	s. Ruddy Turnstone
d. Kentish Plover	t. Great Knot
e. Greater Sand-Plove	u. Rufous-necked Stint
f. Far Eastern Curlew	w. Curlew Sandpiper
g. Eurasian Curlew	x. Gull-billed Tern
h. Whimbrel	y. Whiskered Tern
i. Bar-tailed Godwit	z. Common Kingfisher
j. Common Redshank	aa. White-collared Kingfisher
k. Common Greenshank	bb. Barn Swallo
l. Common Sandpiper	cc. Pacific Swallor
m. Pied Fantail	dd. Yellow-vented Bulbul
o. Brown Shrike	ee. Golden-bellied Flyeater
p. Olive-backed Sunbird	

6.1.2 Water

6.1.2.1 Oceanography

The nearest water body to MCIA, which also receives the storm drains from the airport, is the Mactan Bay. Taken from the feasibility study carried out for the Mactan North

Reclamation Development Project in 2006, the following indicators show the range of tides near the Mactan Bay area (Tide station, Port of Cebu, 2002):

Mean Higher High Water (MHHW) : 0.78 m
Mean High Water (MHW) : 0.51 m
Mean Sea Level (MSL) : 0.00 m
Mean Low Water (MLW) : -0.51 m
Mean Low Low Water (MLLW) : -0.69 m
Highest Tide Recorded : 1.50 m (1952)
Lowest Tide Recorded : -1.16 m (1970)

The prevailing wind in the Island of Mactan is northeast from October to May and southwest from June to September. The current patterns along the coastal region of Magellan Bay are influenced by the tidal force and wind direction with wind speed ranging 2-3 m/s. The highest wind speed recorded was 5.5 m/s along the south direction on November 12, 1990. Current patterns can also be influenced by the temperature gradient through convection below sea surface.

6.1.3 Water Quality

The storm water and STP effluent discharges of MCIA mainly go to Mactan Bay, fronting Barangay Ibo. Ambient water quality sampling along the bay area, about 20 meters from the outfall, was carried out on September 24, 2014. The results of water analyses are summarized in **Table 6-8**. The water quality values are compared with the DENR standards for Class SC water.

Class SC is a marine bodyof watermeant for fishery and recreational use, and it also includes marshy and/or mangrove areas declared as fish and wildlife sanctuaries. This type of water body is intended for the propagation and growth of fish and other aquatic resources for commercial and sustenance fishing, and for boating, fishing, or other similar recreational activities.

Table 6-8
Water Quality of Mactan Bay (Brgy. Ibo)

Parameters	DENR Std (Ambient Class SC)[a]	Brgy. Ibo (2014 data)	Brgy. Ibo (2009 Data)[b]
pH	6.5 - 8.5	7.6	nd[c]
Temperature, deg C	25 – 31	30.8	23.3
DO, mg/L	5	0.77	6.7
BOD, mg/L	n/a	48	3
COD, mg/L	n/a	110	nd
TSS, mg/L	80	50	46
Total Coliform, MPN/100mL	2.00E+02	1.60E+06	9.20E+05
Chromium Hexa, mg/L	0.05	0.032	<0.025
Salinity	-	7.59	nd
Conductivity	-	17.2	nd
Nitrate as Nitrogen, mg/L	10	0.02	nd
Phosphate, mg/L	0.5	1.34	nd

Parameters	DENR Std (Ambient Class SC)[a]	Brgy. Ibo (2014 data)	Brgy. Ibo (2009 Data)[b]
Cadmium, mg/L	0.005	<0.003	<0.003
Copper, mg/L	0.02	0.032	nd
Arsenic, mg/L	0.02	<0.001	<0.01
Cyanide (free), mg/L	0.1	<0.05	nd
Lead, mg/L	0.05	<0.01	<0.01

[a]DENR Administrative Order 2008-XX (Water Quality Guidelines and General Effluent Standards;
[b] Data acquired from the EIS of Mactan North Reclamation Development Project, 2009
[c] nd – not determined

Results of the 2014 sampling reveal that most of the parameters are within the standard limits for Class SC water, except for Total Coliform, Phosphate and Copper. Previous analysis (2009 data) also show that Total Coliform exceeds the permissible limit, however, it was lower in 2009. Comparing 2009 and 2014 water quality data, the high number of coliform and relatively high concentration of Phosphate suggest that there may be an increase in human activities (i.e. disposal of untreated septage) along or near the bay fronting Brgy. Ibo.

The domestic waste water produced in the passenger terminal of MCIA is processed by a STP located near the Mactan Bay area. The STP effluent discharge is regularly monitored (monthly) by MCIAA as part of their compliance to the conditions stipulated in the discharge permit. The STP is operated by MCIAA, but will also treat the domestic waste water that will come from the future Terminal 2. The design capacity of the STP is 900 m^3/ day, but the current influent flow rate is less than 300 m^3. MCIAA has certificates of previous water quality tests from January 2014 to August 2014, analyzed by Technolab Analytical Group. The parameters analyzed are as follows: Dissolved Oxygen (DO), biochemical oxygen demand (BOD), chemical oxygen demand (COD) total suspended solids (TSS), total nitrogen (TN), total phosphorus (TP) and pH. These parameters are analyzed using the analytical methods and water quality Standards for Class SC water body shown in **Table 6-9**:

Table6-9
Effluent standards and analytical Methods for water quality analysis

Parameters	Effluent Standard, Class SC (for Mactan Bay)	Methods
DO, mg/L	-	Azide Modification (Winkler)
BOD, mg/L	100	Azide Modification
COD, mg/L	200	Open Reflux
TSS, mg/L	150	Gravimetric
TN, mg/L	-	Kjeldahl
TP, mg/L	-	Stannous Chloride-colorimetric
pH	6.0 – 9.0	Glass Electrode

Table 6-10 shows a summary of STP effluent water quality analyses based on the laboratory certificates from November 2013 to August 2014. A sample analysis is shown in **Annex 10.2**

Table 6-10

Water Quality data based on laboratory certificate of analysis

Parameters	2013		2014							
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
DO, mg/L	1.6	0	0	1.4	3.0	0	0	0	0	0
BOD, mg/L	43	52	70	29	32	99	99	61	17	75
COD,mg/L	168	314	188	188	120	163	260	218	219	220
TSS, mg/L	75	154	69	76	34	99	95	93	140	139
TN, mg/L	49	9.9	9.3	43	4.0	13	1.3	3.7	30	81
TP, mg/L	2.7	6.3	7.2	6.1	1.3	4.9	5.7	6.4	5.2	2.0
pH	7.06	7.75	7.55	7.88	7.34	7.40	7.86	7.75	7.76	7.93

Source: Technolab Analytical Group, Inc., Labangon, Cebu City

Based on the water quality results, the BOD concentrations from January 2014 to August 2014 are all within the permissible limits The COD concentration would sometimes exceed the effluent standard, but the MCIAA management has already committed to improve the operation and maintenance of the STP, particularly in the maintenance of the lift pumps. Lower COD are expected in the succeeding monitoring periods.

6.1.4 Air

6.1.4.1 Climate and Meteorology

The climate of Mactan Island belongs to the Type IV of the Modified Coronas Classification of Philippine Climate, which is relatively dry from November to April and relatively wet for the rest of the year. **Table 6-11**shows the climatological extremes in Mactan, Cebu.

Relying on information from the PAG-ASA and the Mactan Cebu International Airport (MCIA), Mactan's average annual rainfall is 1,547 millimeters. The entire island is generally remote from the normal and usual path of tropical cyclones originating from the Pacific Ocean.

Table6-11
Climatological Extremes in Mactan, Cebu (1973 – 2010)

	Rainfall			No. of Rainy days		Wind		
Month	Ave	Greatest	Highest One day	Ave	Greatest	Prevailing Direction	Average Velocity	Dew Point
JAN	105.2	403.3	126.6	12	27	NE	3	23.6
FEB	69.6	173.8	61.8	9	17	NE	3	23.5
MAR	58.6	243.5	141.3	8	17	NE	3	23.9
APR	48.1	251.7	174	6	14	NE	3	24.5
MAY	95.0	206.2	88.6	8	22	E	2	25.1
JUN	175.6	390.3	87.8	14	22	SW	2	25
JUL	192.9	391.3	99.6	16	22	SW	2	24.8
AUG	143.5	358.6	96.6	14	19	SW	3	24.6
SEP	179.6	375.5	97.3	15	21	SW	2	24.8
OCT	194.8	373.8	166.1	16	22	NE	2	24.8
NOV	161.9	493.7	276.1	14	20	NE	3	24.6
DEC	139.7	423.5	185.4	14	23	NE	3	24.1

	Rainfall			No. of Rainy days		Wind		
Month	Ave	Greatest	Highest One day	Ave	Greatest	Prevailing Direction	Average Velocity	Dew Point
Annual	1,564.50	493.7	276.1	146	27	NE	3	24.4

Source: PAGASA

6.1.4.2 Wind Data

Based on meteorological data from PAG-ASA, there are two prevailing wind directions in the area. One direction is the northeast monsoon, which generally blows from November to February. The other is the southwest monsoon, from May to September. In the Project area, the prevailing average wind speed is 14 kilometers per hour and the maximum sustained wind speed is 36 kilometers per hour.

This wind direction data implies that the surrounding area will be directly affected during the months of June to September when wind direction is towards the south and southwest due to southwest monsoon. The monthly wind direction and the area most likely to be affected by the dispersion of wind are presented in **Table 6-12**.

Table 6-12
Monthly prevailing winds and direction

Months	Wind Direction	Ave. Speed, m/s	Ave. Speed, km/hr	Wind direction, with reference to MCIA
JAN	NE	3	10.8	Towards the bay
FEB	NE	3	10.8	Towards the bay
MAR	NE	3	10.8	Towards the bay
APR	NE	3	10.8	Towards the bay
MAY	E	2	7.2	Towards the bay
JUN	SW	2	7.2	Towards the bay
JUL	SW	2	7.2	Towards MEPZA and airport
AUG	SW	3	10.8	Towards MEPZA and airport
SEP	SW	2	7.2	Towards MEPZA and airport
OCT	NE	2	7.2	Towards the bay
NOV	NE	3	10.8	Towards the bay
DEC	NE	3	10.8	Towards the bay

Source: Philippine Atmospheric, Geophysical and Astronomical Services Administration

6.1.4.3 Ambient Air Quality

Methodology (Air Quality Sampling)

Air samples were collected at different sampling stations within and outside MCIA. The location of the sampling stations were selected based on the proximity of the proposed project to critical receptors like communities, schools and hospitals, as well as the potential locations of engine-based equipment. The density of the municipality is also considered in determining the locations of the stations. It is anticipated that the ground level concentrations of air pollutants (due to aircrafts movements) are higher for receptors that are situated near and facing the airport, thus two sampling stations were placed in locations facing the runway, while one station is positioned facing the terminal, but surrounded by critical receptors (i.e. schools, residential and commercial establishments).

During the surveys, the coordinates of each observation sites were recorded using a Geographic Positioning System. The parameters measured include Sulfur Dioxide (SO_2), PM_{10}, Total Suspended Particulates (TSP) and Nitrogen Oxides (NO_x) for 24 hours. $PM_{2.5}$ is commonly emitted from due to the incomplete combustion of fuel (low efficiency combustion). In Cebu, many passenger vehicles have already employed the use of natural gas, which in most cases do not result to $PM_{2.5}$ emissions. Aircraft engines and fuels have very low $PM_{2.5}$ emission factor. For the purpose of this study, $PM_{2.5}$ was not included, but can be part of the proposed environmental monitoring plan.

The equipment used for the 24-hour average SO_2 and NO_2 level measurements was a Kimoto Handy Gas Sampler. The gas sampler uses an impinger that collects ambient air pollutants by bubbling the ambient air through an absorbing solution. After bubbling, the solutions were preserved and analyzed to determine the pollutant concentrations. The methods for the analyses of the parameters are Pararosaniline Method for SO_2 and Griess-Saltzman Method for NO_x or as specified by the Client.

For Particulate Matters (PM) and TSP, the instrument used was a Staplex high-volume sampler. This instrument collected particulate matter from ambient air in a glass fiber filter and measured the flow of ambient air through the filters of specific sizes. The filters were stored in a desiccator for at least 24 hours before and after sampling. The PM and TSP concentrationswere computed using the initial and final weight of the filter, average flow rate and the sampling duration.**Table 6-13** shows the results of ambient air quality sampling.

Table 6-13
Ambient Air Quality

Parameters	Method	DENR STD	SS1	SS2	SS3	SS4	SS5
PM_{10}, g/Ncm	Gravimetric Method-High Volume	150	48	93	59	98	101
TSP, µg/Ncm	High-Volume -Gravimetric	230	86	98	66	44	150
NO_2, µg/Ncm	Gas Bubbler -Greiss -Saltzman	150	0.9	1.55	<0.10	<0.10	<0.10
SO_2, µg/Ncm	Gas Bubbler -Greiss -Pararosaniline	180	1	1	<1	<1	<1
CO,ppm	Direct Reading -Using Electrochemical Sensors	-	0	0	0	0	0

Based on the results above, the air quality level in all sampled areas are within the permissible levels in the DENR standards. SS1 is situated on a grassy lot in front of the MIP building, adjacent to Terminal 1. SS2 is located in front of Terminal 1 near the cargo transport area. The PM_{10} and TSP in SS1 would most likely come from dusts carried by the wind coming from the apron. In SS5, the dusts emitted PM_{10} and TSP are relatively high in Brgy Basak, which is influenced by the soil disturbance (due to student activities at the Science Technology Educational Center (STEC)) during the time of sampling.

6.1.4.4 Ambient Noise

Baseline Noise levels

Ambient noise levels were determined at 5 stations near the airport by using a sound level meter. The location of these stations are summarized in the following table and in the figure below:

Table 9.
Location of the Monitoring Stations around MCIA

Monitoring Station	Name	Latitude	Longitude	Land Use
1	STEC 1	10°17'50.06"N	123°57'55.88"E	Recreation/Parks and Greens
2	Evangelista	10°17'35.34"N	123°58'6.47"E	Recreation/Parks and Greens
3	Helenville	10°18'4.68"N	123°58'44.81"E	Recreation/Parks and Greens
4	EMD	10°19'8.79"N	123°59'39.13"E	Recreation/Parks and Greens, Light Industry Zone
5	STEC 2	10°17'47.05"N	123°57'58.81"E	Recreation/Parks and Greens

The first station is found inside the Science and Technology Educational Center (STEC) near the airport perimeter and Runway 04. It belongs to Barangay Basak and the area is classified as Recreation/Parks and Greens in CLUP.

The second station is located inside the house compound of Col. Evangelista. This station is facing the airport perimeter fence and is located near a busy road and at the back of St. Augustine International School. The area belongs to Barangay Basak and is classified as Recreation/Parks and Greens in the CLUP.

The third station is situated within Helenville Subdivision, and is a few blocks away from the Holy Infant School. This monitoring area is approximately 150 meters from the airport fence. It is within the border of Barangay Pajac, Bankal, and Pusok and is classified as Recreation/Parks and Greens in CLUP.

The fourth station is located within a residential area at the back of EMD Carmelite School, and is fronting the airport perimeter fence. This area belongs to Barangay Buaya and is within the classification of Recreation/Parks and Greens and Light Industry Zone in CLUP.

The last station is also located within STEC and is very near Runway 04. This station was chosen because of its proximity to the runway 04 (RWY 04) where noise is perceived to be the loudest prior to the departure of aircrafts.

Inside MCIA: MS1 and SS2; Barangay Bankal (SS3); Barangay Pusok (SS4) and Barangay Basak (near STEC)(map source: Google Earth)

(Inset map) Mactan Island (map source: Google Earth)

Figure 6-7
Sampling locations for Ambient Air Quality and Noise Levels

Results of the monitoring are summarized in Table 10 below. Values are presented in chronological order[6] and expressed as either DNL, L_{eq} (24-hour average), L_d (7AM-10PM average), L_n (10PM-7AM), L_{max}, L_{min}, L_{10} (10^{th} percentile rank value), L_{50} (50^{th} percentile rank value), and L_{90} (90^{th} percentile rank value). Figures 7 to 11 below represent the plotted data.

Table 10.
DNL Values of the 5 Monitoring Stations

Monitoring Station	DNL (dB)	Sampling Date	Time Period	Noise Level in dB					
				Ave	Min	Max	L_{10}	L_{50}	L_{90}
MS1 STEC 1	59.13	9pm 5Nov (W) - 9pm 6Nov (Th)	24Hrs	55.4	43.2	80.4	64.5	56.4	46.3
			L_d	58.9	46.2	80.4	66.0	58.3	52.9
			L_n	49.5	43.2	77.0	56.9	47.6	45.4
MS 3 Helenville	54.98	10pm 6Nov (Th) - 10pm 7Nov (F)	24Hrs	49.5	37.9	85.5	58.2	48.0	43.3
			L_d	50.3	40.5	85.5	58.6	48.7	44.7
			L_n	48.2	37.9	77.1	57.3	46.2	42.0
MS 5 STEC 2	53.94	7am 8Nov (Sa) - 7am 9Nov (Su)	24Hrs	48.6	39.0	83.2	60.5	55.1	42.6
			L_d	49.5	39.0	83.2	61.7	46.8	42.5
			L_n	47.1	40.5	82.3	57.0	44.7	42.7
MS 4 EMD	57.46	9am 9Nov (Su) - 9am 10Nov (M)	24Hrs	53.6	42.0	89.0	62.5	53.2	44.1
			L_d	56.6	43.7	89.0	63.9	56.0	48.3
			L_n	48.6	42.0	88.9	56.7	45.8	43.5
MS 2 Evangelista	59.78	12nn 10Nov (M) - 12nn 11Nov (Tu)	24Hrs	55.3	42.1	84.5	62.3	55.2	46.3
			L_d	57.0	46.6	84.5	62.4	56.2	52.4
			L_n	52.3	42.1	84.4	61.8	50.9	44.4

6.2 Description of Socio-economic Conditions

6.2.1 Land area

The LGU Profile of Lapu-Lapu City, 2010 indicates that the area of the city is 6,424.19 hectares. Lapu-Lapu City is a first class and a highly urbanized city in the province of Cebu. It occupies most of the Mactan Island, and also covers the Olango Island group and a few islets. The city is also part of the Cebu Metropolitan Area.

The city is joined to Mandaue City on mainland Cebu by the Mactan-Mandaue Bridge and Marcelo Fernan Bridge. Mactan-Cebu International Airport, the second busiest airport in the Philippines, is located at Lapu-Lapu City.

The airport is within the boundaries of Barangays Pajo, Pusok, Buaya, Bankal, Pajac, and Basak.

Barangay Pajo has a land area of 154 hectares and a population of 26,400 as of 2013. It is a first class barangay where main sources of livelihood are employment, business,

[6] Note: Permit to conduct a 24-hour monitoring to all 5 stations was not given simultaneously, as such conduct of monitoring did not follow by station number.

entertainment and manufacturing. It has 2 public and 8 private pre-schools; 2 public and 5 private elementary schools; and 2 public and 3 private high schools. Social amenities include telephone system and 2 cable tv systems. Power is supplied by Mactan Electric Cooperative while water provider is the Mactan Cebu Water District. Based on the CLUP 2010-2020, there are 219 informal families in Pajo, occupying approximately 1.4 hectares of private land.

Other barangays that are likely to be affected are Barangay Ibo, particularly the route that might be affected when transporting construction materials to the terminal site; Barangays Buaya, Bankal, Pajac, Basak, and Pusok that are partly within the flight path of incoming and outgoing aircraft.

Barangay Ibo has a land area of 230 hectares and a population of 12,465 as of 2014 baed on its Barangay Profile, where nearly 60% are permanent residents and the rest are transient or boarders who work in nearby Mactan Export Processing Zone. CLUP 2010-2020 indicates that there are 222 informal families occupying .2 hectares of government land.

Barangay Buaya has a land area of 271 hectares and its population as of 2014 Barangay Profile is registerd at 16,339.The main livelihood activities of the people are fishing, shellcraft, small business, factory works, employment with government, and retail, small food business, and retail selling of fish and vegetables.

Barangay Basak has a large area of 603 hectares, of which 63 hectares had been developed as an economic zone which is the City Light Industrial Park. Its population as of 2010 (CLUP 2010-2020) was recorded at 45,927. The people's main source of livelihood is employment in the export processing zone. Barangay Basak is the seat of the Mactan Doctors Hospital, Blue Sky Hotel, Indiana Aerospace University and many other business establishments. CLUP 2010-2020 indicates that there are 272 informal families in Basak occupying 2.3 hectares of government land.

Barangay Pusok has a land area of 153 hectares. Its present population is recorded at 27,365 based on its Barangay Profile. Being strategically located at the heart of Lapu-Lapu City, it is the show-window of tourism and is considered as a commercial and industrial area. It consists of 348 commercial establishments and it is the seat of the MCIA. Despite the presence of many commercial establishments, the Barangay Profile of Pusok indicates that it has the largest number of urban poor areas attributed to the influx of inhabitants from different regions taking advantage of job opportunities offered by PEZA which is very near to Barangay Pusok.

6.2.2 Population and demography

Based on the **2010 Census on Population and Housing**, Lapu-lapu city has a population of 350, 467, which is larger by 133,448 compared to its population in 2000 which was recorded at 217,019. The increase in the population count from 2000 to 2010 is translated to an average annual population growth rate (PGR) of 4.91 percent. This is higher than the 4.03 percent annual PGR of the city between the census years 1990 and 2000. It is also much higher than the population growth rate of Cebu Province at 1.68% and Cebu City at 1.46% for census years 2000 – 2007.

Based on the annual growth rate of 4.91 percent from 2000 to 2010, the population projection of Lapu-Lapu City is estimated to double after 15 years (2025) as follows (**Table 6-15**):

Table 6-15
Population Projection in Lapu-lapu City (2011 – 2025)

Year	Population	Year	Population
2011	367,675	2019	539,510
2012	385,728	2020	565,999
2013	404,667	2021	593,790
2014	424,536	2022	622,945
2015	445,381	2023	653,532
2016	467,249	2024	685,620
2017	490,191	2025	719,284
2018	514,259		

Based on the CLUP of Lapu-Lapu City, Ibo is one of the barangays with fast growing population. Its population in 2012 was recorded at 8,386 which accounts for 2.3% of the total population of Lapu-Lapu City for the same year. Total land area of Barangay Ibo is 148 hectares with a percent share of 2.3% of total area of Lapu-Lapu City. On the other hand, Pusok has an area of 153 hectares or 2.3% share in the total area of the city. Its population in 2012 was registered at 32,985 which accounts for 9.1% of the city's population in the same year.

Among the 30 barangays comprising Lapu-Lapu City, barangay Basak is the most populous with a population size making up 13.1 percent of the total population of the city. Barangay Gun-ob ranks second with 9.9 percent share, followed by Mactan (8.3 percent), Pusok (7.6 percent), Pajo (6.6 percent), Babag (5.1 percent), and Marigon (5.0 percent each). The rest of the barangays contributed less than 5.0 percent each.

The least populated barangay is Cawhagan with 0.5 percent share to the total population of the city in 2010 (**Table 6-16**).

Table 6-16
Population distribution in Lapu-lapu City per barangay

Barangay	Population	Percentage population
1. Agus	8,185	2.34%
2. Babag	17,721	5.06%
3. Bankal	13,802	3.94%
4. Baring	3,014	0.86%
5. Basak	45,927	13.10%
6. Buaya	12,123	3.46%
7. Calawisan	8,433	2.41%
8. Canjulao	11,471	3.27%
9. Caohagan	559	0.16%
10. Caubian	2,028	0.58%
11. Caw-oy	1,629	0.46%
12. Gun-ob	34,662	9.89%
13. Ibo	7,055	2.01%

Barangay	Population	Percentage population
14. Looc	14,073	4.02%
15. Mactan	29,262	8.35%
16. Maribago	12,064	3.44%
17. Marigondon	17,542	5.01%
18. Pajac	16,084	4.59%
19. Pajo	23,107	6.59%
20. Pangan-an	1,767	0.50%
21. Poblacion	8,243	2.35%
22. Punta Engano	7,106	2.03%
23. Pusok	26,568	7.58%
24. Sabang	5,603	1.60%
25. San Vicente	3,413	0.97%
26. Sta. Rosa	3,934	1.12%
27. Suba-basbas	5,457	1.56%
28. Talima	4,855	1.39%
29. Tingo	2,830	0.81%
30. Tungasan	1,950	0.56%
TOTAL	350,467	100.00%

In 2010 the female population accounted for 50.7% indicating a sex ratio of 97 males per 100 females, similar to the sex ratio of 2000 (96 males per 100 females).

Median age increased to 23.3 years in 2010 from 21.3 years recorded in 2000. The age distribution in 2010 indicated that one in every 3 persons (33%) was under 15 years old. Children aged 0 – 4 years comprised the largest group (11.9%), followed by age group 5 – 9 (11.3%) and age group 10 – 14 (10.5%).

The number of households in 2010 was recorded at 80,913, higher by 36,474 households compared with the 44,439 households posted in 2000. The average household size in 2010 was 4.3 persons, lower than the average household size of 4.9 persons in 2000 (**Table 6-17**).

Table 6-17
Average Household Size in Lapu-lapu City, 2010 and 2000

Census Year	Household Population	No. of Households	Ave. Household Size
2010	350,467	80,913	4.3
2000	216,045	44,439	4.9

Dependency ratio decreased to 56 dependents per 100 persons in the working age group. In 2010, the young dependents (0 to 14 years) comprised 33.1 percent of the household population while the old dependents (65 years and over) posted a share of 2.6 percent. The working-age population (15 to 64 years) accounted for the remaining 64.3 percent.

The overall dependency ratio was 56, which indicates that for every 100 working-age population, there were about 56 dependents (52 young dependents and four old

dependents).This ratio is lower than the dependency ratio in 2000, which was recorded at 65 dependents per 100 working-age population (61 young dependents and four old dependents).

Persons with disability comprised 1.2 percent of the population in the city

In 2010, around 4,300 persons or 1.2 percent of the 350,467 household population had a disability. This proportion of persons with disability (PWD) is similar to the proportion in 2000, which was 1.2 percent of the 216,045 household population of the city during that year. The number of PWD for the same year was around 2,600.

There were more females than males with functional difficulty.

Of the 308,667 household population five years and over, 2.0 percent (or 6,114 persons) had at least one type of functional difficulty either in seeing, hearing, walking or climbing steps, remembering or concentrating, self-caring (bathing or dressing), or communicating. There were more females (55.0 percent) than males (45.0 percent) among those persons with at least one type of functional difficulty.

6.2.3 Economic Situation of the City

Lapu-Lapu City is a first class and highly urbanized city. The Government of Lapu-Lapu City derive its income from local and external sources. The local sources comprise of tax revenues such as property transfer tax, real property tax, and local taxes and non-tax revenues from regulatory fees, business and service income, and other income/receipts. The external sources of income are share from national tax collection (IRA), other share from national tax collection such as share from economic zones and share from national wealth, and share from government owned and controlled corporations (GOCCs) like PAGCOR and PCSO.

Based on the Lapu-Lapu City Profile of 2013, the city revenues from 2008 – 2012 are shown in **Table6-18**.

Table6-18
Lapu-lapu City revenues from 2008 – 2012

	2008	2009	2010	2011	2012
Real Property Tax	62,065,983.48	58,243,602.21	63,851,552.24	77,275,957.69	100,697,099.88
Business Tax	290,785,531.56	280,459,483.97	309,730,192.11	365,074,533.75	414,344,060.78
Other Local Taxes	25,579,785.76	33,936,491.37	29,596,254.79	52,042,267.68	64,397,341.71
Permits and Licenses	28,031,042.64	29,926,114.85	34,462,414.07	36,102,658.84	43,628,998.01
Services Income	2,241,893.29	2,185,871.14	2,256,940.96	2,448,750.03	2,886,128.21
Hospital Fees/Income	5,748,607.20	8,084,530.42	11,160,956.48	11,116,831.64	11,662,443.69
Economic Enterprises	10,421,512.74	11,720,380.15	11,539,824,89	9,942,367.13	10,689,755.87
Other Non-Tax Revenue	29,445,083.73	33,282,028.11	32,193,519.04	33,776,117.98	41,122,041.26
IRA	315,878,041.00	394,888,171.00	430,668,075.00	461,479,837.00	410,493,728.00

	2008	2009	2010	2011	2012
Others	3,384,092.69	2,432,674.38	2,457,807.72	4,837,108.21	4,176,083.97
Total Revenue	**773,581,574.09**	**854,709,317.60**	**927,917,537.30**	**1,054,096,429.95**	**1,104,097,681.38**
Increase		***81,127,743.51***	***73,208,219.70***	***126,178,892.65***	***50,001,251.43***

There are 6,542 commercial and industrial establishments that include factories in MEZ I and II, Cebu Light Industrial Park (CLIP), malls, gasoline stations, jewelry and pawnshops, private hospitals, pharmacies, restaurants and beach resorts, banks, water refilling stations and so many others, that have contributed to the economic growth of the city.Some of the major industrial firms operating in Lapu-Lapu City are the following :

- Oil Companies (Chevron, Pilipinas Shell, Petron Corp.)
- Export Processing Zones (MEZ I & II, Cebu Light Industrial Park (CLIP)
- Flour Milling (General Milling Corp.)
- Shipbuilding/Ship repair (Keppel Cebu Shipyard Inc.)
- Manufacturing/Export Companies (Heritage Muebles Export Co., JMX, TEC, ACM Manufacturing Inc., Arkwell, Sugeco, Interior Basic Export Corp.)
- Power Plant/Supply (MECO, East Asia Utilities)

The main industrial activities include the following:

- Fishing - at present there are about 600 has. of developed fishponds.
- Farming - fruits and vegetables
- Craftsmanship - because of its soil deficiencies and very rocky terrain, the people of Lapu-Lapu City have developed skills in carpentry, mechanics, printing, welding, plumbing, masonry, photography, metalwork, dressmaking and beauty culture.
- Cottage Industries - guitar making, lime manufacturing, rope making, mat weaving, shellcraft, furniture, poultry, mactan stone and piggery.
- Transportation - taxis, barges and ferry boats, motorized tricycles, multicabs, buses, truck and jeepneys.
- Domestic Air Lines - Mactan International Airport is geared to expanding its facility to cater to growth of international air traffic.
- Mactan Stone Factories
- Rattan Factories
- Shellcraft Factories
- Metal / Iron Factories
- Tropical Fish Marine Export

6.2.4 Poverty Situation

Due to lack of available data on poverty situation of Lapu-Lapu City, the profile on poverty situation of Central Visayas is hereby presented. The NEDA-Central Visayas reported to the Regional Development Council-Central Visayas that the poverty threshold for 2012 was P18,855 per month for a family of five. In the 2009 survey, 151,425 poor families were identified in Cebu and poverty incidence was at 25.2%[7].

[7]http://www.nscb.gov.ph/poverty/2009/table_17.asp

6.2.5 Labor force

Based on the Comprehensive Land Use plan of Lapu-Lapu City, the 2007 census of Lapu-Lapu

City recorded an estimated labor force of 184,232 equivalent to 63% of the total population. By the end of the planning period of City's labor force is projected to reach 334,844 as shown in **Table 6-19**.

Table 6-19
Projected Labor Force in Lapu-Lapu City

Year	Labor Force	Year	Labor Force
2012	228,053	2017	282,297
2013	237,996	2018	294,605
2014	248,373	2019	307,450
2015	259,202	2020	320,854
2016	270,503	2021	334,844

6.2.6 Livelihood

Lapu-Lapu City is a famous tourist destination that caters to a large number of hotels, eateries and recreational industries that in turn provide job opportunities in the locality. The synergy between the industries catering to migrant workers in Lapu-Lapu City also exist as a source of income to the local population providing bedspaces and house rentals to these transient workers. Based on the Lapu-Lapu City Profile, there were more than 3,000 commercial and industrial establishments which include the factories in MEZ I and II, financing establishments, manufacturing, exporter and banking establishments as well as insurance agencies. The main industries serving as a source of livelihood in the area include farming, fishing and manufacturing industries. Lapu-Lapu City also takes pride in its crafts and cottage Industries such as guitar making, lime manufacturing, metalworks, furniture making, shellcrafts and others.

The Mactan International Airport also provides employment in the locality.

6.2.7 Indigenous People

Majority of the household population (97.52 percent) in the Province of Cebu classified themselves as Cebuano. Other ethnic groups included Bisaya/Binisaya (0.94 percent), Kankanai/Kankaney/Kankanaey (0.23 percent), Boholano (0.15 percent), Tagalog (0.14 percent), Hiligaynon/Ilonggo (0.13 percent), and Bicol (0.06 percent).[8] Lapu Lapu City is home to approximately 430,000 people and to several industrial factories within the Mactan Export Processing Zone. It is a highly urbanized area and there are no indigenous peoples, ethnic groups or tribal groups in the project areathat fall under the category of indigenous peoples as described in ADB's SPS Safeguards Requirement 3: Indigenous Peoples.

[8] http://web0.psa.gov.ph/content/cebu-second-most-populated-province-philippines

6.2.8 Health

Based on the Lapu-Lapu City Profile of 2013, there are two government-run hospitals in Lapu-Lapu City. The Lapu-Lapu City Hospital, located at Barangay Gun-ob which is secondary that provides definitive care in the four (4) basic specialties, namely: medicine, surgery, obstetrics, gynecology and pediatrics.

The second government-run hospital is located in Sta. Rosa, Olango Island. The Sta. Rosa Community Hospital is categorized as a primary hospital and serves the barangays in Olango Island.

To promote Family Welfare and improve the quality of human life in a just humane society through primary health care approach the City Health Office is also extending medical consultation, dental consultation, case finding (laboratory services) and treatment, control of diarrheal diseases, immunization, family planning seminar .

The education campaign conducted by the City Health Office in partnership with the Barangay Health Workers effectively lowered the rate of malnutrition among children in the City in the last three years.**Table 6-20** shows the percentage rate of malnutrition in Lapu-lapu City in 2011, 2012 and 2013.

Table 6-20
Degree of Malnutrition in Lapu-lapu City

Degree of Malnutrition	2011		2012		2013	
	No.	Rate	No.	Rate	No.	Rate
Underweight	552	0.94%	595	0.99%		0.97%
Severely Underweight	193	0.33%	108	0.18%		0.29%
Total	745	1.27%	703	1.17%		

Based on City Health Office records, the ten (10) leading causes of morbidity in Lapu-Lapu City for the last three years are;

1. upper respiratory tract infection
2. skin infection
3. Animal Bite
4. Tuberculosis
5. Punctured Wound
6. Hypertension
7. Diarrhea
8. Pneumonia
9. Malnutrition
10. .Bronchial Asthma

On the other hand, the ten (10) leading causes of mortality for the last three years are:

1. pneumonia
2. hypertensive vascular disease
3. cancer (all types)
4. myocardial infraction

5. diabetes mellitus
6. pulmonary tuberculosis
7. Traumatic Injury/gunshot/stab wound
8. Renal Failure
9. Septicemia
10. Congestive heart failure

6.2.9 Transportation/Traffic Situation

Table 6-21 shows the total lengths of each type of major roads in Lapu-lapu City. Based on the Lapu-Lapu City Profile, the total road length of Lapu-Lapu City is 115.757 kilometers and almost 72% are barangay roads. However, most of its roads (52%) are still paved with gravel and only about 7% are concrete. The short Mactan-Mandaue Bridge connects Lapu-Lapu and the rest of Mactan Island with Mandaue on Cebu Island.

Table 6-21
Road Lengths in Lapu-lapu City

ROADS	LENGTH (kms)
A. HIERARCHY OF ROADS	
1. Barangay Roads	83.488
2. City Roads	2.881
3. National Roads	27.788
4. MCDP Highway	1.600
B. PAVEMENT TYPE	
1. Concrete	8.043
2. Asphalt	47.206
3. Gravel	60.508

The simplest way to get around is by hopping on a tricycle or multicab (small jeepney). Taxi is also available for a comfortable trip.

The Mactan-Cebu International Airport is located in Lapu-Lapu City and it is a major trade center in the south for both domestic and international traffic. It is the main entryway to Cebu and traffic is continually increasing. It is now serving 602 commercial flights weekly transporting 10,223 passengers daily. The Mactan Cebu International Airport is only 3 to 4 hours to 14 cities in Asia Pacific and is the country's second primary gateway.

7. Environmental and Social Audit Findings and Areas of Concerns

7.1 Environmental, health andsafety policy

As far as operation and maintenance of the passenger terminals are concerned, there are no expected overlaps in responsibilities between MCIAA and GMCAC. Availability of management plans and system manuals are discussed in the following sections.

7.1.1 Environmental management plan

MCIA did not have an environmental management plan since the start of its operation. As part of the commitment of GMCAC to ensure that the operation of the terminals will not cause any significant environmental issues, a third party contractor (SGS Philippines) was commissioned GMCAC to prepare an environmental management plan(EMP), which will be

implemented at the start of their concession. The details of this EMP canbe found in **Annex 3.**This EMP includes the following:

- Impact management and monitoring plans for
  - Hazardous and non-hazardous wastes,
  - Water and wastewater quality management,
  - Air quality and Noise level management, and
  - Impacts on People, which took into consideration occupational safety, population, employment, additional revenues to the local government units (LGUs)
- Information, Education and Communication (IEC)
- Social development program
- Environmental risk management and emergency response program
- Abandonment programs, and
- Institutional plan

7.1.2 Safety management system (SMS) manual

MCIAA has prepared a SMS manual in January 2011 for the existing terminal, which is included as **Annex 4**. This manual contains MCIAA's safety policies and objectives, includingthe company's safety commitment, corporate roles in the SMS, and documentation of aspects concerning safety. The manual provides guidelines on Safety Risk Management, which includes a process on hazard identification, and documentation of hazards and incidents. The manual also detail s the promotion of safety within the organization.

In July 2014, GMCAC issued a new SMS manual, included as **Annex5**, which has minor differences with the earlier SMS (e.g. safety risk management for Aprons). The new SMS ensures conformity with the Civil Aviation Act of 2007 and Doc. 9859 AN/474 Safety Management Manual (SMM) of ICAO.

7.2 Emergency preparedness and response plan

Emergency response is within the domain of the Emergency and Security Services Department (ESSD) of MCIAA. Based on an interview with Col. Melvin Gayotin (MCIAA)– ESSD Head, MCIAA has an emergency response manual that is maintained by the Crash Fire and Rescue Division, and the Medical Division (included as **Annex 6.1**). The emergency plan contains detailed emergency response procedures on various emergency cases, such as:

- Aircraft accident on and off the airport
- Bomb threats
- Ground incidents
- Structural fire
- Earthquake
- Hazardous material incident
- Aviation pandemic incident
- Crowd control

Part of the main features of the airport's emergency plan include: i) evacuation route plan and ii) emergency communications plan. Roles and functions of the emergency response teams are clearly explained. Records of emergency incidents are maintained using the forms in **Annexes5.2** and **5.3**.

Recently, Cebu has been identified to be at high risk for landslide and flooding landslide. In the case of landslide, based on Mactan Island's geomorphology, its topography is indicated by nearly flat terrain, which makes the proposed Project at no risk to any landslide.

Flooding in MCIA normally occurs during the monsoon and typhoon seasons. The MCIA Airport Emergency Plan (MAEP) in **Annex 6.1** provides a detailed approach on how MCIAA will respond to emergency situations, which includes extreme weather conditions (Section 3.10, EMPLAN 10).The emergency plan also details the responsibilities of concerned offices/personnel during weather monitoring and actual event of emergency. This however does not include response procedures for flood emergency situations.

7.3 Environmental clearance and other pertinent clearances

The sewage treatment plant (STP)of MCIA was issued an environmental compliance certificate (ECC) by the Environmental Management Bureau (EMB) Region 7, and is kept and maintained by the Environment Management and Safety Office of MCIAA. Other pertinent clearances that are being maintained are as follows:

- The STP discharges directly to the artificial storm drain, which leads directly to the Mactan Bay.

- The Airport maintains 3 units (one 300 KVA and two 537 KVA) diesel generating sets; two (2) units of 1538 KVA Model 3512VB diesel generating sets; and two (2) units 182 Bhp "Cummins" water/fire pump diesel engine, all provided with exhaust muffler and silencer. The generator sets serve as standby power source in case of emergency power outage.

Table 7-1shows a summary status on the compliance of MCIAA in the ECC conditions of the STP.

Table 7-1
Review of ECC conditions for the STP

ECC Conditions	Remarks
i. Area coverage of 1.3 ha, only for the STP; ii. Rate of 56.8 cu.m./day	• Compliant, the STP is within the 1.3 ha allocated land . • Compliant, wastewater influent is always less than 56.8 cu.m./day
iii. Effluent flow is chlorinated; iv. Comply with Effluent standards of DENR	• Compliant • From Nov 2013 to August 2014, most parameters comply with the DENR standards (for Class SC waters), except for COD in Dec 2013, and from May 2014 to August 2014. Exceedance in BOD was also reported in 2010.
v. Safety measures and good housekeeping vi. Maintenance of equipment	• Compliant • Recently improved and complied
vii. Monitoring of effluent parameters viii. Results of analysis submitted	• Compliant

ECC Conditions	Remarks
quarterly	• Compliant
ix. Buffer strip of trees with the perimeter of the treatment	• Trees along the perimeter of the STP are present.
x. Landfill area for the sludge generated	• At present, the sludge coming from the drying bed is collected by MCIAA employees as soil conditioners for yard plants. Other solid wastes generated by the STP is collected by a private contractor (FDRCON Company, Inc.) for further segregation of non-biodegradable wastes and composting of biodegradable wastes.
xi. Authority to Construct for STP xii. Permit to Operate for APSE	• Complied • Compliant
xiii. Adequate storage facility for rainwater for the restrooms, fire hydrant, lawn, groundwatering etc.	• The cistern can be used to store rainwater, but generally, water coming from the water district is used for the daily operation of MCIA. The water regularly used for flushing in restrooms, fire hydrants and watering lawns generally come from the water district to ensure a more stable water supply.
xiv. Compliance to P.D. 984 and RA 6969	• Generally complied, except for the recent increase in COD concentration in the effluent. This is being addressed thru improved maintenance of STP facilities (e.g. regular check STP equipment)
xv. Solid wastes (screenings, sludges) shall be properly classified for recycling or collection/hauling to designated area	• Compliant

7.4 Environmental Monitoring

A quarterly self-monitoring report (QSMR) for the STP is regularly prepared by MCIAAin compliance to the requirementsof EMB based on the STP'sECC terms and conditions.
The existing terminal does not have an environmental monitoring plan, but upon the start of the Concession, GMCAC shall apply the environmental monitoring plan detailed in Table 2 of **Annex 3**. This plan shall focus on the environmental monitoring of both the existing and proposed new terminals. It shall cover the monitoring of solid and hazardous wastes, air quality from pollution sources, ambient air quality, noise levels within the terminal premises, and wastewater that goes to the sewer.

7.4.1 Water quality

Water discharge from the sewage treatment plant is being monitored on a regular basis, at least once every month.. The parameters include:

- Dissolved Oxygen (DO)
- Biochemical Oxygen Demand (BOD)
- Chemical Oxygen Demand (COD)
- Total Suspended Solids (TSS)
- Total Nitrogen
- Total Phosphorus
- pH

Section 6.1.3 above details the results of the STP effluent water quality. The laboratory analyses show that all parameters are within the DENR permissible level except for COD, which sometimes exceed the effluent standard. To ensure that COD will comply in future

monitoring, MCIAA will make sure that all the equipment, such as the lift pump and oxidation ditch of the STP, are well maintained.

7.4.2 Ambient Air Quality

MCIAA, at present, does not have an ambient air quality monitoring plan for the existing terminal, since an EMP was not prepared since the beginning of the terminal's operation.

For the purpose of obtaining a baseline for the ambient air quality, sampling stations were determined to established within MCIA (2 stations), and along the airport's immediate vicinity (3 sampling stations were situated within the nearby residential commercial, and institutional facilities.

7.4.3 Ecology

There are no critical habitats within the Project area. The Project site has been well developed to cater to the busy activity of incoming and outgoing traffic of planes and passengers. Trees on the landside are managed and maintained for aesthetic purposes.

7.4.4 Solid wastes management (non-hazardous wastes)

In the existing terminal, it is the responsibility of each concessionaire to regularly bring their own segregated solid wastes (garbage, trash etc) directly to the airport's solid wastes staging area. From the staging area, a private hauler (FDRCON) collects all the solid wastes, and then transferred to a Materials Recovery Facility. Recyclable materials are recovered and sold to recycling facilities, while materials with high calorific values (such as petroleum-based products) are sent to a cement- processing plant as refuse-derived-fuels (RDF). Biodegradable materials are sent to a composting facility owned by the hauler.

At MCIA, the staging area for solid wastes is made of concrete with 3 compartments: 2 for non-biodegradable wastes, and 1 for biodegradable wastes. It was noted that the compartment gates for the non-biodegradable wastes require fixing, and that rainwater can freely seep through all the 3 compartments. Domestic animals can also freely access all of three compartments. According to MCIAA, a new, but larger waste facility will be constructed, with better safety and security features, details of which are not yet available during the time of audit.

Upon the start of the GMCAC-MCIAA Concession, the management of solid wastes shall be under GMCAC's responsibility. GMCAC shall apply the solid waste management plan prepared for the existing terminal, which covers 1) Waste Minimization, 2) Waste Segregation, 3) Utilization of Reusables, 4) On-site Waste Storage, and 5) Waste Disposal. Details of these are shown in Section 1.1 of **Annex 3**(EMP for the existing terminal operation of Cebu International Airport)**.**

7.4.5 Hazardous wastes management

Training and awareness campaign on hazardous waste management has been provided to all concerned employees of MCIAA. A temporary storage area for hazardous wastes has been established, but plans for disposal and treatment of stored hazardous wastes (e.g. busted fluorescent lamps) are already under way. According to a representative of the Property Office, MCIAA intends to have all the stored hazardous wastes treated and disposed before the end of 2014.

GMCAC has prepared a management plan for hazardous wastes to be implemented during their concession (**Annex 3**). A more detailed management plan shall be prepared by GMCAC prior to the start of their concession on Terminal 1 and 2.

7.4.6 Ambient noise level monitoring

The monitoring of ambient noise level has never been carried out outside the premises of the existing terminal. The environmental monitoring plan for the airport was not available since the start of its operation. Based on the scoping meeting with DENR-EMB Region 7 (for the proposed expansion and rehabilitation of MCIA), the environmental management and monitoring plans for the existing airport must be prepared as part of the EIA Study for ECC application.

7.5 Land acquisition and involuntary resettlement

Mactan Airport has been established in 1960 as a replacement to Lahug Airport located in Cebu City. This airport was later expanded to become the Mactan Cebu International Airport (MCIA), which is being operated by MCIAA since the 1960s. The terminal 1 facility was built on a 1.3 hectare land. There are no outstanding claims or complaints or compensation issues related to the land where the existing airport and related facilities are located.

The project will pursue the renovation of the existing terminal (T1) and a new terminal (T2) will be constructed on 12 hectares of land adjacent to the existing terminal which is currently occupied by the Philippine Air Force (PAF).Several military facilities such a hangar, military barracks, parking lot, military ramp, armory, among others are presently installed on PAF lands which will be replicated within the PAF territory as per the memorandum of agreement (MOA) signed between MCIAA and PAF on 15November 2013. The MOA further permits MCIAA to utilize the proposed land for the concession project and indicated that all facilities of the PAF will be replicated by the PAF prior to the construction of T2.
The planned improvement of the airport road network which is connected to the 4-lane main access road leading to the city will not require any right of way (ROW) acquisition. There are also no informal settlements or structures including any ambulatory vendors or users on the existing road network which will be improved under the Project.

There are no other project facilities which will require any further land acquisition, land purchase or ROW acquisition or clearance.

7.6 Indigenous peoples

The Project is located in Lapu Lapu City, a highly urbanized city where there are no indigenous peoples, ethnic groups or tribal groups that fall under the category of indigenous peoples as described in ADB's SPS Safeguards Requirement 3: Indigenous Peoples.

7.7 Labor, working conditions and occupational health and safety

The HR Policies of GMCAC are generally compliant with the IFC Performance Standard 2 on Labor and Working Conditions. The GMCAC HR policies promote sound worker-management relationship by implementing its grievance mechanism, regular coordination meetings, performance recognition through awards system, healthy working conditions as embodied in the Work Environment Policy and protection of the right of employees. Performance incentives are very well laid out with the objective of increasing employees' efficiency levels. Capability upgrading programs are also lined up to help the employees attain their career goals. Furthermore, the benefits for employees extend to their family

members, particularly education benefits for their children. In protecting the rights of employees, the Grievance Management Policy shall be implemented by GMCAC.

MCIAA endorsed a list of 94 personnel whose functions are directly involved in the terminal operations for appropriate transfer to GMCAC. These personnel were offered jobs by GMR of whom only 46 or less than half accepted the offer. GMR affirmed the following employment terms:

- There will be no reduction in the current salary of MCIAA employees who accepted the offer to transfer to GMCAC.
- All transferees shall not undergo probationary status. They will retain their regular employment status.
- There will be no question of redundancy of functions from the employees' present position and job description. In terms of employees' benefits, GMCAC is currently studying the present benefits of the employees, based on which, a new structure will be worked out. However, the current salary will be protected. According to GMCAC, the basic benefits for employees will be provided in accordance with the national labor laws pertaining specifically to minimum wage, overtime pay, vacation and sick leaves, maternity leaves for women employees.

A brief consultation with some representatives of MCIAA employees who accepted the job offer revealed that the primary consideration for their acceptance is their perceived professional growth resulting from the expansion and modernization of the new airport under private management. GMCAC's human resource policies include enhancement of individual and organizational capacity by means of periodic trainings and more exposure to world-class airport operations. However, the trade-off is for these employees to waive their government benefits, such as government retirement pension---- particularly pertaining to their service record that shall be the basis for their retirement pension. Specifically, none of them shall avail of government pension since none have reached retiring age even if they have rendered significant number of years in the government service. In other words, they shall waive their government retirement pension in favor of severance or separation pay from the government service.

On the other hand, GMCAC shall apply the benefit policies of Social Security System to MCIAA transferees to private sector.

Similarly, representatives of MCIAA employees who refused transfer to GMCAC indicated that their main concern is length of service that they have rendered as government employees and its concomitant retirement benefits.

According to GMCAC, the total manpower requirement for the operation phase of Terminals 1 and 2 is 197 while labor requirement for the construction phase is estimated at 300 – 400 personnel. Outsourcing will be minimal such as housekeeping services.

Perceived impact of the project on the current employees of MCIAA: There is possible displacement of MCIAA employees whose functions are directly involved with airport terminal operations and who chose to remain with MCIAA because the entire terminal operations will now be managed by GMCAC. The issue was taken up by GMCAC with the MCIAA. The appropriate action that will be taken by MCIAA is to re assign the concerned employees to the other departments/functions. Based on the list of employees nominated by MCIAA for transfer to GMCAC, there are eleven (11) employees assigned to Operations who did not accept the job offer that MCIAA shall transfer to other departments.
GMCAC affirmed that the existing shuttle service for employees will continue and they will look into enhancing this service facility.

Other details of the new Human Resources policies are included as **Annex 11**.

On Occupational Health and Safety -- The Occupational Safety and Health Policy of GMCAC shall demonstrate its commitment to promote high standard of safety and health to prevent personal injury or ill health resulting from work activities for the duration of the project. The project aims at zero dangerous occurrences.The existing health and safety management procedures are contained in the MCIA Safety Management System Manual.

7.7.1 Work Environment Measurement (WEM)

WEM is performed regularly in various areas of the existing terminal as a means to monitor the safety of employees against the potential health hazards in their work place. A sample WEM report performed in July 2012, with reference number ECD-12-109-W (refer to **Annex 8**), shows six (6) parameters (i.e. dust, carbon dioxide, noise measurement, illumination, heat and general ventilation) measured in six (6) different locations within the vicinity of MCIA. The methods used in the measurement and analysis of these parameters conform to the Occupational, Safety and Health Standards of the Department of Labor and Employment (DOLE). Based on this report, WEM was carried out in the following areas: Baggage area, Collection area, Cashiering area, Property Department, Civil works area and Accounting Department.

Results are summarized as follows:

- Dust measurement: All the areas tested have dust concentration within permissible limits
- Carbon dioxide measurement: The tested areas have carbon dioxide concentration way below the threshold (passed).
- Noise level measurement: All the areas measured are within permissible limits, but may require mitigation measures in some areas to avoid reaching/ exceeding the permissible noise exposure level (PNEL). (Such as scheduled maintenance of equipment, and additional hearing protection for the workers)
- Illumination measurement: several areas were found to require better lighting, which may easily be addressed by replacing the light bulbs with better lux output, or simply place additional light source.
- General ventilation: the chiller area and the domestic baggage area have relatively low ventilation, but may easily be addressed by setting up additional ventilation fans, or generally improving the ventilation system.

7.8 Gender and Development

There is a difference in the distribution of employees in terms of gender. Of the 94 employees nominated by MCIAA for transfer to GMCAC, only 20% are female. Of the 46 employees who accepted the job offer, only 11% are female. Data on employees' gender obtained from GMCAC recently indicates that 42% of its total manpower requirement are females, showing a significant increase in the female-male ratio of employees as compared to the MCIAA records on female-male ratio. This is also aligned with GMCAC's goal of providing "equal opportunities for employment" of men and women.

Also pertaining to gender and development, it is noted that HR Policy of GMCAC covers procedures dealing with sexual harassment.

Table 7-2
Sex-disaggregated employees of MCIAA

MCIAA Employees who accepted GMCAC offer				Did not Accept Did not show up			TOTAL	TOTAL	
Department	**Male**	**Female**		**Male**	**Female**		**MALE**	**FEMALE**	
Engineering	11	0		17	0		28	0	
Operations	27	4		9	2		36	6	
Publc Affairs		1			1			2	
Collection	2			5	7		7	7	
General Services	1						1		
Corporate Planning					1			1	
Procurement					2			2	
totals	41	5	**46**	31	13	**44**	72	18	**90**
% share	89%	11%		70%	30%		80%	20%	

Table 7-3
Latest data from GMCAC pertaining to sex disaggregation of employees

Source	Female	Male	Total
MCIAA	5	41	46
MCIAA (Outside List)	4	28	32
GMCAC	0	6	6
Megawide	1	1	2
Market	82	49	131
Total	91	126	217
%	**42%**	**58%**	**100%**

Concerning Concessionaire's design of the airport facilities, the following features are deemed beneficial to women, children and persons with disability.

- Covered walkways from car park to terminal buildings
- Expansion of terminal areas to facilitate movement of disabled persons especially those who move in wheelchairs
- Increase in number of toilet facilities in strategic location and expansion of toilet floor area, and assigning separate toilets for women and disabled persons.
- Increase in seating facilities in check-in halls
- Expansion and improvement of welcome and send-off areas to accommodate non-passengers

While the detailed design of airport facilities from GMCAC is not yet available, the following gender sensitive features are recommended for consideration:

- Special facilities that cater to sensitive needs of womenand children such as baby changing room, breastfeeding room, rest area suitable to persons with disability and the elderly
- Separate queue and security screening for male and female
- Screening of female passengers by female security personnel only
- Provision for anti-trafficking office for women and children

In addition to the above design features for consideration, GMCAC should also consider conduct of gender orientation and training among airport personnel especially those who are assigned to ground terminal operations.

There is no existing cultural heritage site in the project area. As confirmed with the Lapu-Lapu City Tourism Office, none of the affected military installations inside the Benito Ebuen airbase are considered cultural property, or declared as built heritage by the National Museum or National Historical Institute as defined in Republic Act No. 10066.

7.10 Security arrangements

MCIAA, through its Emergency and Security Services Department ESSD, is responsible for the general airport security such as airside security, security for anti-sabotage, security for anti-hijacking, and maintenance of law and order. Description of airport security in MCIA is shown in **Annex 9.**

7.11 Preliminary consultation of stakeholders

The first stakeholders' consultation was carried out by GMCAC during the preliminary design stage of Terminals 1 and 2 on June 26, 2014. Stakeholder representatives were form MCIAA, Customs, Immigration, and Office of the Security in Cebu. A similar consultation was held with Manila Airport Operation Control (AOC) Executive Committee on July 2, 2014.

In both consultation meetings, GMCAC presented the airport Master Plan, design criteria, capacity, internal layouts and process flows of Terminals 1 and 2. There were no particular issues raised by the Manila AOC ExCom since the presentation coverage was only the preliminary design. Subsequent meeting shall be held with Manila AOC ExCom during the Detailed Design phase.

On the other hand, the stakeholder representatives from Cebu raised a number of issues that GMCAC shall address as summarized in **Table 7-4**.

Table 7-4
Summary of the preliminary consultation meeting

Stakeholder Participants	Issues Raised	GMCAC Reaction/ Action to Take
MCIAA officials	Narrow vehicular lanes for T1 arrival passengers.	Preliminary calculations show that capacity is adequate, but GMCAC shall validate during the Detailed Design.
	Door Frame Metal Detector (DFMDs) at T2 entrance might obstruct passenger movement with trolleys.	Requirements for DFMDs in T2 when the terminal is equipped with in-line screening will be discussed with OTS during the Detailed Design phase. Adequate area is being planned.
	Adequacy of GSE area availability There is a requirement for baby care room at departure level of T2.	GMCAC shall consider this requirement in the Detailed Design.

Stakeholder Participants	Issues Raised	GMCAC Reaction/ Action to Take
Customs Officials	For T2, a quarantine counter facility is required in the check-in hall to enable the passengers to declare forex even before they check-in. Provision for an Exclusion Room and Inter-Linebaggageroomintheirof ficesatT2. Need for CCTV cameras at the Customs Zone	GMCAC confirmed that a space will be provided in the form of a cubicle. GMCA clarified that the office space provided is large and internal partitions created can be used to divide the space as required. GMCAC has clarified that this has been noted and will be taken up during Detailed Design stage.
Immigration Officials	The immigration counters are in a bad condition including the hardware/software. Overall the immigration facility has only 6 passport readers in both arrival and departure levels. Additional Immigration manpower at Cebu airport is being requested. Immigration officials have expressed need for a few CCTV cameras at the Immigrations ZoneatT2toprofilethepass engers. Immigration rep has requested for Suspect Holding Rooms at Departure and Arrival levels.	GMCAC clarified that they will be provided with hardware to improve the passenger processing rate. Immigration confirmed that the average processing time achievable is 45seconds. GMCAC clarified that this has been noted and will be d iscussed with them during Detailed Design stage. GMCAC clarified that this can be accommodated in the areas assigned to them.
Security Officials	On the issue of exemption from security screening in the VIP lounge, OTS clarified that only the President and Vice-President are exempted from screening.	

In addition to the stakeholder preliminary consultation conducted by GMCAC, two separate small stakeholders' consultation meetings were organized (both facilitated by WCI). The first (September 1, 2014) was to determine the employees' awareness and perception of the

Project, while the second one (September 2, 2014) was to get a profile of the existing airport concessionaires, as well as identify the potential impacts of the Project on their operations.

A third Participatory Consultation initiative was conducted by GMCAC with guidelines from WCI in terms of selection of key informants and topics for discussion.

Twenty (20) representatives were invited to participate in the Key Informant's Interview held on Sept.24-25, 2014 in Lapu-Lapu City. The Key Informants represented neighborhood associations from nearby barangays of Matumbo and Ibo, government and private employees.

The topics covered were a) project awareness; b) concerns and issues about the Project; c) recommendations to address such issues; and d) perceived benefits of the Project.

7.11.1 First small group consultation meeting (with MCIAA) employees)

In the first meeting, two groups of employees were represented: i) those who accepted the job offer of GMCAC, and ii) those that refused the job offer of GMCAC. Two participants for each group participated in the small group consultation. The results of the consultation, including recommendations are summarized in **Table 7-5**:

Table 7-5
Summary of the First small group consultation meeting

Topic	Issues/Remarks	Recommendations
1. Project Awareness	• The participants disclosed that they did not get a clear picture of the Project from the management of MCIAA. It was a simple announcement that a new management shall take over in the operations of MCIA. • They obtained more thorough information from the orientation seminars conducted by GMCAC • Other sources of information they identified were co-employees; newspaper; and internet.	• The participants recommended a continuing project orientation among the MCIA staff including those who are not transferring to the new management outfit for better understanding of delineation of tasks and responsibilities in the entire airport operations.
2. Perceived Impacts of the Project	• The top-ranking perceived impact of the project is improvement in the airport operations and management towards achieving international standards. • The expansion or airport operations shall contribute to the city's economic growth. • A direct positive impact on the employees who accepted	• Recommendation to change INFORMATION counter to CUSTOMER SERVICE. • Provide more informative materials especially for tourist passengers.

Topic	Issues/Remarks	Recommendations
	GMCAC job offer is the waiver of probationary status under the new management/ employer. • Also for those who will transfer, they anticipate more exposure, training, and professional growth to achieve better performance level in their respective jobs. They claimed that in the present set up, they are performing beyond their respective position and job description. • A "negative" impact mentioned by the participants is the potential increase in terminal fees. Mr. Sidhar Jayati expressed that GMCAC shall focus first on the necessary improvement in services and facilities before gradually increasing the terminal fees. • For those who accepted the job offer, a direct negative impact is their waiver of government employment benefits.	• GMCAC to re-classify positions and clarify respective job description. • GMCAC to study the feasibility of terminal fees charged to credit cards. They indicated frequent cases of foreign passengers who are not aware of terminal fees requirement and have no ready cash upon leaving.

7.11.2 Second consultation meeting

A meeting was held with the Chief Reinvention Officer of District 32, the holder of master franchise of commercial operations in the domestic and international airports. In the domestic airport, District 32 operates 65% of the stalls while 35% are allocated to sub-lessees. In the international airport, they operate almost 80% of the stalls and only 20% are operated by sub-lessees.According to him, their franchise has been in operation for only 1.5 years as they spent considerable time in operations planning and renovation of stalls appropriated for the intended business.

The following were mentioned as some advantages of having a master franchise holder as follows:

- Zoning and classification of business stalls prevent unnecessary competition among stall operators. Stalls of the same category are limited and located strategically to

avoid over supply of similar items scattered in different business areas. This strategy enables the passengers to find easily what they want to buy given their limited time for shopping.

- Price control among sub-lessees can attract passengers to spend more.
- The master franchise holder, District 32, aims to showcase Cebu culture and promote products of community or local producers in the different stalls that they operate.

7.11.3 Highlights of the Key Informants' Interview

Approximately 70% of the 20 representatives from neighborhood associations from nearby barangays of Matumbo and Ibo, government and private employeeshave heard about the Project less than six months ago. The leading sources of information about the Project are local media/news and unofficial sources like friends, neighbors, and relatives. Their most common concern is getting updates and transparent information about the Project. Generally perceived beneficial impacts are a) employment opportunities for local residents; b) increase in city's revenue from tourist influx, local and foreign; and c) taking pride in having a world-class airport.

7.11.4. GMR Megawide Cebu Airport Corporation Community Consultation

Another consultation was held last 26 November 2014 at Waterfront Hotel. There were 48 participants/ representatives from the local government offices, both city and barangay levels, homeowners' association, women and elderly, and educational institutions.

The consultation agenda consisted of the following:

- Project Description/Status
- Environmental and Social Impacts
- Mitigation Measures
- Disclosure of Grievance Mechanism
- Discussion of CSR Action Plan
- Open Forum

The issues highlighted in the Open Forum are the following:

- Residential area to be affected by the construction of Terminal 2
- Management of the potential increase in the volume of wastewater
- Clearance procedures for cutting of the trees in the PAF area
- Management of increase in traffic flow and disturbance resulting from the transport of construction materials into the terminal site
- Priority of local residents for employment
- Transport route of construction trucks going in and out of the airport
- Livelihood opportunities particularly open to women's associations
- Building permit procedures
- Possibility of runway expansion
- Possible restrictions or land use considerations that should guide the city's land use planning

The full details of the Open Forum are contained in the Minutes of Consultation **Annex 10** while the presentation of GMCAC is in **Annex 11**.

Engage with various stakeholders will continue in the future. The preliminary information, education and communication (IEC) plan provides the framework for engaging with various stakeholders during construction and operations phases of the project

8. Gaps analysis and Corrective Action Plans

8.1 Environment Component

Based on the documented procedures, policies and records that were provided by GMCAC and MCIAA, and the information obtained from site inspection of MCIA facilities, the following gaps have been identified, and appropriate corrective actions are recommended.

1) There is no environmental management plan and environmental compliance certificate for the existing terminal.

   The first airport in Mactan, known back then as the Mactan Airbase (where the present day MCIA is located) was completed in January 1961 and was operational in September 1961. The first airport structures were built in 1970, thru the Republic of the Philippine-United States Agreement. In 1966,the Mactan Alternate International Airport (also known as Mactan International Airport, or MIA) was inaugurated by Pres. Ferdinand Marcos, and with the transfer of the Airline Operations from Lahug to MIA, its first commercial operation started in January 1973. In 1990, through Republic Act 6958, the Mactan-Cebu International Airport Authority (MCIAA) was created to administer and operate MIA.

   The first environmental law in the Philippines that required the preparation of an environmental impact statement was passed in 1978 through Presidential Decree 1586. The development of the Mactan airport thus pre-dates the early legal frameworks that would require the preparation of an environmental management plan (EMP), which then would have lead to the acquisition of an Environmental Compliance Certificate (ECC). In the case of a more recent airport facility, the sewage treatment plant (STP), environmental impact assessment was carried out with corresponding EMP, which was then used to apply for an ECC.
   Corrective Action:

   In September 2014, through the Concession agreement entered with MCIAA, GMCAC has initiated the application for ECC for the proposed expansion and rehabilitation of MCIA, which includes the construction of a new terminal building (Terminal 2). During the technical scoping in September 2014, the Environmental Management Bureau (EMB) in Region 7 required the inclusion of the existing airport in the preparation of an Environmental Performance Report and Management Plan (EPRMP) - Environmental Impact Statement (EIS), where each of the terminals shall have its own environmental management plan. The existing terminal shall also be covered by the new ECC.

2) The effluent water quality of the STP exceeds the water quality standards (for Class SC marine water) in terms of the Chemical Oxygen Demand (COD).

   Based on the certificates of analysis for the monthly water quality monitoring of the effluent in the STP, since May 2014, the COD concentration in the effluent slightly exceeds the permissible limits for the discharge of the treated waste water to Mactan

Bay. MCIAA indicated that the likely cause of the increase in COD is due to the inoperability of 1 out of 4 installed aerators.

Corrective Action:

As a corrective action, the damaged aerator must be fixed or replaced, and proper maintenance of all the equipment in STP must be regularly monitored. This may also prevent future exceedance in BOD. Since the STP is not covered by the Concession Agreement, GMCAC will recommend the above measure to MCIAA and periodically coordinate with them on the monitoring of the STP operations and maintenance, including the water quality monitoring results for the STP effluent submitted to DENR, to track the facility's compliance to the ECC.

3) There is no clear procedure or guideline in the disposal of hazardous wastes.

Busted fluorescent lamps (BFLs) dominate the relatively short list of potentially hazardous wastes generated from the existing terminal. At present MCIAA has no clear procedure on how to dispose this type of waste. An area has been designated to store all the BFLs, but works to engage a third party contractor (accredited treater/ waste handler) is already in progress.

Corrective Action:

GMCAC shall provide for the temporary storage of future hazardous wastes that will come from both Terminals 1 and 2. Accredited third party contractor(s) shall be engaged to regularly collect hazardous wastes generated by the two terminals. An environmental officer shall be assigned to monitor the treatment and disposal of these wastes.

4) There is no monitoring of ambient noise levels in the communities near the airport.

Noise levels within the airport are expected to exceed the permissible values for noise set by the National Pollution Control Commission (NPCC, Memorandum Circular No. 002 - 1980) for different times of the day (Morning/ Evening, Daytime and Nighttime). In areas where workers have high exposure to noise levels, they are provided with PPEs, such as mufflers and ear plugs. However, in the absence of monitoring stations in the nearby communities, appropriate actions to mitigate noise might not be put in place due to lack of information on noise levels. Baseline noise levels in three adjacent barangays (Pusok, Bankal and Basak) indicate that the standards are sometimes exceeded at any time of the day. Factors that cause these noises can be attributed to various sources (e.g. vehicles, human activities, aircraft movement), but having monitoring stations will allow the management of MCIA to establish certain regulations to reduce the impacts of noise coming from the airport.

Corrective Action:

First, noise monitoring stations must strategically be put in place to determine the areas that have exceeding noise levels that are caused by the movement of aircrafts, in which case the airside management will be able to formulate appropriate measures to reduce the noise levels affecting the nearby communities. Barangays to include in the regular monitoring of noise are Basak, Bankal, Buaya, Pusok, Ibo and Pajac. Creation of airport policies (such as certification for aircraft noise control) to regulate the noises coming from arriving and departing planes may also be established. Trees planted along the perimeter of the airport may also buffer some of

the noise that might affect the nearby communities. Awareness program on the impacts of noise can be carried out in heavily affected areas to encourage the use of noise reducing measures, e.g. PPEs, sound proofing walls and windows. These will be recommended to MCIAA, who are responsible for the aircraft operations of the airport.

5) Solid Wastes are exposed to weather elements and domestic animals at the staging area.

Corrective Action:

Immediate replacement of the compartment gates and installation of roofs at the staging area will help prevent the exposure of the disposed garbage/ trash. Separate secured (with enclosure) containers may also be used for certain types of recyclable wastes (e.g. papers, cans, petroleum-based food containers etc.)

8.2 Social Component

1) Insufficiency of information campaign about the Project particularly within the city where the Project is located.

As culled from the results of the various consultations held with different stakeholders, there is a common issue pertaining to the lack of information about MCIA Rehabilitation, Expansion and Operation Project. Even the employees of MCIAA claimed that they were not given the proper information dissemination about the Project. Those who obtained information about the Project were the employees who were nominated by MCIAA for transfer to GMCAC. In which case, they learned about the Project during the GMCAC project orientation. The other consultation participants generally learned about the Project from the local media/news and unofficial sources.

Corrective Action Plan: There should be an effective information, education, and communication (IEC) plan to be formulated by GMCAC and disseminated to the various sectors of the city like LGUs at the city and barangay levels. The city constituents are highly interested to know the Project updates on a timely basis. There are several effective ways of disseminating information that can reach the institutions concerned as well as the barangay constituents such as, among others, a) press releases; b) local tv news and occasional talk shows; c) memorandum circulars to concerned offices of the government and private sector.

2) GMCAC's Human Resource Policy Manual lacks the section that specifically pertains to wages, salaries and other compensation benefits. Although their Human Resources Policies are generally employees' welfare oriented, there are no concrete information on employees' description of duties and responsibilities, salary classification and detailed employee benefits that will be provided within the scope of private employment under the rules and regulations of the Social Security System. This gap particularly surfaced during the small consultation with MCIAA employees who did not accept the job offer from GMCAC. There is an element of uncertainty in their decision making process because of the absence of more specific policies pertaining to wages, salaries and benefits of employees.

Corrective Action Plan: GMCAC should hasten the market compensation study assigned to an independent consultant Tower Watson and align remuneration and benefit- schemes with the mandates of the national labor law, requirements of the Social Security System and the Department of Labor and Employment.

9. Environmental Impact Assessment and Mitigation Measures

9.1 Noise Impact

9.1.1 Construction Phase

POTENTIAL (CUMMULATIVE) IMPACT

The greatest noise impact of construction activities in the airport will most likely be associated with the movements of heavy equipment and the transport of construction materials. The following are the expected equipment and vehicles to be used in the construction with their corresponding noise levels.[9] Table 9-1 shows the typical range of noise levels (dBA) generated by construction equipment.

Table 9-1
Noise generated by certain type of Construction Equipment/ Vehicle

Type of Construction Equipment / Vehicle	Noise Level (dBA)
Rock drill (jumbo)	122*
Pneumatic power tools (grinders, chippers, etc.)	90 – 116*
Air blow-down devices (painting, cleaning, etc.)	92 – 104*
Air compressors (reciprocating, centrifugal.)	94 – 100*
Metal forming (punch, shearing, etc.)	83 – 97*
Dump trucks (road speed at 50 feet listening distance)	78–90
Bulldozer (10 feet listening distance)	90–105
Diesel truck (200 feet listening distance)	85–110
Passenger car (25 feet listening distance)	70–80

* Noise level from the operator's position.

Since the construction activities in T2, apron, and landside facilities will happen simultaneously with the renovation and operation of T1, the current baseline levels are expected to further increase. Impacts of the construction noise however are anticipated to be low in magnitude, localized and temporary.

The transport of the construction materials will be mostly coming from within Cebu and from Metro Manila in varying schedules..

MITIGATING MEASURE

Noise impacts will be mitigated by minimizing the construction activities in the night time between 10PM to 5AM and by requiring construction equipment and trucks to be well maintained, including the appropriate use of mufflers.The noise generated from the use of heavy equipment and high noise producing operation will be restricted within the project boundary. During the renovation of T1, passenger traffic inside the building will be designed in such a way that intense noise generating activities will be far from the people in transit.

[9]David H .F . Liu and BélaG .Lipták, ed., "Chapter 6: Noise Pollution", in *Environmental Engineers' Handbook*, *2nd Ed.* (CRC Press LLC, 1997).

9.1.2 Operational Phase

POTENTIAL (CUMULATIVE) IMPACT

During the operational phase, the major source of noise will be due to the take-off and landing of aircrafts at the runway.It is expected that additional aircraft flights will further increase the noise levels within the area. In addition, ground service equipment (GSE), auxiliary power units (APU), and landside vehicles will all contribute to the ground noise of the airport.

Local Noise Standards

The standards for the ambient noise in general areas is governed by the National Pollution Control Commission's Memorandum Circular No. 002 (NPCC MC002) issued on May 12, 1980. ***Table1*** below summarizes the established noise standards in this circular at the different classified general areas across 4 time segments of the day. Classification of the general areas considers the land use, zoning, and presence of sensitive receptors within the community.

Table 1
Philippine Standards for Noise in General Areas

Time	Class				
	AA	A	B	C	D
Daytime (9AM-6PM)	50 dB	55 dB	65 dB	70 dB	75 dB
Evening (6PM-10PM)	45 dB	50 dB	60 dB	65 dB	70 dB
Night Time (10PM-5AM)	40 dB	45 dB	55 dB	60 dB	65dB
Morning (5AM-9AM)	45 dB	50 dB	60 dB	65 dB	70 dB
Class AA – a section of contiguous area which requires quietness, such as areas within 100 m from school sites, nursery schools, hospitals and special homes for the aged. Class A – a section or contiguous area which is primarily used for residential purposes. Class B – a section or contiguous area which is primarily a commercial area. Class C – a section primarily zoned or used as light industrial area. Class D – a section which is primarily reserved, zoned or used as a heavy industrial area					

For areas directly facing a public transportation route or an urban traffic artery, an additional correction factor equivalent to the following shall apply:

1) Areas directly fronting or facing a four-lane road …..... + 5 dBA
2) Areas directly fronting or facing a four-lane or wider road …….. + 10 dBA

Within the airport premises, classified as a heavy industrial area, the maximum noise level is 75 dB during daytime operation and 65 dB during night time, and fronting the runway, apron, holding bay, and taxiway the maximum level is 85 dB during daytime and 75 dB during night time after applying the additional correction factor. For the sensitive communities outside the airport such as schools, hospitals, and special homes for the aged, the maximum limit is 40 dB during night time and 50 dB during day time.

International Noise Standards

A Bill on Aviation Noise Limit has been passed by Senator Jinggoy Estrada in 2013. This bill still has to undergo a series of review prior to approval of the Philippine President. In case of enactment of the bill, the Air Transportation Office of the Department of Transportation and Communications (now known as CAAP) shall develop a medium-term plan to reduce at least the number of individuals residing in areas within the vicinity of the airport who are exposed to yearly DNL of 60 dBA. In some developed countries around the world, the noise level within the airport's community follows a separate and unique set of noise standards. Measuring noise levels can also vary depending upon the requirement of the appropriate regulatory body enforcing it (e.g. aviation authority, defense department, housing and urban development, etc.). Noise levels are measured as either DNL(day-night average sound level), WECPNL (Weighted Equivalent Continuous Perceived Noise Level), or NEF (Noise Exposure Forecast).

1.) DNL

The day-night sound level (L_{dn} or DNL)is commonly used to quantify and assess environmental noise. It was first developed by the US Environmental Protection Agency (EPA) in 1973[10]. The valueis an average noise level computed over a 24-hour period which considers noise levels to be factored up by 10 dB for the 10PM to 5AM time period using the following formula:

$$L_{dn} = 10\log\left[\frac{1}{24}\left\{15*10^{Ld/10} + 9*10^{(Ln+10)/10}\right\}\right]$$

where L_d = L_{eq} value[11] in dB for daytime from 7AM to 10PM
L_n = L_{eq} value in dB for night time from 10PM to 7AM

The US FAA Regulation Part 150 (FAR 150) specifies a maximum yearly DNLvalue of 65 for noise-sensitive land uses such as homes, schools, places of worship and hospitals. This regulation was also been adopted in another ADB airport project[12], as part of good practice,which is located in a country with no specific noise standards surrounding the airport.

2.) WECPNL

The Weighted Equivalent Continuous Perceived Noise Level(WECPNL) on the other hand is a measure proposed by the International Civil Aviation Organization(ICAO) to assess the continuous exposure to long-term noise of multiple aircraft.

WECPNL as used for environmental regulations is computed as follows:

$$WECPNL = \bar{L}_{A\text{-}max} + 10\log(N_1 + 3N_2 + 10N_3) - 27$$

where $\bar{L}_{A\text{-}max}$ = average value of maximum aircraft noise level in dB per day
N_1 = number of flights from 7AM to 7PM
N_2 = number of flights from 7PM to 10PM
N_3 = number of flights from 10PM to 7AM

3.) NEF

[10]EPA (1973), "Public Health and Welfare Criteria for Noise," U.S. Environmental Protection Agency, Office of Noise Abatement and Control (ONAC), Rpt . EPA550/9-73-002, Washington, D.C.
[11]L_{eq} is the constant sound level that contains the same amount of energy as the time-varying sound level over the same time period. It represents the energy "averaged" level and can be expressed for any time interval
[12]ADB Armenia - New Passenger Terminal Construction at "Zvartnots" International Airport.

The Noise Exposure Forecast (NEF) is used to predict the degree of community annoyance from aircraft noise (and airports) on the basis of various acoustical and operational data such as duration of flyover, the peak noise level, the tonal characteristics, and the number of aircraft movements in the daytime and night-time period.

The calculation is based on theEffective Perceived Noise Levels (EPNL, unit is in EPNdB) for various aircraft, and considers all aspects of flight operation and time of day. The measurement is based on the following equation:

$$NEF = EPNL + 10 \log_{10} (N_D + 16.7\ N_N) - 88\ (dB)$$

where N_D= number of flights during the day (7AM to 10PM)
N_N= number of flights during the night (10PM to 7AM)
16.7 = factor representing a 10-to-1 weighting of night flights over day ones

In the US,the Federal Aviation Administration (FAA) measures noise in NEF and DNL units, the Department of Defense (DOD) requires noise levels to be expressed in DNL and WECPNL, while the Department of Housing and Urban Development (HUD) measures it in NEF and DNL.***Table2*** below is the summary of the different Aircraft Noise Control Standards in the US.

Table 2
Aircraft Noise Control Standards in the USA

Administration	Classification	Unit	Limit Value	Use
FAA (Federal Aviation Administration)	Zone A	NEF	20	Permission to construct a new house
		DNL	55	
	Zone B	NEF	30	Regular permission
		DNL	65	
	Zone C	NEF	40	Partial Permission
		DNL	75	
	Zone D	NEF	Above 40	Prohibition
		DNL	Above 75	
DOD (Department of Defense)	Outside of noise zone	DNL	Below 65	Permission to construct a new house
		WECPNL	Below 78	
	Inside of noise zone	DNL	Below 70	Restriction on new house construction
		WECPNL	Below 83	
		DNL	Above 70	Restriction on new house construction (for noise level investigation inside region)
		WECPNL	Above 83	
HUD (Department of Housing & Urban Development)	-	NEF	Below 30	Permission to construct a new house
		DNL	Below 65	
	-	NEF	Below 40	Restriction on new house construction (noise reduction: above 10 dB)
		DNL	Below 75	
	-	NEF	Above 40	Prohibition on new house construction
		DNL	Above 75	

Common to the three bodies is the strict requirement that DNL value should not exceed 65 for house construction. If an area has noise levels beyond 65 DNL, special restrictions are applied for permission to construct a new house. More than 75 DNL, no new houses are allowed to be constructed in these areas.

In Japan, the WECPNL values serve as guide in formulating appropriate measures near the airport community. Noise levelshigher than 70 would require soundproofing for school and hospital; values higher than 75 would be needing soundproofing for housing; noise levels higher than 90 would require relocation for housing; and values higher than 95 would require green belt buffer zone.

In PRC, the noise levels are also evaluated based on the WECPNL. The country has an Environmental Standard on Aircraft Noise Around Airport which follows that Category 1[13] has an exposure limitof </70 dB(A) and Category 2[14] areas exposure limit is </75 dB(A). ADB existing airport projects[15] in PRC followed this standard.

In India, the ambient noise refers to the Central Pollution Control Board(CPCB) standards which has a maximum limit of 75dBA.For work zone area, Occupational Health and Safety Advisory Services (OHSAS) standards is being followed which has a maximum limit of 90 dBA. Runway noise in India is not being compared with any of the two standard.

In the absence of Philippine noise standards specific to airport vicinity, the more stringent international standard (i.e. FAA 65dB(A)) is adopted in this project for comparison purposes of the resulting noise predictions.

Noise Model

Integrated Noise Model (Version 7) was used in this study to model the noise levels in the airport and the surrounding communities. It was developed by the US Federal Aviation Administration (FAA), Office of Environment and Energy, Noise Division (AEE-100) with support from the ATAC Corporation and the Department of Transportation Volpe National Transportation Systems Center.

The FAA Integrated Noise Model is widely used by the civilian aviation community for evaluating aircraft noise impacts in the vicinity of airports. The model is typically used in the U.S. for Federal Aviation Regulation (FAR) Part 150 noise compatibility planning, for FAR Part 161 approval of airport noise restrictions, and for environmental assessments and environmental impact statements under the current version of FAA Order 1050.1E (INM User's Guide, 2007)

The software was designed for the development of the graphical interface, and methods for computing aircraft flight profiles and constructing flight paths, which are processed by the acoustics module.

In the technical manual, the core technical components in INM Version 7.0 are discussed which includes the flight-path methodology, along with the basic methodology employed by the software to compute noise levels or time-based metrics at a single, user-specified observer, or at an evenly-spaced, regular grid of observers.

[13] special housing; living, cultural and educational areas
[14] Living areas except for Category 1
[15] ADB Loan Central and WesternAirports Development Project

The case study is referenced at the navigational location Airport Reference Point (ARP) of the MCIA. INM 7.0 has designated this as the origin of the X-Y coordinate system of the graphics output of the contours. The details of this reference are indicated in Table 3.

Table 3
Case Study Reference

Study Reference	Mactan Cebu International Airport ARP
Latitude, Longitude	10.307540 N, 123.978400 E
Elevation	31.3 ft above Mean Sea Level (MSL)

Source: Aeronautical Information Publication (AIP, 7th Edition)

Runway details such as length, width, coordinates and elevations as shown Table 4 provide details about the study as it is setup in INM. The input of coordinates automatically generates graphics showing the location and length of the runway.

Table 4 Runway Details of 04/22

Runway Orientation	04/22	
Runway Length	3300 meters	
Runway Width	45 meters	
Runway 04 Threshold Coordinates	10° 17' 49.081" N	123° 58' 07.6737" E
Runway 22 Threshold Coordinates	10° 19' 05.2495" N	123° 59' 24.1558" E
Runway 04 Threshold Elevation	5.553m from MSL	
Runway 22 Threshold Elevation	8.510m from MSL	

Meteorological data of the area were also incorporated in the model. Table 5 below shows the annual average temperature, pressure and wind speed considered in the study. The annual change of prevailing wind direction was also considered in the model as it shifts from north-eastfrom October to May and to south-west from June to September.

Table 5.
Annual Average Temperature, Pressure and Wind Speed at MCIA

Parameters	Values
Temperature (^{0}F)	83.3
Pressure (in Hg)	29.82
Wind Speed (knots)	5.4

The track segments were drawn with reference to the traffic circuit chart as provided by Aeronautical Information Publication (AIP, 7th Edition). The tracks are identified from arrival and departure origin (from runway) information of aircrafts when aircraft operations are inputted in the software. This information was assigned to the aircraft type and frequency whether day (7AM to 7PM), evening (7PM to 10PM), or night (10 pm to 7PM) represented by D, E, and N respectively.

Figure 1 below shows aircraft flight tracks originating either from runway threshold 04 or 22. The flight tracks are identified as DEP-04R, ARR-04R, DEP-22L and ARR-22L.

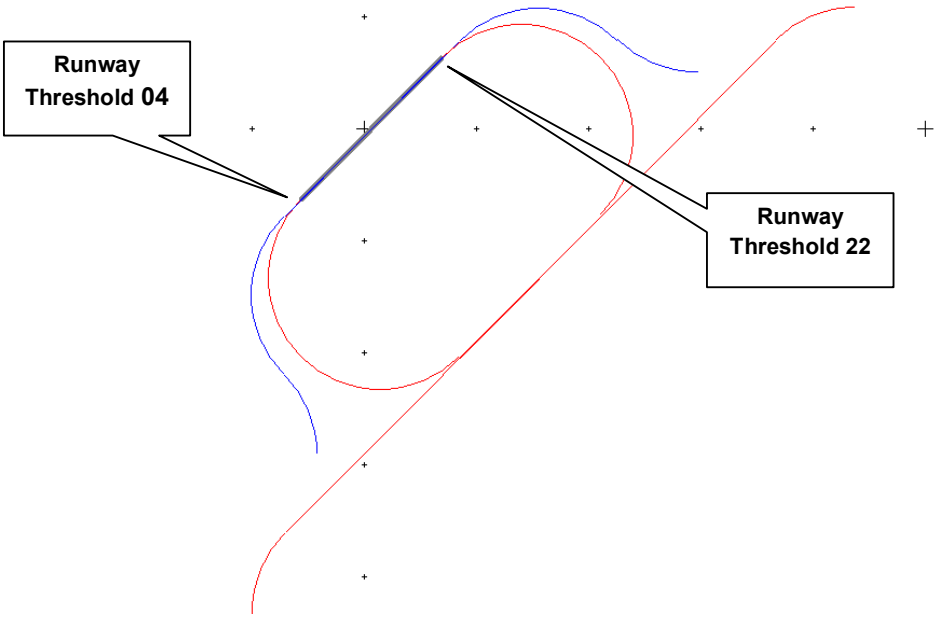


Figure 1.
Flight Tracks of Aircraft Arrival and Departure

Table 6 below shows the computed annual average daily arrival and departure frequency per aircraft for year 2014 based on the available October 2014 to March 2015 schedules[16]. Since the schedules assumed were applied for the entire year, slightly elevated values will be expected for the 2014 Noise Model.

Table 6.
Arrival (ARR) and Departure (DEP) Frequency (2014)

Aircraft Type	D/E/N	DEP-04R	ARR-04R	DEP-22L	ARR-22L
A319	D	1.9250	2.4514	3.9083	4.9771
	E	0.7857	0.6679	1.5952	1.3560
	N	1.5636	1.1550	3.1745	2.3450
A320	D	7.2364	9.4286	14.6921	19.1429
	E	4.2664	1.9564	8.6621	3.9721
	N	3.6379	3.7007	7.3860	7.5136
A321	D	0.8250	0.6600	1.6750	1.3400
	E	0.0000	0.1650	1.0000	0.3350
	N	0.9900	0.9900	2.0100	2.0100
A330	D	0.0943	0.0943	0.1914	0.1914
	E	0.0000	0.0000	0.0000	0.0000
	N	0.0000	0.0000	0.0000	0.0000

[16]Flight frequencies being considered refer to the peak season as a number of activities prevail in Cebu during Christmas and New Year, and during the Sinulog Festivities. Although the main festivities happen from 2nd week to 3rd week of January, there are related scheduled activities as early as December and as late as February. In addition, the January to March are peak months for the airport as tourists coming from countries experiencing winter travel by groups to tropical areas such as Cebu to escape the biting cold season.

Aircraft Type	D/E/N	DEP-04R	ARR-04R	DEP-22L	ARR-22L
A333/A343	D	0.1729	0.2671	0.3510	0.5424
	E	0.1179	0.0236	0.2393	0.0479
	N	0.0908	0.2750	0.1843	0.5583
B737	D	0.0000	0.0000	0.0000	0.0000
	E	0.0000	0.0000	0.0000	0.0000
	N	0.4243	0.3300	0.8614	0.6700
738/B737-800	D	0.1414	0.2279	0.2871	0.4626
	E	0.0393	0.0943	0.0798	0.1914
	N	0.4007	0.3064	0.8136	0.6221
744/B747-400	D	0.0000	0.0000	0.0000	0.0000
	E	0.0550	0.0550	0.1117	0.0479
	N	0.0314	0.0314	0.0638	0.0638
772/B777-200	D	0.0000	0.0157	0.0000	0.0319
	E	0.0157	0.0000	0.0319	0.0000
	N	0.0236	0.0236	0.0479	0.0479
77W/B777-300ER	D	0.0550	0.0629	0.1117	0.1276
	E	0.0079	0.0000	0.0160	0.0000
	N	0.0000	0.0000	0.0000	0.0000
ATR	D	4.0621	5.3193	8.2474	10.7998
	E	0.4400	0.4400	0.8933	0.8933
	N	1.2650	0.0079	2.5683	0.0160

Figure 2 below shows the output graphics of the modelled noise when the set case scenario is run in INM 7.0 and overlayed to the Land Use Map[17] of Lapu-Lapu City. The graph shows noise contours expressed in DNL while the grid intervals for X and Y coordinates are equivalent to one (1) nautical mile.

[17]This map was obtained as a jpeg file from the Lapu-Lapu City Comprehensive Land Use Plan (CLUP) as provided by the City Planning and Development Office. It is a map that was not geo-referenced nor drawn to scale. As such, any conclusion derived from the noise projection will be susceptible to a considerable margin of error. In the absence of a geo-referenced land use map however, the current output,which is a rough approximation of the reality, may still provide to a certain extent a relative degree of usefulness for decision making.

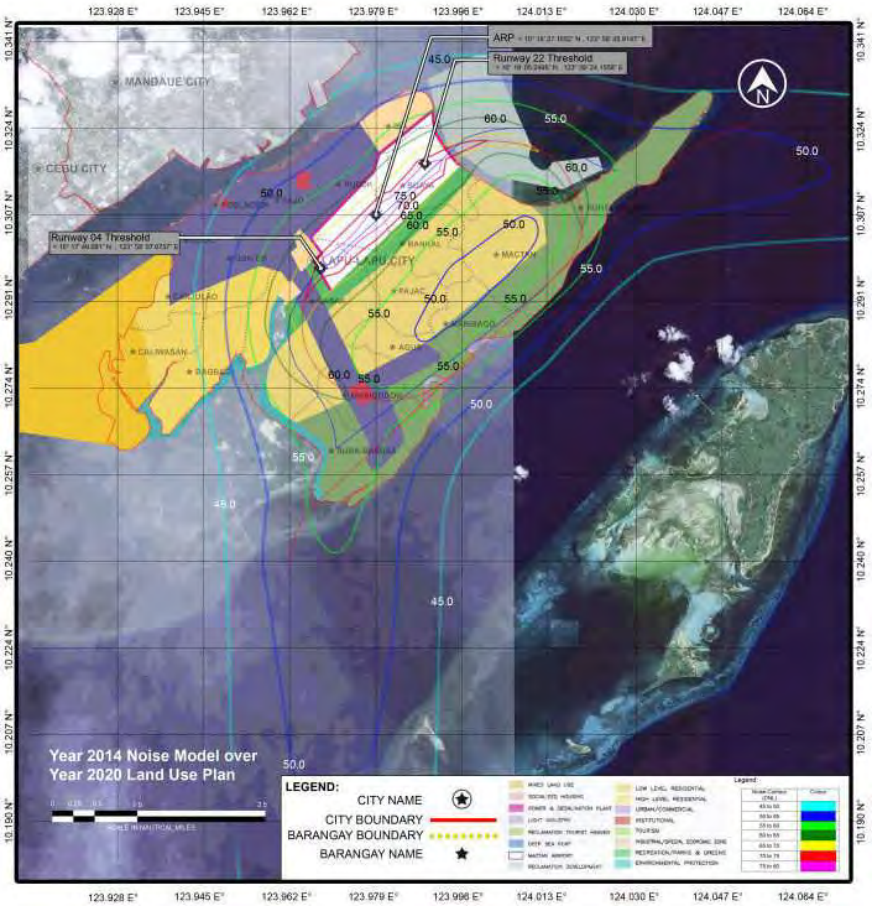


Figure 3.
Noise Contours of MCIAfor 2014 over 2020 Land Use Plan

For Year 2024 projection, the Noise Model takes two scenarios, 2024a and 2024b. The two scenarios consider the difference in Chapter Number[18] of the aircraft mix to be utilized:

2024a is Scenario No.1 which refers to the initial Business as Usual (BAU) projection: flight frequency will increase by 96.5 % from 2014 to 2024 with a given set of proposed aircraft mix composed of Chapter 3 and 4 only[19]. These aircrafts are A319, A320, A321, A330, A333/A343, B737, 738/B737-800, 744/B747-400, 772/B777-200, 77W/B777-300ER, and ATR.

2024b is Scenario No. 2 which refers to a modified BAU setting, the only difference lies with the aircraft mix. All Chapter 3 aircrafts in Scenario No. 1 will be replaced by Chapter 4

[18]Chapter numbers where determined from the Noise Certification Database provided by the French Directorate General for Civil Aviation (DGCA) which ICAO coordinates with.Refer to this website for the said database: http://noisedb.stac.aviation-civile.gouv.fr/find.php

[19]Based from the given aircraft mix for 2014 and 2024, no Chapter 2 aircraftswere identified. This is most likely in conformance with the ICAO Recommendation to Member States specifying that all Chapter 2 aircrafts need to be gradually phased out beginning 1995 with the set schedule of 100% removal by 2002 for developed nations and 2005 for developing nations. Thus, with all aircrafts identified for 2024 as either Chapter 3 and/or 4, Scenario No.1 takes the case of the initially planned aircraft mix, both Chapters 3 and 4, while Scenario No.2 takes the case of purely Chapter 4 aircrafts only.

aircrafts only. These Chapter 4 aircrafts are identified as A319, A330, A333/A343, 77W/B777-300ER, and ATR42-500.

Table 7 below summarizes the projected frequency of arrival and departure flights at runway thresholds 04 and 22 for Scenario No.1 (2024a) while Figure 3 shows the resulting noise contours drawn over the Year 2020 Comprehensive Land Use Plan (CLUP) of Lapu-Lapu City.

Table 7.
Arrival (ARR) and Departure (DEP) Frequency (2024, Scenario No.1)

Aircraft Type	D/E/N	DEP-04R	APP-04R	DEP-22L	APP-22L	Noise Rating Index[20]
A319	D	3.7826	4.8171	7.6799	9.7801	C
	E	1.5439	1.3123	3.1346	2.6644	
	N	3.0724	2.2696	6.2379	4.6079	
A320	D	14.2196	18.5271	28.8701	37.6157	B
	E	8.3835	3.8444	17.0211	7.8053	
	N	7.1484	7.2719	14.5134	14.7642	
A321	D	1.6211	1.2969	3.2914	2.6331	C
	E	0.0000	0.3242	1.9650	0.6583	
	N	1.9454	1.9454	3.9497	3.9497	
A330	D	0.1853	0.1853	0.3762	0.3762	C
	E	0.0000	0.0000	0.0000	0.0000	
	N	0.0000	0.0000	0.0000	0.0000	
A333/A343	D	0.3397	0.5249	0.6896	1.0658	C
	E	0.2316	0.0463	0.4702	0.0940	
	N	0.1783	0.5404	0.3621	1.0971	
B737	D	0.0000	0.0000	0.0000	0.0000	A
	E	0.0000	0.0000	0.0000	0.0000	
	N	0.8337	0.6485	1.6927	1.3166	
738/B737-800	D	0.2779	0.4477	0.5642	0.9090	B, C
	E	0.0772	0.1853	0.1567	0.3762	
	N	0.7874	0.6021	1.5987	1.2225	
744/B747-400	D	0.0000	0.0000	0.0000	0.0000	C
	E	0.1081	0.1081	0.2194	0.0940	
	N	0.0618	0.0618	0.1254	0.1254	
772/B777-200	D	0.0000	0.0309	0.0000	0.0627	A
	E	0.0309	0.0000	0.0627	0.0000	
	N	0.0463	0.0463	0.0940	0.0940	
77W/B777-300ER	D	0.1081	0.1235	0.2194	0.2508	B
	E	0.0154	0.0000	0.0313	0.0000	
	N	0.0000	0.0000	0.0000	0.0000	

[20]This Index, issued in 2002 by the Airports Council International (ACI), is applied to aircraft certificated under ICAO Annex 16 Chapters 2, 3, 4 and 5 using the corresponding noise certification data. It places aircraft into six categories of noise performance, ranging from A to F. Aircraft A has a cumulative reduction from ICAO Chapter 3 standard of at least 20 EPNdB, B aircraft of at least 15 EPNdB, C aircraft of at least 10 EPNdB, D aircraft of at least 5 EPNdB, E aircraft with no EPNdB reduction, and F aircraft with less than 0 EPNdB reduction.

Aircraft Type	D/E/N	DEP-04R	APP-04R	DEP-22L	APP-22L	Noise Rating Index[20]
ATR	D	7.9821	10.4524	16.2061	21.2215	A
	E	0.8646	0.8646	1.7554	1.7554	
	N	2.4857	0.0154	5.0468	0.0313	

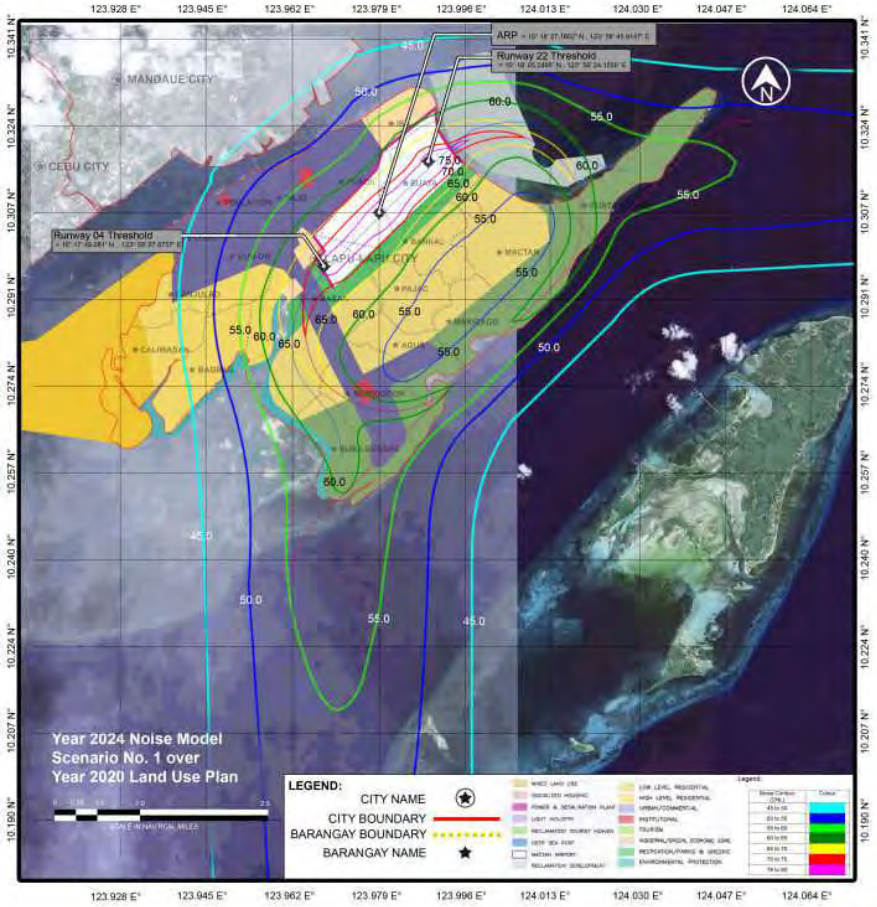


Figure 3.
Noise Contours of MCIAfor 2024a (Scenario No.1) over 2020 Land Use Plan

For 2024b (i.e. Scenario No.2) all Chapter 3 and/or Chapter 4 aircrafts were replaced withChapter 4 aircrafts. Total flight frequencies of Airbus aircrafts A320 and A321 in Scenario No.1 were removed and distributed evenly to A319, A330, and A333/343. Similarly, flight frequencies of Boeing aircrafts B737, 738/B737-800, 744/B747-400, and 772/B777-200 were removed and distributed to 77W/B777-300ER aircraft. For the Italian ATR aircraft, only ATR42-500 was identified as Chapter 4.

Table 8 below summarizes the flight frequency for 2024b while Figure 4 is the projected output of this table over the Year 2020 CLUP of Lapu-Lapu City.

Table 8.
Arrival (ARR) and Departure (DEP) Frequency (2024b, Scenario No.2)

Aircraft Type	D/E/N	DEP-04R	APP-04R	DEP-22L	APP-22L
A319	D	10.8924	14.08065	22.11495	28.58795
	E	5.73565	3.2345	11.64515	6.56705
	N	6.6466	5.90555	13.4946	11.99
A330	D	7.2951	9.44885	14.81125	19.18405
	E	4.19175	1.9222	8.51055	3.90265
	N	3.5742	3.63595	7.2567	7.3821
A333/A343	D	0.2316	1.8218	3.981	3.6989
	E	0.2316	0.3705	2.4352	0.7523
	N	2.1237	2.4858	4.3118	5.0468
77W/B777-300ER	D	0.386	0.6021	0.7836	1.2225
	E	0.2316	0.2934	0.4701	0.4702
	N	1.7292	1.3587	3.5108	2.7585
ATR42-500	D	7.9821	10.4524	16.2061	21.2215
	E	0.8646	0.8646	1.7554	1.7554
	N	2.4857	0.0154	5.0468	0.0313

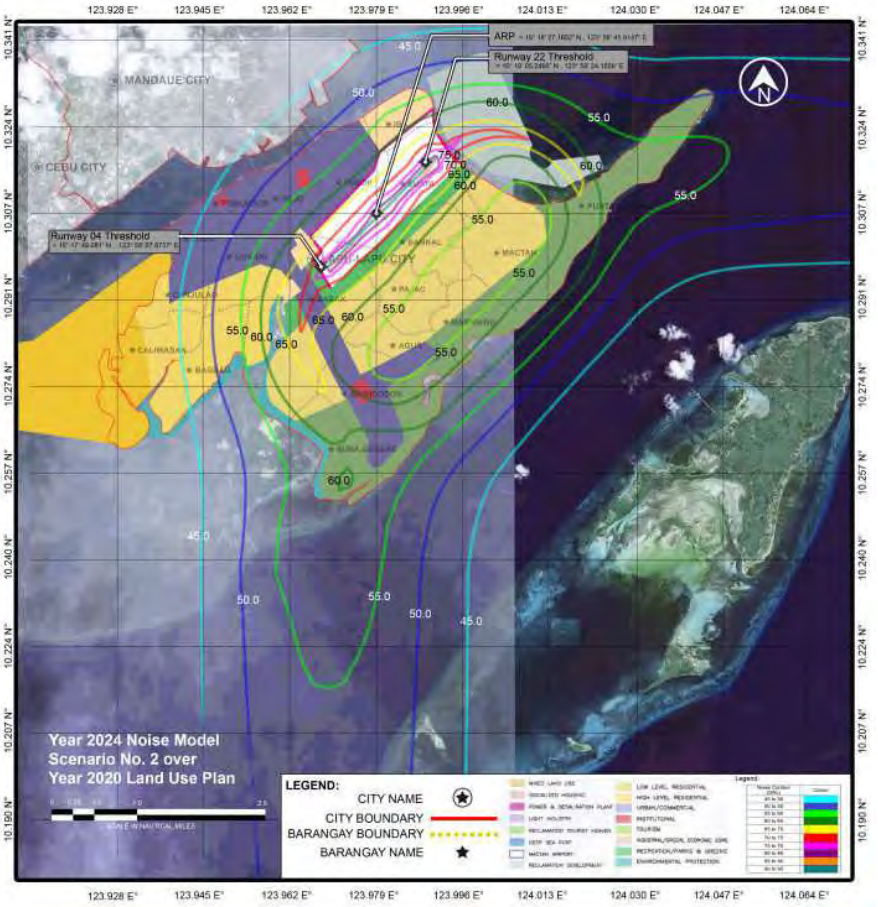


Figure 3.
Noise Contours of MCIAfor 2024b (Scenario No.2) over 2020 Land Use Plan

Noise Model Analysis

So far there were three noise models produced in this study: 2014, 2024a, and 2024b. The 2014 Noise Model considers the current peak season schedule using Chapter 3 and/or 4 aircrafts. The 2024a Noise Model considers an increase of 96.5% in flight frequency based on 2014 data using Chapter 3 and/or 4 aircrafts. The 2024b Noise Model also considers an increase of 96.5% in flight frequency based on 2014 data but using Chapter 4 aircrafts only.

Comparing 2024a with 2024b, when the Aircraft Chapter Numbers were varied, it was observed that the noise contours differ to a minimal extent only. The issue on Aircraft Chapter Number therefore will not necessarily be a significant parameter to consider when making efforts to lower the noise levels within the airport.

Comparing 2014 with either 2024a or 2024b, when the flight frequency was increased by 96.5%, there was an observable and significant widening of the area affected by the 65 DNL contour line. The issue on the projected increase in flight frequencies for 2024 will therefore have a significant impact to the noise levels surrounding the airport community.

Zooming in to these affected areas, Figures 5 and 6 below depict the areas affected by the 65 DNL contour line for 2014 and 2024a respectively.

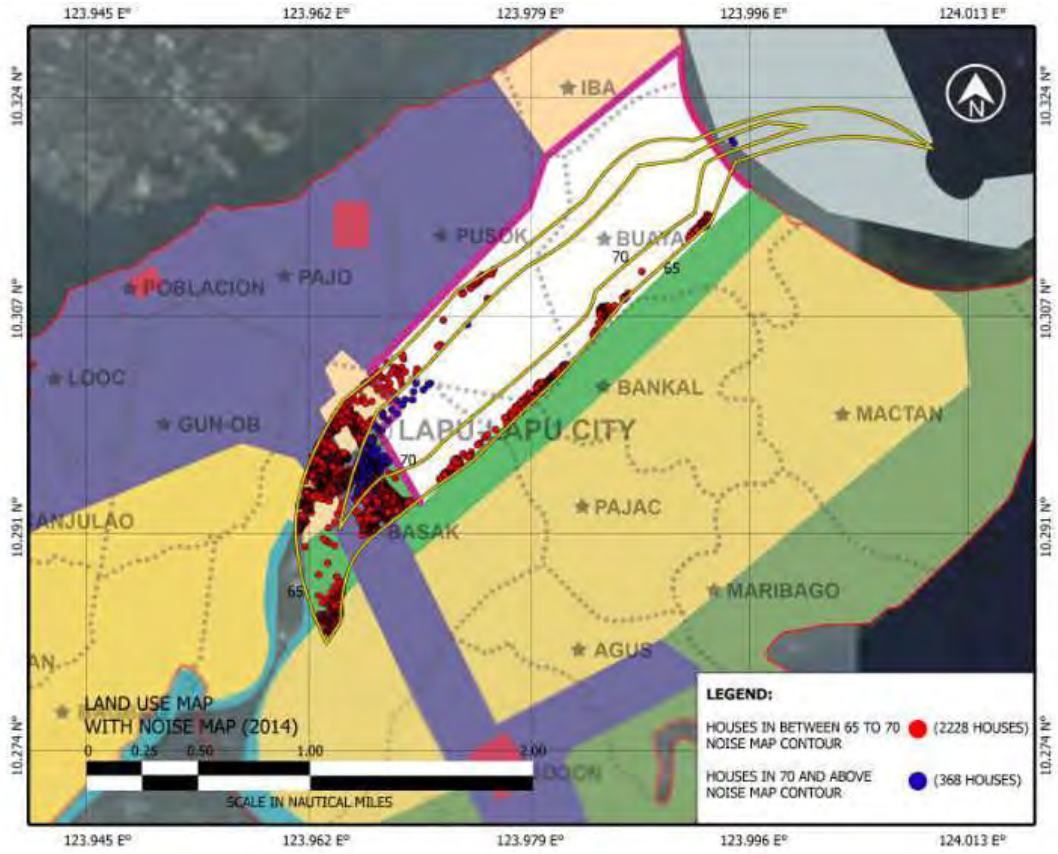


Figure 5.
Areas affected by the 65 DNL contour line (yellow line) for Year 2014 in MCIA

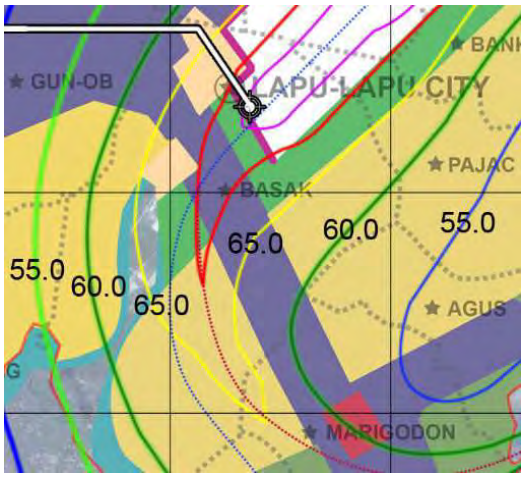


Figure 6.
Areas affected by the 65 DNL contour line (yellow line) for 2024a in MCIA

In Figure 5, approximately 2,228 residences are being affected by the 65 to 70 DNL contour lines, while there are 368 houses exposed to greater than 70 DNL. These areas affected by at least 65 DNL contour line are classified as recreational/parks and greens zone (green area), urban/commercial zone (blue-violet area), industrial/special economic zone (peach area), and low-level residential zone (mustard area).

The 65 DNL contour line further widens when projected to 2024a, covering more residential communities, and extending from Barangay Basak to a small portion of Barangay Marigodon.

Noise Monitoring

To validate the noise model developed, 5 monitoring stations were chosen based on the presence of sensitive communities such as schools near the airport and the proximity of these potential receptors to the 65-70 DNL contour lines.

The locations of these stations are summarized in the following table and in the figure below:

Table 9.
Location of the Monitoring Stations around MCIA

Monitoring Station	Name	Latitude	Longitude	Land Use
1	STEC 1	10°17'50.06"N	123°57'55.88"E	Recreation/Parks and Greens
2	Evangelista	10°17'35.34"N	123°58'6.47"E	Recreation/Parks and Greens
3	Helenville	10°18'4.68"N	123°58'44.81"E	Recreation/Parks and Greens
4	EMD	10°19'8.79"N	123°59'39.13"E	Recreation/Parks and Greens, Light Industry
5	STEC 2	10°17'47.05"N	123°57'58.81"E	Recreation/Parks and Greens

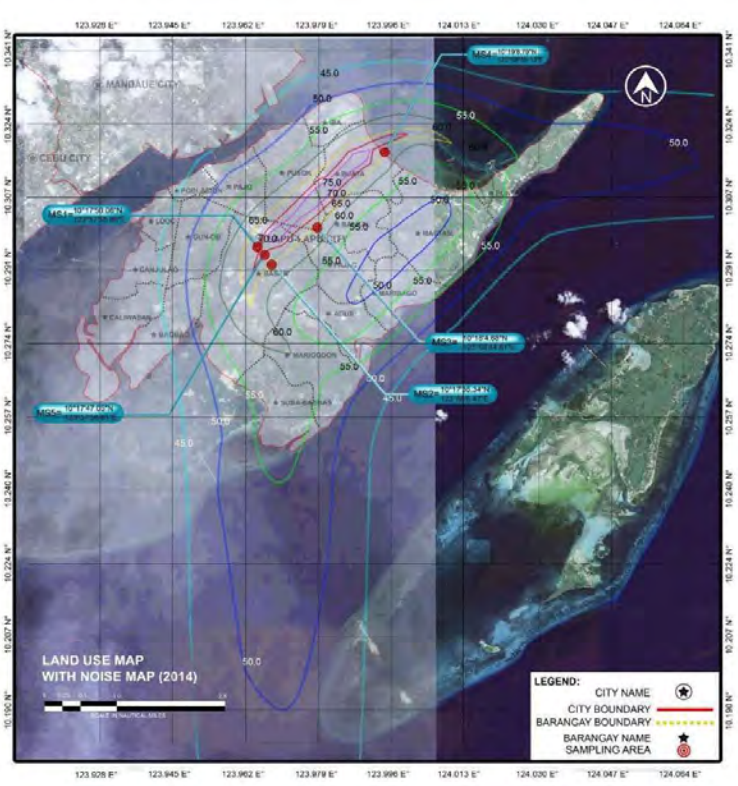


Figure 6
Location of the Monitoring Stations

The first station is found inside the Science and Technology Educational Center (STEC) near the airport perimeter and Runway 04. It belongs to Barangay Basak and the area is classified as Recreation/Parks and Greens in CLUP. Based from the 2014 Noise Model, the DNL value in this station is close to 70 dBA.

The second station is located inside the house compound of Col. Evangelista. This station is facing the airport perimeter fence and is located near a busy road and at the back of St. Augustine International School. The area belongs to Barangay Basak and is classified as Recreation/Parks and Greens in the CLUP. It is expected that the DNL value in this area is close to 65 dBA based on the 2014 Noise Model.

The third station is situated within Helenville Subdivision, and is a few blocks away from the Holy Infant School. This monitoring area is approximately 150 meters from the airport fence. It is within the border of Barangay Pajac, Bankal, and Pusok and is classified as Recreation/Parks and Greens in CLUP. The DNL value in this station is projected to be 65 dBA.

The fourth station is located within a residential area at the back of EMD Carmelite School, and is fronting the airport perimeter fence. This area belongs to Barangay Buaya and is within the classification of Recreation/Parks and Greens and Light Industry Zone in CLUP. Based from the 2014 Noise Model, the DNL value in this area is close to 65.

The last station is also located within STEC and is very near Runway 04. This station was chosen because of its proximity to the runway 04 (RWY 04) where noise is perceived to be

the loudest prior to the departure of aircrafts. Based from the 2014 Noise Model, the DNL value in this station should be close to 70 dBA.

Results of the monitoring are summarized in Table 10 below. Values are presented in chronological order[21] and expressed as either DNL, L_{eq} (24-hour average), L_d (7AM-10PM average), L_n (10PM-7AM), L_{max}, L_{min}, L_{10} (10^{th} percentile rank value), L_{50} (50^{th} percentile rank value), and L_{90} (90^{th} percentile rank value). Figures 7 to 11 below represent the plotted data.

Table 10.
DNL Values of the 5 Monitoring Stations

Monitoring Station	DNL (dB)	Sampling Date	Time Period	Noise Level in dB					
				Ave	Min	Max	L_{90}	L_{50}	L_{10}
MS1 STEC 1	59.13	9pm 5Nov (W) to 9pm 6Nov (Th)	24Hrs	55.4	43.2	80.4	46.3	56.4	64.5
			L_d	58.9	46.2	80.4	52.9	58.3	66.0
			L_n	49.5	43.2	77.0	45.4	47.6	56.9
MS 3 Helenville	54.98	10pm 6Nov (Th) to 10pm 7Nov (F)	24Hrs	49.5	37.9	85.5	43.3	48.0	58.2
			L_d	50.3	40.5	85.5	44.7	48.7	58.6
			L_n	48.2	37.9	77.1	42.0	46.2	57.3
MS 5 STEC 2	53.94	7am 8Nov (Sa) to 7am 9Nov (Su)	24Hrs	48.6	39.0	83.2	42.6	55.1	60.5
			L_d	49.5	39.0	83.2	42.5	46.8	61.7
			L_n	47.1	40.5	82.3	42.7	44.7	57.0
MS 4 EMD	57.46	9am 9Nov (Su) to 9am 10Nov (M)	24Hrs	53.6	42.0	89.0	44.1	53.2	62.5
			L_d	56.6	43.7	89.0	48.3	56.0	63.9
			L_n	48.6	42.0	88.9	43.5	45.8	56.7
MS 2 Evangelista	59.78	12nn 10Nov (M)to 12nn 11Nov (Tu)	24Hrs	55.3	42.1	84.5	46.3	55.2	62.3
			L_d	57.0	46.6	84.5	52.4	56.2	62.4
			L_n	52.3	42.1	84.4	44.4	50.9	61.8

For the first station, monitoring was conducted from 9PM of Wednesday to 9PM of Thursday. There was a basketball event inside the barangay gym approximately 100 m from the station which contributed to a noticeable background noises coming from the Public Announcement (PA) System and the cheering crowd. During daytime, there were a number of busy school activities. Noticeable in the graph of Figure 7 are a number of peaks that represent the landing and take-off of aircrafts near RWY04 most especially during the early morning of Thursday.

[21] *Note: Permit to conduct a 24-hour monitoring to all 5 stations was not given simultaneously, as such conduct of monitoring did not follow by station number*.

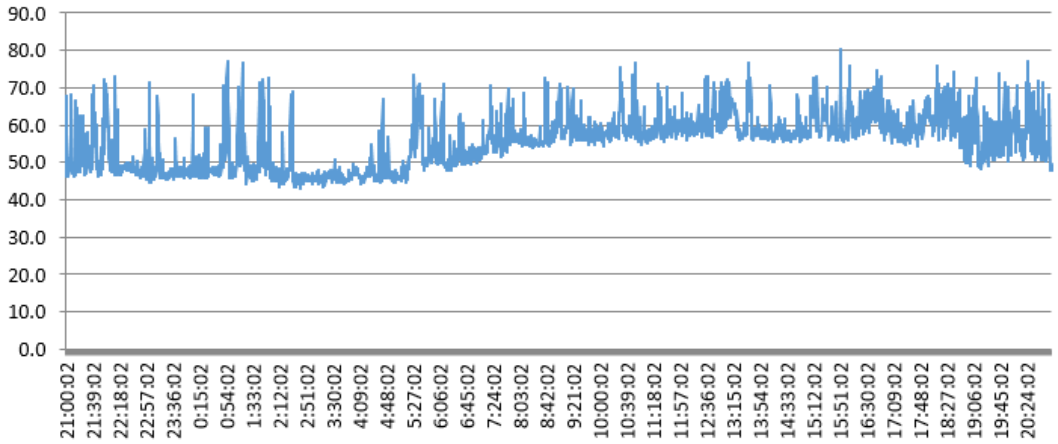


Figure 7
Noise Data for Monitoring Station No.1: STEC 1

For the 2nd station, monitoring started from noon time of Monday to noon time of Tuesday. The station is near a busy road due to school servicing in the nearby St. Augustine Industrial School. Near the station was a small restaurant a significant number of customers during the night. As evident from the graph of Figure 8, there was a significant number of flightsthat occurred during the night time of Monday.

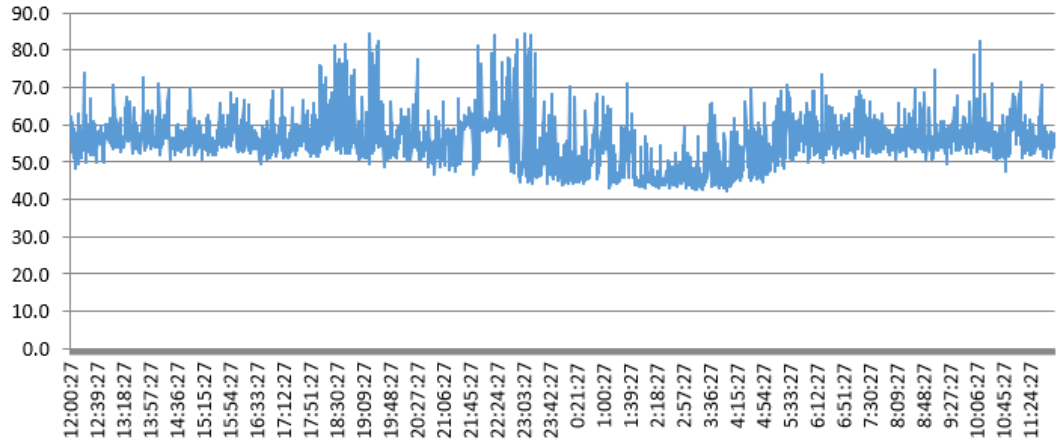


Figure 8
Noise Data for Monitoring Station No.2: Evangelista

For the third station, which was located in Helenville Subdivision, an upper-middle class subdivision with partially distributed trees surrounding the small community, the noise monitoring started at 10PM of Thursday up to 10PM of Friday. The quiet place was interrupted with occasional barking of dogs from nearby houses. From the graph of Figure 9, there are more pronounced series of peaks that can be identified towards the afternoon of Friday. These peaks relating to a more frequent series of flights may be argued as the time when passengers would leave Cebu after a week of work, or passengers from other places starting to arrive in Cebu after a week of work.

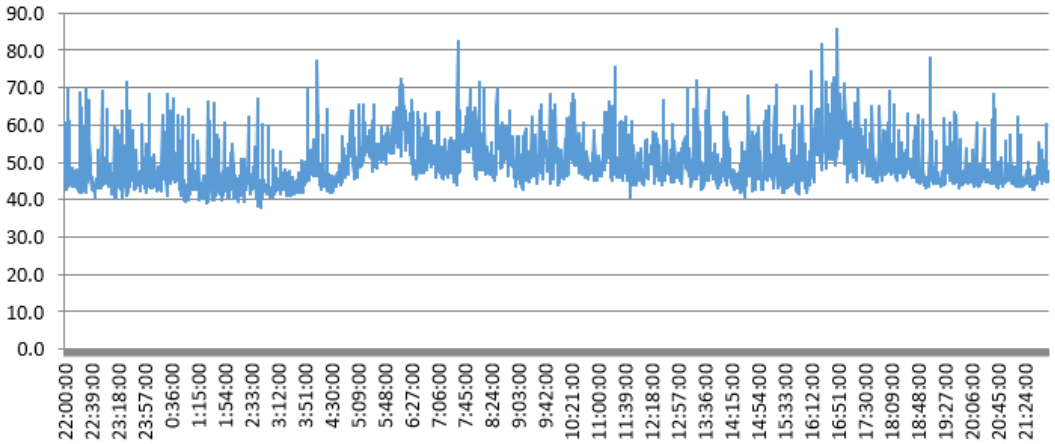


Figure 9
Noise Data for Monitoring Station No.3: Helenville

For the 4th station, which is near the EMD Carmelite School, the monitoring started 9AM of Sunday up to 9AM of Monday. The area, classified as a light industry zone, is fronting the airport parameter fence and located at the back of the school. Althougha relatively secluded area, it susceptible to background noise due to its proximity to the main road intersection. It can be observed from the graph of Figure 10 that a number of peaks are gradually increasing in frequency towards Monday early morning. It can also be argued that this is the time when people from other places are starting to arrive in Cebu, and a number of passengers from Cebu starting to travel outside because of the start of weekly work.

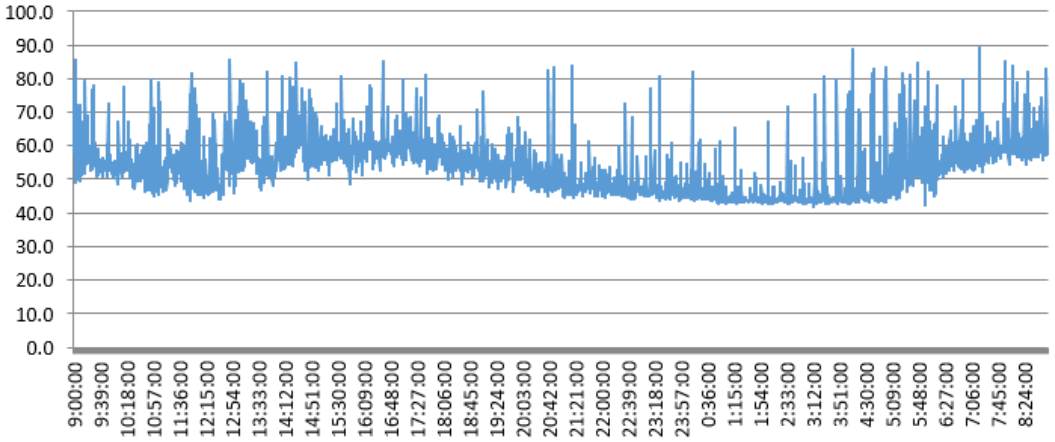


Figure 10
Noise Data for Monitoring Station No.4: EMD

For the 5th station, which is located inside STEC but nearer towards RWY04, the monitoring started 7AM of Saturday up to 7PM of Sunday. There was a waterpump near the station, and the place was relatively quiet typical of a school during weekends. There is an apparent sparsity of peaks from Saturday late in the evening towards Sunday early morning, which may be argued as relatively fewer flights that occurred during that period.

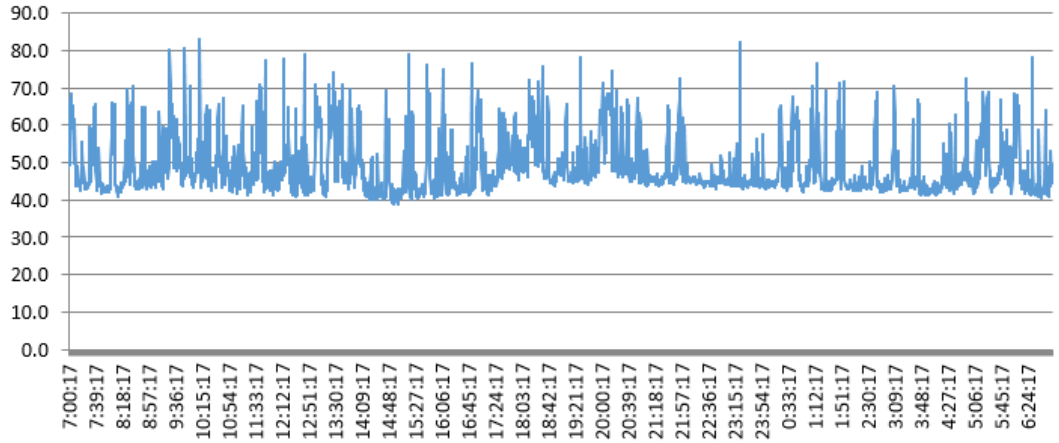


Figure 11
Noise Data for Monitoring Station No.5: STEC 2

The raw noise values were eventually re-processed for comparison with the NPCC standards. The measured DNL values were also compared with the results of the 2014 Noise Model. These values are presented in Table 11 below.

Table 11.
Noise Levels compared with the NPCC Standards

Sampling Points	NPCC Category	L_{eq} (dB)				DNL value (actual)	DNL value 2014 Noise Model
		Morning	Daytime	Evening	Night time		
		5AM-9AM	9AM-6PM	6PM-10PM	10PM-5AM		
MS1 STEC1	C	54.6	60.2	57.4	48.6	59.1	70
MS2 Evangelista	C	56.9	56.8	57.6	51.1	59.8	65
MS3 Helenville	C	53.6	51.0	47.6	46.5	55.0	65
MS4 EMD	C	57.9	57.5	52.8	46.6	57.5	65
MS5 STEC2	C	48.7	48.7	51.4	46.6	53.9	70
NPCC Standards by Category	AA	45	50	45	40	-	-
	A	50	55	50	45	-	-
	B	60	65	60	55	-	-
	C	65	70	65	60	-	-
	D	70	75	70	65	-	-

The land segment next to the airport classified as recreational/greens and parks serves as a buffer zone to attenuate the extreme noise brought about by airport operation and to provide a navigational safety distance fromthe nearby communities. Since the airport is classified as a heavy industry (D), it is safe to assume that the buffer zone is one class lower or ClassC. In such a case, allthe areas where the monitoring stations are located are within the NPCC standards in all the four time segments of the day.

With respect to the observed DNL value and the US FAA Standards, all areas covered by the monitoring stations have noise levels below 60 DNL, lower than the 65 DNL limit but incompatible for residential use.

Comparing the monitoring DNL values with the projected 2014 Noise Model suggest that the 2014 Noise Model projects a noisier airport community than it actually was. Some parameters have been consideredthat may play significant effect to the difference between the noise model and the observed values. These parameters are summarized in Table 12 below.

Table 12.
Noise Levels compared with the NPCC Standards

Parameters of Comparison		Monitoring Conditions per station					Modelling Assumptions
		Station 1 STEC1	Station 2 Evangelista	Station 3 Helenville	Station 4 EMD	Station 5 STEC2	
Monitoring/ Flight Schedules		Nov5-6 (W-Th) 9PM to 9PM	Nov10-11 (M-Tu) 12NN to 12NN	Nov6-7 (Th-F) 10PM to 10PM	Nov9-10 (Su-M) 9AM to 9AM	Nov8-9 (Sa-Su) 7AM to 7AM	Annual Daily Average
Noise Model values (dBA)		70	65	65	65	70	-
Observed L_{10} values (dBA)		64.5	62.5	58.2	62.3	60.5	-
Observed DNL values (dBA)		59.1	59.8	55.0	57.5	53.9	-
No. of Flights:[22] D (7AM-7PM) E (7PM-10PM) N (10PM-7AM)		D = 50 E = 9 N = 19 Total = 78	D = 48 E = 5 N = 14 Total = 67	D = 49 E = 7 N = 24 Total = 80	D = 51 E = 8 N = 21 Total = 80	D = 43 E = 10 N = 19 Total =72	D = 56 E = 10 N = 21 Total = 87
Weather Conditions	Temperature (^{0}F)	77–86	77–86	77–86	78.8–87.8	78.8–87.8	83.3
	Pressure (in Hg)	29.75–29.83	29.75 – 29.84	29.83	29.75–29.84	29.75 – 29.84	29.82
	Wind Speed (knots)	4.1-14.0	1.9-15.0	4.1-15.9	1.9-8.9	0.2-12.1	5.4
Description of Surrounding		School ground; evening activity at the gym; daytime school activities	Private Residence beside an eatery and near a school and main highway	Quiet Private subdivision near the airport perimeter,	Private Residence near a school and the main highway	Quiet school ground on a weekend; no school activities	(Not considered in the Noise Model)

Since the noise model considered flight frequencies within the peak season as the annual daily average, and the monitoring was conducted at the onset of the peak season, it was expected that the measured values to be lower than the model.Based on the actual flights logged during the monitoring, the number of flights varied from those assumed in the model by at least 7 flights which highly suggests the reason for the elevated noise level in the model compared with the actual values.

[22] These values are based on the actual time of arrival only. It is assumed that departure flight frequencies fall within the same values as aircrafts' time within the airport premises is limited.

The total number of flights however may not necessarily be the only contributing factor as the aircrafts flying during nighttime are considered “more noisy” because of the 10 dB penalty.In addition every aircraft has its own signature noise which may mean some aircrafts are considered inherently “more noisy” than the others. The flight paths may also contribute to the difference in noise levels as some aircrafts arrive or depart at RWY 04 or RWY 22 and they are all not captured in the nearby monitoring stations.

Meteorological conditions may also had an effect to the observed noise levels, although weather data obtained were within the assumed values of the noise model.

It is more likely though that noise attenuation is influenced by the background noise during the monitoring as evidenced by the low DNL values at Stations 3 and 5 both described as “quiet” places during the monitoring.The background noise levels is represented by the L90 recorded during the monitoring observationswhich range from 42 to 48 dBA. The noise meter recorded noise levels every 30 seconds. Provided that the estimated number of flights of 174 occurred within a day and has been all captured by the noise meter, this only constitutes approximately 6% of the total 2880 recorded noise levels. Hence, the predominant contributor to the overall Ldn shown in Table 11 is from the background noise source.

All things considered, the noise model, based on flight frequencies of the peak season, provided an overestimation of the actual noise levels but conservative enough to identify the measures to minimize noise impacts to the surrounding airport community.

Noise Impact and Mitigating Measures

In 2001, ICAO endorsed to member states the concept of a "balanced approach" to aircraft noise management with the goal of addressing the noise problem in the most cost-effective manner. This was reaffirmed in 2007 with the issuance of the "balanced approach" principles which are the following:

- Principle No. 1: Noise reduction at source
- Principle No. 2: Land-use planning and management
- Principle No. 3: Noise abatement operational procedures and
- Principle No. 4: Aircraft operating restrictions

Principle No.1 aims to come up with quieter aircrafts. This has been achieved in the local setting with the phasing out of Chapter 2 aircrafts.

Principle No. 2 aims to consider compatibility of the airport with the land use in the surrounding communities. This is an on-going process as the available land use plan is set to expire by 2020.

Principle No. 3 aims to reduce aircraft noise through some special operational procedures. This has been made aware to all aircraft operators with due consideration to the safety of aircraft navigation, air traffic, and meteorological conditions. Some of these procedures are the use of noise preferential routes/runways, displaced thresholds, SID/STAR and RNAV procedures, reduced power/drag and CDA, and limited engine ground running. (SID stands for Standard Instrument Departure, STAR means Standard Terminal Arrival Route, RNAV for Area of Navigation, and CDA for Constant Descent Approach.

Monitoring of noise abatement procedures is within the purview of MCIAA as aircraft communications are in between the aircraft pilot and the air traffic control.

Principle No. 4 aims to restrict operation of certain aircrafts brought about by noise-related issue. This last resort approach limits or reduces a noisy aircraft's access to the airport by imposing movement caps, noise quotas, and curfew. This is again within the jurisdiction of MCIAA as the body in authority imposing aircraft movements within the airport.

In consideration of the expected expansion of MCIA, airport noise is also expected to increase as evident by the output of the 2024a and 2024b Noise Models. This projection is not only true to MCIA but to almost all airports in the world. In anticipation, the ICAO Committee on Aviation Environmental Protection during its ninth meeting (CAEP/9) issued a recommendation guideline in February 2013 that by 2017 new large civil aircraft types must be at least 7 EPNdB (Effective Perceived Noise in Decibels) quieter than the current Chapter 4 standard, and by 2020 will alsobe applicable to smaller aircraft types of less than 55 tonnes. This new standard called Chapter 14 was arrived at after careful consideration of the cost-effectiveness of the measures to be undertaken.

With this development, it is expected that by 2020 (2017 the earliest) newer Aircrafts will come with lesser noise generation, and hence reduced noise levels in the airport community.

MITIGATING MEASURES

Noise reduction strategies will be employed following the ICAO "balanced approach" principles on noise reduction. These are: noise reduction at source(use of quieter aircrafts), land-use planning and management, noise abatement operational procedures, and aircraft operating restrictions.

The International Civil Aviation Organization (ICAO) in 2013, aware of the worldwide expansion of local airports, issued a recommending guideline to member states specifying the need for new quieter aircrafts. This guideline targets 2017 as the deadline for new large civil aircraft types to be at least 7 EPNdB (Effective Perceived Noise in Decibels) quieter than the current Chapter 4 standard. By 2020, this guideline wills also be applicable to smaller aircraft types of less than 55 tonnes. With this development, it is expected that by 2020 (or 2017 the earliest) newer aircrafts will come with lesser noise generation, and hence reduced noise levels in the airport community.

The other measures (land-use planning and management, noise abatement operational procedures, and aircraft operating restrictions) will be brought for discussions with MCIAA, airline operators, Lapu-Lapu City Planning and Development Office (CPDO) and other appropriate bodies for a more concerted effort in reducing the airport noise.

An MCIA Noise Management Committee (MNMC) will be created, composed of MCIAA, GMCAC, airline operators, Lapu-Lapu City LGU, Philippine Air Force (PAF), flight training schools, the airport Tenant's Association, and community representatives as component to the MCIA grievance committee.

It is anticipated that the increase in aircraft flight will commence at the earliest by 2017, after project construction. At that period when the balance approach strategy has not been met, and noise exceedances are still apparent within the sensitive receptors and residential areas, insulation may be considered upon exposure to the following noise levels: a) sensitive receptors exposed to >/65dBA and b) residential exposed to>/70dBA. These will be a recommended measures to MCIAA as part of their responsibility particularly upon enactment of the Airport Noise Bill.

ADB will also provide a Technical Assistance to MCIAA, to ensure that the above noise abatement strategies will be properly implemented to minimize impact of the project to the surrounding communities. The TA will also cover update of the noise modelling to take into account effectivity of the noise measures provided and at the same time corrected with the long-term results of the monitoring.

For the ground noise, all sources of noise emissions (landside vehicles, etc.) will be properly operated and maintained, and will be used at appropriate operating hours. When applicable, appropriate noise control device/s such as mufflers and sound barriers will be installed.

Planting of trees and/or provision of adequate barriers may be worked out to further mitigate the propagation of noise coming from aircraft and ground operations.

MONITORING

During the process of implementation of the balance approach strategy, continuous noise monitoring will be conducted within the vicinity of the airport. The location of the monitoring stations will include the baseline stations and additional residential and sensitive receptor areas, which may be identified through continuous stakeholder consultation. The long-term monitoring regime will be conducted to strengthen the statistical correlation with the predictive model and be able to calibrate the model based on further data to be collected. A Noise Monitoring Plan will be formulated by MCIAA assisted by GMCAC.

9.2 Landscape Character

POTENTIAL IMPACTS

Earthworks and site clearance operations during construction phase will have a temporary and localized impact to the landscape character of the area.Appropriate wall screens will be usedto envelope all development sites to mitigate the visual impact of construction.

During the operational phase, the project area will be visually enhanced with thewell-designed new terminal building and of the appealing structures of the nearby Airport Village Mall at the landside.

MITIGATION MEASURES

Specific areas within the airport will be landscaped according to landscape engineering and architectural design befitting a resort-type airport.

9.3 Seismic Design

POTENTIAL IMPACTS

The project will not have a significant impact to the seismic character of the surroundings since MCIA is already a built-up area with an almost flat terrain, and the buildings to be constructed will be considered low-rise.

Although the existing seismicity records of the area show no major earthquake[23]experienced from 1907 to the present, it still belongs to the Pacific Ring of Fire and therefore considered geologically at risk.

MITIGATION MEASURES

The new terminal building (T2) will be constructed with due consideration of the seismic activities of the area following the National Building Code of the Philippines and of the AASHTO (American Association of State Highway and Transportation Officials)Standards to withstand (or with reduced impacts associated with) any earthquake events.

9.4 Biodiversity

POTENTIAL IMPACTS

The impact of the project to the biodiversity of the area is low as the allotted area for expansion houses a very limited tree cover, which limits the impacts to all other life forms.

The tree inventory carried out in the Project area shows a number of tree species, such as acacia, agoho, alim, bagalunga, bitanghol, bo tree, breadfruit, breadnut, ficus, fire tree, gmelina, indian tree, ipil-ipil, jackfruit, lanete, mahogany, mango, nara, neem, pandan, star apple, talisay, and tamarind.

MITIGATION MEASURES

DENR permits will be obtained for all trees that will be removed, either by tree cutting or earth-balling. Earth-balled trees will be transplanted according to the specifications detailed out in the DENR Memorandum entitled “Guidelines and Procedures on the Planting, Maintenance and Removal of Trees in Urban Areas and in Areas Affected by Government Infrastructure Projects.”

There will be areas in the airport where biodiversity will be promoted following the local resort-theme of the Project. In landscape planting around the site, mature, and a mix of native and non-native trees, as well as shrub species, will be used, where appropriate, to provide opportunities for biodiversity to flourish in the area.

9.5 Groundwater

POTENTIAL IMPACTS

The use, transport, and storage of fuels, motor oils, and chemical solvents during construction and operation of airport pose a negative impact to the groundwater.If these toxic substances are not stored or handled properly, they cancontaminate the land surface. From the soil, these substances will eventually seep down into the groundwaterand contaminate it.

Aside from groundwater contamination, construction and operational activitiesin the airport will require significant volumes of water. It is projected that by 2017, both airport terminals will be requiring approximately 1,032 m^3per day of water, and discharging 826 m^3per day of

[23]Magnitude greater than or equal to 5.0 in Richter Scale.

waste water. Disposal of wastewater can have a considerable impact to the groundwater if this is not properly addressed.

The project will not be sourcing groundwater for its operations and not expected to contribute to groundwater depletion in Cebu-Mactan area.

MITIGATION MEASURES

To mitigate the impacts to the groundwater, all fuel, motor oil, and chemical solvents must be sited on an impervious base within a bund and properly secured. The base and bund walls must be impermeable to the material stored. Leaking or empty containers of these materials must be removed from the site and properly disposed of by a DENR-accredited third party contractor. Washings from concrete mixers, paint or paint utensils will not be allowed to flow into the ground.

Wastewater coming from the airport will be treated by MCIAA as stipulated under the Concession Agreement. However, to ensure safety of the groundwater and of the receiving body of water (Mactan Bay) where the treated wastewater will eventually be discharged, GMCAC will conduct regular monitoring of the performance of the STP of MCIAA.

9.6 Surface water

POTENTIAL IMPACTS

Mactan Island has no notable surface water, and all storm water eventually drains to the surrounding sea. In the case of MCIA, storm water is channeled at the buffer regions adjacent to the runway, leading towards Mactan Bay. Smaller channels are also found within the airport premises and are all inter-connected to the discharge point.

Construction activities within the airport will have an eventual impact to Mactan Bay in the form of sediments reaching the built-up channels and then the Mactan Bay. Sediment runoff can come from exposed ground surfaces, stockpiles of excavated areas, and concrete and cement products attached to construction tools and equipment.

MITIGATION MEASURES

To mitigate contamination of Mactan Bay brought about by sediment transport from surface run-off, sediment traps or basins will be provided to channel storm water from the work areas and to diminish the energy of the storm water flow.This kind of mitigating measure controls the movement of sediments that can affect the quality of Mactan Bay.

9.7 Ambient Air Quality

POTENTIAL IMPACTS

Construction equipment and vehicles emit air pollutants such as NO_X, SO_X, and Particulate Matters (PM) that can be both harmful to health and to the environment. Vehicles passing on dry and windy areas can generate dust and increase the ambient Total Suspended Solids (TSP). Demolition of apron, MIP, and paved areas can increase the ambient TSP due to the release of fine debris particles and the increase in exposed (unvegetated) ground areas.

CUMULATIVE IMPACTS (impacts of aircraft emissions brought by airport expansion)

The air quality modeling of aircrafts emission was carried out using the AERMOD air quality dispersion model, and the emission factors of UK-NAEI and/or USEPA emission factors for

SO_2, NO_2, PM_{10} and $PM_{2.5}$. AERMOD is an internationally recognized modeling tool that uses an atmospheric dispersion modeling system.

Isopleths are generated for the predicted ground level concentrations of aircraft emissions for years 2013 and 2024 around the Mactan International Airport, which are compared to the DENR standards for ambient air quality as shown in Table 1.

Table 9-8
DENR standards for Ambient Air Quality Parameters

Parameters	DENR Standards
PM_{10}, ug/Ncm	150
PM_2, ug/Ncm	50
NO_2, µg/Ncm	150
SO_2, µg/Ncm	180

The following information and assumptions were used to run the model for all the above-mentioned parameters:

- Data sources for Airport Emission Inventory and Data input for Air Quality Modeling:
- Aircrafts flight frequency for year 2014 and 2024
- Fuel consumption during Landing and Take-off (LTO)
- Emission factors by type of aviation fuel from the United Kingdom - National Atmospheric Emissions Inventory (UK NAEI) for NO_2, SO_2, PM_{10} and $PM_{2.5}$ as shown in Table 2.

Table 9-9
Emission factor by type of fuel

Pollutant	Fuel Name	Emission Factor
Nitrogen Oxides as NO2	Aviation turbine fuel	12.59801596
Nitrogen Oxides as NO2	Aviation spirit	4.47768451
PM10 (Particulate Matter < 10µm)	Aviation turbine fuel	0.09977879
PM10 (Particulate Matter < 10µm)	Aviation spirit	0.11006788
PM2.5 (Particulate Matter < 2.5µm)	Aviation turbine fuel	0.09977879
PM2.5 (Particulate Matter < 2.5µm)	Aviation spirit	0.11006788
Sulphur Dioxide (SO_2)	Aviation turbine fuel	1.26400000
Sulphur Dioxide (SO_2)	Aviation spirit	1.26400000

- Airport runway orientation.
- Meteorological Data from Cebu Synoptic Station

Figures 9-8, -9, -10 and **-11** show the isopleths for SO_2, PM_{10}, $PM_{2.5}$and NO_2 for the 2014 air quality projections. The maximum ground level concentrations of SO_2, PM_{10}, $PM_{2.5}$and NO_2 for 2014 are 3.1 ug/Ncm, 0.3 ug/Ncm, 0.3 ug/Ncm and 32.1 ug/Ncm, respectively.

Based on the results of the air quality modeling for 2014, the ground level concentrations of the emissions coming from the aircrafts during LTO will not exceed the ambient air quality standards of the DENR. The results of the ambient air quality baseline survey, carried out in September 2014, consistently shows that the air quality along the sampling stations do not exceed DENR's permissible values.

For ground transports, the number of vehicles arriving and departing from the airport is expected to increase by about 100% in 2024 (average of less than 2000 vehicles per hour), and around 200% (average of less than 4000 vehicles per hour) from the current (2014) volume of traffic in 2039. The level of emissions of air pollutants however will not be significant since the traffic volume is still relatively small to cause significant increase in the concentrations of ambient air pollutants.

Figure 9-8
SO_2 Concentrations for Year 2014

Figure 9-9
PM_{10} Concentrations for Year 2014

Figure 9-10
$PM_{2.5}$ Concentrations for Year 2014

Figure 9-11
NO_2 Concentrations for Year 2014

Figures 9-12, -13, **-14** and **-15** show the isopleths for SO_2, PM_{10}, $PM_{2.5}$and NO_2 for the 2024 air quality projections. The maximum ground level concentrations of SO_2, PM_{10}, $PM_{2.5}$and NO_2 for 2014 are 6.5 ug/Ncm, 0.6 ug/Ncm, 0.6 ug/Ncm and 66.5 ug/Ncm, respectively.

Based on the results of the air quality modeling for 2024, the ground level concentrations of the aircraft emissions during LTO will still not exceed the ambient air quality standards of the DENR. This indicates that the proposed expansion of the airport will not significantly contribute to the air quality issues along the surrounding communities of MCIA.

As a safeguard, monitoring stations can be strategically placed within nearby communities. The sampling stations used for the baseline survey can also be adopted as future ambient air quality monitoring stations.

Figure 9-12
SO_2 Concentrations for Year 2024

Figure 9-13
PM_{10} Concentrations for Year 2024

Figure 9-14
$PM_{2.5}$ Concentrations for Year 2024

Figure 9-15
NO_2 Concentrations for Year 2024

MITIGATION MEASURES (non-aircraft emissions)

To mitigate the impacts of air pollutants, vehicles and equipment to be used must first pass mandatory emissions testing based on DENR/DOTC standards. Vehicles and equipment that did not pass the emission testing should be repaired or replaced while those that passed and are used in operation should undergo periodic maintenance.During construction areas considered vulnerable to dust generation will be sprayed with uncontaminated water on a periodic basis to suppress proliferation of dust particles.

It is assumed that an increase in PM_{10} and TSP will occur during the construction phase due to the movements of processing and construction equipment. Among particulates, dust has the biggest size thus its effect is more on the nuisance side rather than on health. The effect of dust is on the visibility and the aesthetic aspect of the surrounding areas where it may settle. Visibility is vital to the operation of airports and air bases while aesthetic value is very important for industries catering to tourism like hotels and resorts. Thus the dust generated during construction may pose impact to the surrounding areas, but is expected to be short term and temporary. Dust control, such as spraying can be employed during construction. Processing equipment that may emit significant amount of dusts may be located at a distance or off-site the construction area. This impact is considered short-term, likely insignificant, and temporary.

9.8 Climate Change Impact

According to the joint study of the Manila Observatory and the DENR[24], Mactan Island is one of the few areas in the Philippines assessed to have a low impact risk to typhoons. This study was based on the 1945 to 2003 historical data on the number of tropical cyclones (tropical depressions, tropical storm, typhoon, and super-typhoon)that visited the Philippines. **Figure 9-16** below describes the overall typhoon risk assessment of the different areas in the Philippines. In the past 5 years, two typhoons went over Cebu: Typhoon Bopha in December 2012, and Typhoon Haiyan in November 2013, two of the Philippines' worst storms in recent history. In both events, no significant damage has been reported in MCIA, nor in any of its immediate surroundings.

[24] Manila Observatory and DENR, "Mapping Philippine Vulnerability to Environmental Disasters," *Manila Observatory*, Accessed October 14, 2014, http://vm.observatory.ph/hazard.html.

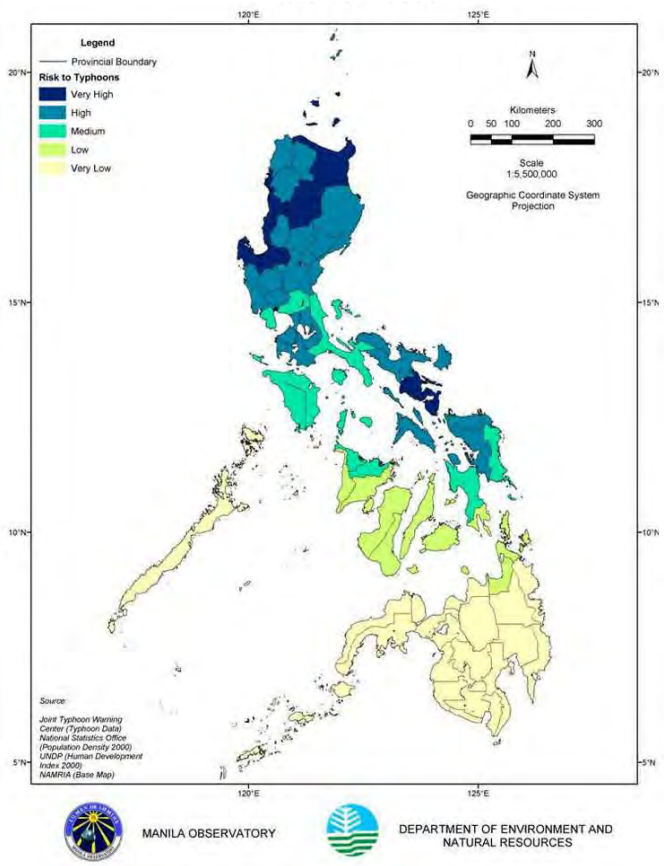


Figure 9-16
Philippine Typhoon Risk Map

Figure 9-16 also suggests that Mactan Island is at low risk when it comes to the projected change in rainfall. Using the 1960 to 1990 wet season conditions as baseline data, the change in rainfall for years 2066 to 2096 was projected as shown in **Figure 9-17**.

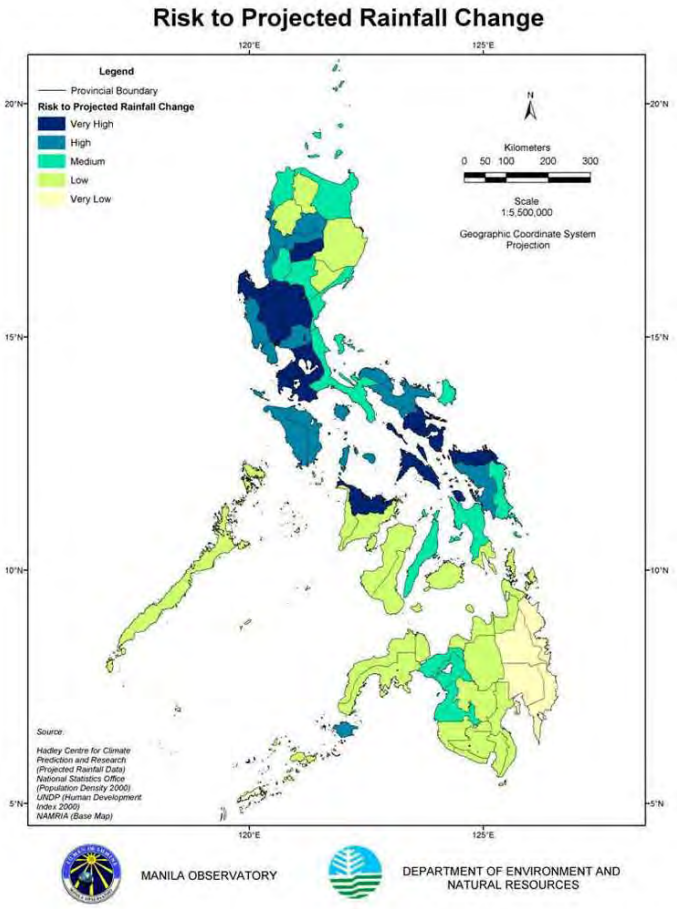


Figure 9-17
Philippine Risk to Projected Rainfall Change Map[25]

However, when the topography of the area is considered, flood simulation[26] suggests that majority of the airport area is at moderate risk when it comes to flooding, with a few segments within the airport at high risk. **Figure 9-18** shows the flood hazard assessment of the MCIA area.

[25] *Manila Observatory and DENR, "Mapping Philippine Vulnerability to Environmental Disasters,"Manila Observatory, Accessed October 14, 2014, http://vm.observatory.ph/hazard.html.*

[26] *The Flo2d Team of the University of the Philippines National Institute of Geological Sciences performed the flood simulation using Flo2d software, a Federal Emergency Management Agency (FEMA)-approved flood routing application software. Source: Philippine Flood Hazard Maps, Accessed October 14, 2014, www.nababaha.com/flood/mactan/mactan.htm.*

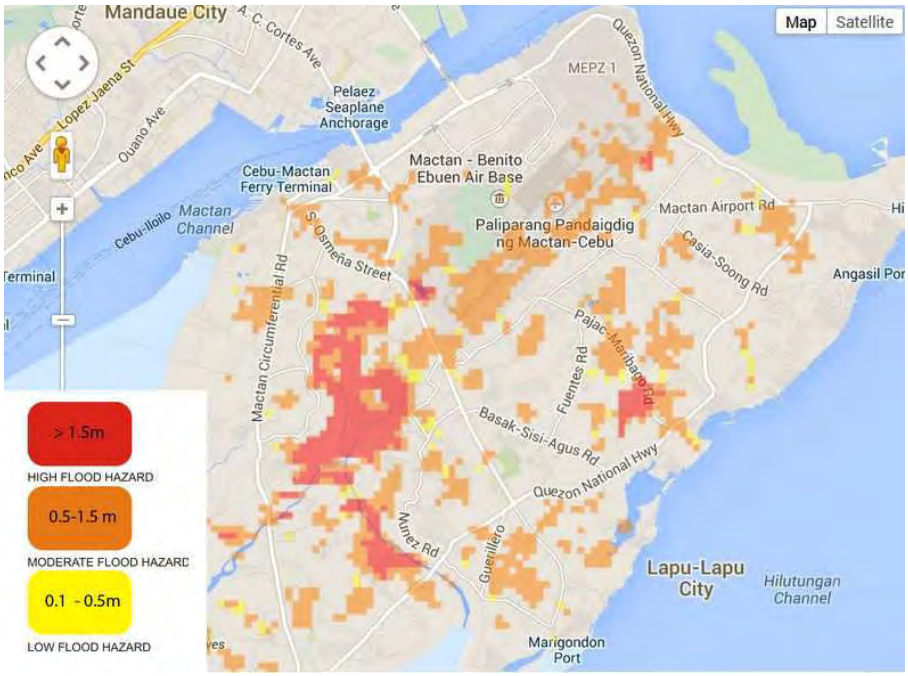


Figure 9-18
Flood Hazard Map of MCIA

Overall, considering the topography of Mactan Island, meteorological historical data, and the projected effect of climate change, MCIA is assessed to face low to moderate risks.

Flood Analysis:

This assessment however did not considerthepresence of storm water drains that are located within the airport. It only considered the terrain of Mactan Island, characterized as nearly flat (0 - 10 meters above mean sea level) that falls in the one-slope category of 0 to 3%.A flood analysis was then conducted to ensure that the installed canals have the carrying capacity to withstand the heaviest rainfall within 50-yearrecurrence interval.
The discharge levels (Q) of the MCIA's drainage area were determined using a Rational Method for flood analysis at 10-, 20-, 30- and 50- years return periods. The computed Q values were then compared with the discharge capacity of the receiving open drain/channel to determine the carrying capacity of the drainage area. The open channel is ungauged, thus to estimate its carrying capacity, actual measurements of its dimensions were used.
The following equations were used to determine the discharge levels of the drainage area:
Kirpich Formula for Time of Concentration (SI Units):

$$t_c = \frac{L^{1.15}}{51H^{0.385}}$$

Where:

t_c = time of concentration
L = overland flow distance
H = elevation difference (Highest Elevation – Lowest Elevation)

Rainfall Intensity (using Gumbel variate):

$$I = \frac{a - b\ln\left[-\ln\left(1 - \frac{1}{T_x}\right)\right]}{(T_c + K)^N}$$

Where:

I = rainfall Intensity
T_x = return period
T_c = time of concentration
a, b, K and N = parameter constants

Discharge formula:

$$Q = CiA_D$$

Where:

Q_D = discharge level
C = run-off coefficient
i = rainfall intensity in the Mactan Island
A_D = Estimated discharge/ drainage area

Table 1 shows the information were obtained for the Mactan Airport

Table 1
Data inputs for the flood analysis

A_D =	2.2 sq.km (including peripheral sub-drainage areas)	**a =**	713.4007
L =	2.9 km	**b =**	230.2591
Highest Elevation =	10 m	**N =**	0.6414
Lowest Elevation =	6 m	**K =**	11.1
Runoff Coefficient (C) =	0.95 (generally paved areas)		

Note: the constants were derived based on 30 years rainfall records from PAGASA

The computed discharge levels by return periods are shown in Table 2

Table 2
Computed rainfall intensities and discharge by return periods

Return Period, yr	T_c, min	I, mm/hr	Q_p, m^3/s	1.1 x Q_p, m^3/s
10	110.25	56.72	32.93	36.22
20	110.25	64.35	37.36	41.10
30	110.25	68.75	39.91	43.90
50	110.25	74.24	43.10	47.41

The existing channel (discharging to Mactan Bay) has an estimated carrying capacity of at least 50 m^3/s, which is enough to carry the peak flood flow coming from the drainage area (which includes the MCIA and MEPZA) for a 50-yr return period[27].

MITIGATION MEASURES

To mitigate the risks associated with climate change events and natural disasters, GMCAC will ensure that the final design of T2 will be storm resilient.

During the operational phase, GMCAC will perform regular maintenance of the storm water drain network to effectively channel all storm waterstowards the Mactan Bay.

GMCAC shall collaborate with MCIAA and the LapuLapu City Planning and Development Office to mitigate the impacts of flooding in the area.

As often as necessary, GMCAC will review all weather forecasts and respond based on the up-to-date Disaster Management Plan.

9.9 Health and Safety hazards

POTENTIAL IMPACTS

Construction activities within the airport have the potential to negatively impact the health and safety of both workers and passengers. Unsafe activities and improper use of tools and equipment may result to accidents. People will also be exposed to high noise, vibrations, and air pollution while construction and renovation are on-going. There is also a possibility that fire, explosion, or chemical spillage will happen due to the presence of fuel storage area.

MITIGATION MEASURES

To mitigate the impacts of these hazards, construction workers will be given the necessary training in Health and Safety applicable to their respective line of work. They will be provided the necessary PPEs (Proper Protective Equipment) such as ear muffs, safety shoes, masks, and goggles.

Baseline noise and air quality will be determined and monitored regularly to determine exposure levels of pollution to workers during the construction period.

Fire fighting plan will be developed and fire fighting facilities will be provided in the fuel storage area to mitigate the hazards associated with the presence of the fuel storage area.

Health and Safety Policies will be developed, practiced, and reviewed regularly. A Health and Safety Officer will be deputized to ensure conformance of the project to Health and Safety standards.

To mitigate the impact to health and safety of airport staff and passengers during the operational phase, all buildings (T1, T2, Airport Village Mall, and support facilities) will be designed in such a way that the impact of fire, earthquake, and extreme weather events will be minimized. Proper evacuation plan during emergencies will be developed for every building.

[27] DPWH guidelines require a design capacity of 50-yr return period for open channels.

9.10 Energy Efficiency

POTENTIAL IMPACT

Based on the Visayas Power Supply-Demand Outlook for 2012 to 2030[28], the Visayan region has a peak demand growth rate of 4.45%. If the demand is projected and compared against the future power supply in 2024, the estimates indicate that there will be power shortage in the whole of the Visayan region. While the Philippine Government search for solutions to mitigate the impending power crisis, GMCAC shall ensure that necessary steps are taken to reduce its overall power consumption throughout the span of its operation.

MITIGATION MEASURES

As a member of the community, GMCAC will striveto commit to the principles of sustainable development by minimizing the environmental impacts of its daily operations through continuous improvement.

One of the best ways to reduce its environmental impact is by reducing its overallenergy consumption. GMCAC is planning to apply for at least a LEED[29]Silver Certification Rating for the new Terminal. The certification follows the LEED-US Green Building Rating System, an internationally accepted benchmark for the design, construction and operation of high performance green buildings.

Table 9-10 shows the broad rating criteria for this certification is as follows:

Table 9-10
Rating criteria for LEED rating criteria

CriteriaNo.	Criteria	Max. Points
1	Sustainable Sites (SS)	26
2	Water Efficiency (WE)	10
3	Energy and Atmosphere (EA)	35
4	Materials and Resources (MR)	14
5	Indoor Environmental Quality (IEQ)	15
6	Innovation in Design (ID)	6
7	Regional Priority (RP)	4
Total		110

GMCAC is planning to achieve at least 50 points for Terminal 2 to achieve the LEED Silver Certification Rating. Replacement of equipment in Terminal 1 by more energy efficient ones shall be implemented at the start of the concession.

[28]http://www2.doe.gov.ph

[29]LEED stands for Leadership in Energy and Environmental Design developed by the U.S. Green Building Council to help building owners and operators to be environmentally responsible and be able to use resources efficiently

9.11 Road Network Traffic

POTENTIAL IMPACT

During the construction phase, it is expected that there will be an increased road usage coming from construction vehicles that may result to short-term increase in vehicular traffic and inconvenience to other road users.

During the operational phase, the expansion of the passenger terminal of MCIA, and the increase in flight services would definitely increase the number of incoming and outgoing passengers, which, as a direct result, would increase the number of transportation vehicles plying the roads leading to and from MCIA. Thus, this increase in traffic volume would effectively reduce the capacity of the road network.

Each lane of the access roads leading towards MCIA has an estimated capacity of 1400 to 1500 vehicles per hour. The Peak Hour volumes of arriving and departing vehicles for 2024 and 2039 are shown in **Table 9-11. Figure 9-19** illustrates the effect of passing vehicles to a single lane.

Table 9-11
Peak Hour Volumes for 2024 and 2039

Vehicle Type	2024		2039	
	Peak Hour Departure	Peak Hour Arrival	Peak Hour Departure	Peak Hour Arrival
Cars	143	198	280	347
Vans	35	48	68	84
Buses	6	8	12	14
Taxis	234	324	457	568
Total	418	578	817	1013

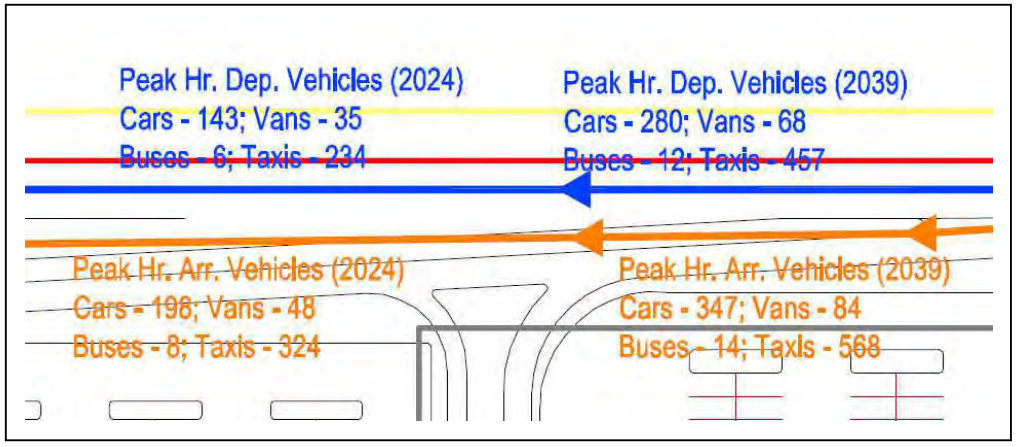


Figure 9-19
Illustration of the passing vehicles on a single-lane road near MCIA

As seen in the total number of vehicles in the projection, the maximum capacity of the road lanes is still far from being exceeded, thus the impact of the expansion of MCIA on the road

network capacity will not be significant, even in the long-term. However, measures to ensure and maintain the efficiency of traffic flow, especially in all intersections, must be put in place.

MITIGATION MEASURES

The issue of the impact of road use of the construction equipment and trucks was brought up in the November 26, 2014 Consultation Meeting. GMCAC will closely coordinate with the City Engineers's office on the best routes to be used for construction
During operational phase, GMCAC may regularly coordinate and discuss with the traffic authority of Lapu-lapu City to ensure that the traffic management plan for roads leading to and exiting from the airport are updated. GMCAC may also collaborate with MCIAA in formulating airport landside policies to limit the loading and unloading time of passenger vehicles at the arrival and departure areas. Parking of vehicles in all roadways should not be allowed, and all road obstructions must be removed.

9.12 Domestic Water Discharge

POTENTIAL IMPACTS

The expansion of the passenger terminal would entail increase in water demand, which in turn would increase the domestic water discharge. The existing STP has a capacity of 900 m^3 /day, and the present discharge of the existing terminal is less than 300 m^3 /day. **Table 9-12** shows the projected water discharge rate of T1 and T2 for years 2017, 2022, 2027 and 2039.

Table 9-12
Projected Water Demand and Discharge Rates of T1 and T2

Terminal	Water Demand Rate (m^3/day)				Discharged Water Rate (m^3/day)			
	Year 2017	Year 2022	Year 2027	Year 2039	Year 2017	Year 2022	Year 2027	Year 2039
T1	432	575	730	1100	345.6	460	584	880
T2	600	750	900	1200	480	600	720	960
Total	1032	1325	1630	2300	825.6	1060	1304	1840

By 2017 the total daily water discharge rate would be 825.6 m^3/day, which is already near the maximum design capacity of the STP. By 2022, the daily water discharge rate would increase to 1060 m^3/day, an amount way beyond the capacity of the existing terminal. Failure to treat the wastewater would lead to environmental non-compliance, and may result to dire environmental consequences, particularly on the water quality (BOD, COD and coliform) of Mactan Bay. Thus, the perceived impacts can be considered cumulative, significant and high in magnitude, but reversible if addressed.

MITIGATION MEASURES

Based on Part 2 (Grantors Operations & Maintenance (O&M) Minimum Specifications and Standards (MPSS)) in Annex 4 (Grantors O&M Services and MPSS) of the GMCAC-MCIAA MOA, "the STP shall be maintained by MCIAA to allow for the capacity of international and domestic passengers and associated employees for the duration of the Concession Period".

Thus, MCIAA shall put in place the necessary measures that would ensure the treatment of all wastewater generated from the operation of the terminals in the proposed expansion.

9.13 Greenhouse Gases (GHGs)

POTENTIAL IMPACTS

The planned expansion of the Mactan-Cebu International Airport (MCIA) is predicted to contribute to the increase of GHGs emitted to the environment due to airport-related activities. To assess the environmental impacts of the planned expansion of airport operations at the MCIA the magnitudes of CO_2, CH_4 and N_2O emissions that will be potentially released were calculated using IPCC methods. The aviation industry has been identified as one of the major sources of greenhouse gases that significantly contribute to global warming[30]. Airport-specific emissions are important since these directly contribute to the local air quality and have the potential to affect climate at the global level.

Postorino and Mantecchini[31] identified four sources of carbon emissions specific to airport operations, namely; emissions due to ground access modes, emissions due to electrical energy consumption and generation for airport operations, emissions due to landing, take-off and taxiing of on-ground aircraft (LTO) and emissions due to ground service equipment operations. The emissions due to ground access modes refer to the GHGs generated by the transportation used by passengers to get to and leave from the airport. The emissions due to landing, take-off and taxiing of on-ground aircraft (LTO) refer to the GHGs produced by aircraft travelling within the operational LTO cycle. The LTO cycle includes all aircraft activities 1000 meters from the ground level (**Figure9-20**) namely; the descent/final approach, taxi-in, taxi-out, take-off and climb out[32].

Methodology

Four distinct sources of GHG emissions as outlined by Postorino and Mantecchini were considered for the present inventory. Only the following major GHGs were included in the analysis: carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O).

A. Preliminary Calculations

Preliminary calculations were performed to determine the baseline for 2014, and projected values for the passenger volumes, number of vehicles for passenger transport, aircraft LTO volumes, ground service vehicle fuel usage and the annual electricity consumption.

The passenger volumes for international and domestic flights were estimated separately. Available and projected passenger volumes for the years 2014, 2024 and 2039 were used to generate second-order polynomial models (R^2 = 1) to approximate the number of passengers for both international and domestic destinations between the aforementioned years.

The projected number of vehicles arriving and leaving from the airport for the years 2015 to 2039 were calculated based on the predicted domestic and international passenger volumes. It was assumed that the proportions of the modes of transportation used to ferry the passengers into and out of the airport will not change significantly within the next 25 years. Ratios of the number of vehicle types per total number of passengers were calculated for the

[30]Pham VV, et al. 2010. Environmental Modeling & Software. 25, pp. 1738-1753.
[31]Postorino M. and L. Mantecchini. 2014. Journal or Air Transport Management.37, pp. 76-86.
[32]Song SK and ZH Shon. 2012. Atmospheric Environment. 61, pp. 148-158.

baseline year 2014. These ratios were used to estimate the volumes for each of these vehicle types for the years 2015 to 2039.

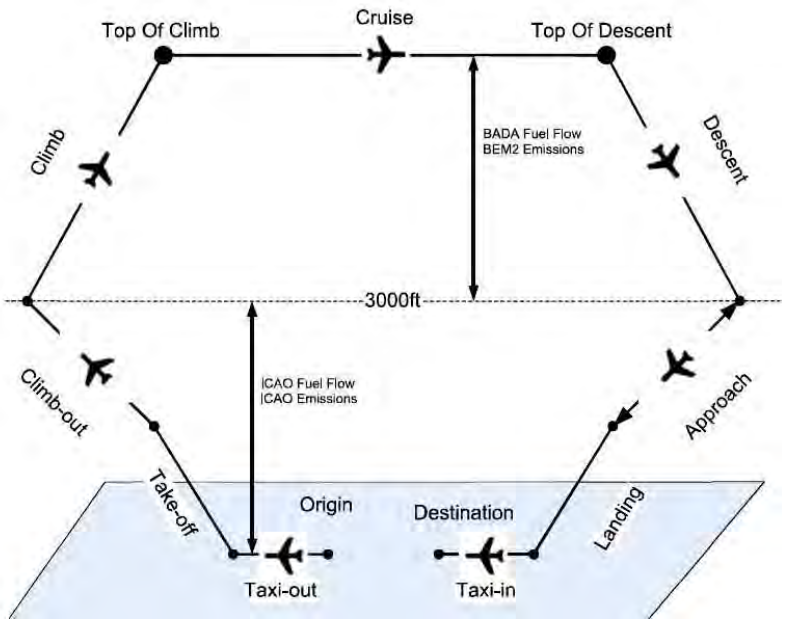


Figure 9-20 The aviation emission computation
(Source: J. Environmental Modeling & Software)

The annual LTO cycles were estimated using available and estimated volumes of international and domestic-bound aircraft. Regression analysis (R^2 = 1) was used to interpolate LTOs for international flights between the years 2014, 2025 and 2039. The volume of domestic LTOs for the years 2015 – 2039 were calculated by multiplying the respective annual passenger estimates to the ratio of the LTO volume per total number of domestic passengers for the year 2014. It was assumed that the percentages of the aircraft models in the year 2014 will not significantly change within the next 25 years.
For the calculation of the volume of fuel consumed by ground service equipment, it was assumed that each aircraft is serviced by the same set of ground vehicles. Furthermore, it was assumed that the proportions, fuel type and vehicle mileage will not change significantly from its year 2014 profile. An LTO- specific ratio of the fuel consumption for a single deployment of a ground service fleet was calculated for the year 2014. The fuel consumption for ground service activities for the years beyond 2014 was calculated by multiplying the LTO-specific ratio to the corresponding total LTO volumes.

Finally, for the estimation of the annual electricity consumption due to MCIA terminal operations, estimated data for the years 2014, 2016, 2017, 2022, 2027, 2029 and 2039 were used in a regression analysis (R^2 = 0.91) to obtain the values of electrical consumption due to airport terminal operations for the periods between the aforementioned years.

B. Greenhouse Gas Calculations

Source 1: Emissions due to ground access modes

Data from a 2014 traffic survey was used to estimate the number and percentages of vehicle types entering and leaving the MCIA grounds. The vehicles were further classified into the type of fuel used – gasoline, diesel fuel or liquefied petroleum gas (LPG). The average road length traversed by either a vehicle entering or leaving from the departure and arrival areas was estimated at 1 km. The GHG emissions were computed using Equation 1 where E_{GHG} is the CO_2, CH_4 or N_2O emissions, $N_{VEHICLE}$ is the total number of vehicle type per year, $FC_{VEHICLE}$ is the amount of fuel consumed by a unit vehicle and EF_{GHG} is the IPCC emission factor for a specific GHG given the type of fuel used (diesel, gasoline or LPG).

$$E_{GHG}(kg) = N_{VEHICLE} * FC_{VEHICLE}(TJ/Vehicle) * EF_{GHG}(kg/TJ) Eqn.\ 1$$

Source 2: Emissions due to electrical energy consumption for airport operations

The emission factors for CO_2, CH_4 and N_2O specific to the Visayas power grid which supplies MCIA's electricity requirements, were computed using the fuel mix (**Figure 9-21**) as reported by the Department of Energy. The CO_2, CH_4 and N_2O emissions due to combustion (coal, diesel oil, natural gas) or energy extraction (geothermal, hydropower) were determined using factors specified by the IPCC and other publications[33]. Ratios of the total emissions per GHG to the total dependable installed capacity (2,103 MW) were computed and constituted the Visayas grid-specific emission factors (EF_{GHGv}). To determine the GHG emissions that can be attributed to MCIA's terminal operations, ratios of the annual projected consumption (EC_A) to the total installed capacity were multiplied to the emission factors generated (Eqn. 2).

$$E_{GHG}(kg) = EC_A(MVA) * (1/2{,}103\ MVA) * EF_{GHGv}(kg/TJ) Eqn.\ 2$$

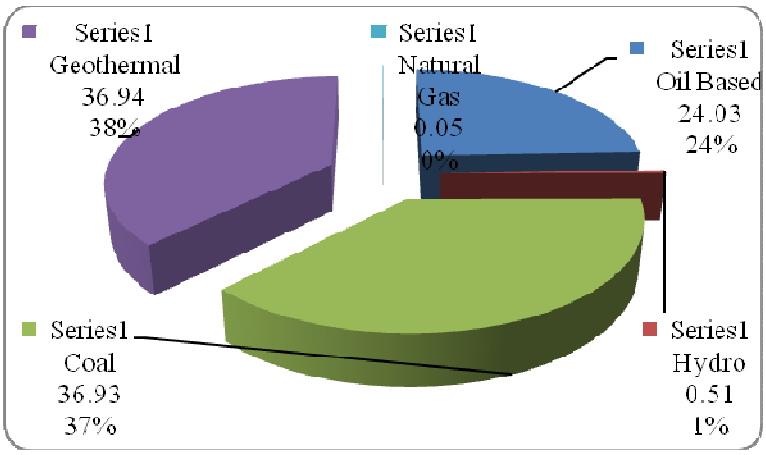


Figure 9-21
Fuel mix for the Visayas power grid
(Source: Department of Energy)

Source 3: Emissions due to landing, take-off, taxiing on-ground aircraft (LTO)

[33] Geothermal energy reduces greenhouse gases. Retrieved from: http://www.geothermal.org/PDFs/Articles/greenhousegases.pdf

Aircraft-specific emission factors[34] were used to estimate the amounts of GHGs that are produced due to the combustion of jet fuel during the landing and take-off (LTO) cycle. The GHG emissions were calculated for both international and domestic aircrafts using Equation 3 where $N_{AIRCRAFT}$ is the annual total number of a specific aircraft model and $EF_{GHG\text{-}AIR}$ is its emission factor for CO_2, CH_4 or N_2O.

$$E_{GHG}(kg) = N_{AIRCRAFT} * EF_{GHG-AIR}(kg/LTO) Eqn.\ 3$$

Source 4: Emissions due to ground service equipment

The emissions due to the ground service equipment were computed based on the total amount of diesel fuel consumed by the set of vehicles (Table 1) deployed for aircraft maintenance and other LTO-related services/activities. The annual fuel consumption per LTO was computed for the year 2014 (FC_{2014}) and the value was used to estimate the required amount of diesel fuel for the succeeding years by multiplying the value to the corresponding projected total LTOs (N_{LTO}) as shown in Equation 4. The emissions due to the deployment of ground service equipment was then estimated using the IPCC factors specific to diesel ($EF_{GHG\text{-}DIESEL}$).

$$E_{GHG}(kg) = N_{LTO} * FC_{2014}(TJ/LTO) * EF_{GHG-DIESEL}(kg/TJ) Eqn.\ 4$$

Table 9-13
The set of ground service vehicles and their corresponding number of units.

Ground Service Vehicle	Number of Units
Refuelers	1
Tugs and tractors	3
Ground power units	1
Airport bus	3
Container loader	2
Potable water trucks	1
Lavatory service vehicle	1
Catering vehicle	1
Belt loaders	3

C. Results and Discussion

Source 1 Emissions

The results of the traffic survey which formed the basis for the calculation of GHG emissions due to ground access vehicles are shown in **Figure 9-22**. The annual total emissions of the major GHGs considered in the inventory for several representative years are as shown in **Figure 9-23**. The GHGs emitted were mostly due to gasoline which makes up 60% of the total fuel consumed per year. Although gasoline has a slightly lower emission factor for

[34] 2006 IPCC Guidelines for National Greenhouse Gas Inventories

CO_2compared to diesel, its CH_4 emission factor is almost ten (10) times as much as diesel fuel. LPG has been touted as a cheaper replacement to gasoline; however the N2O emission factor specific to this fuel is highest at 60 kg/TJ.

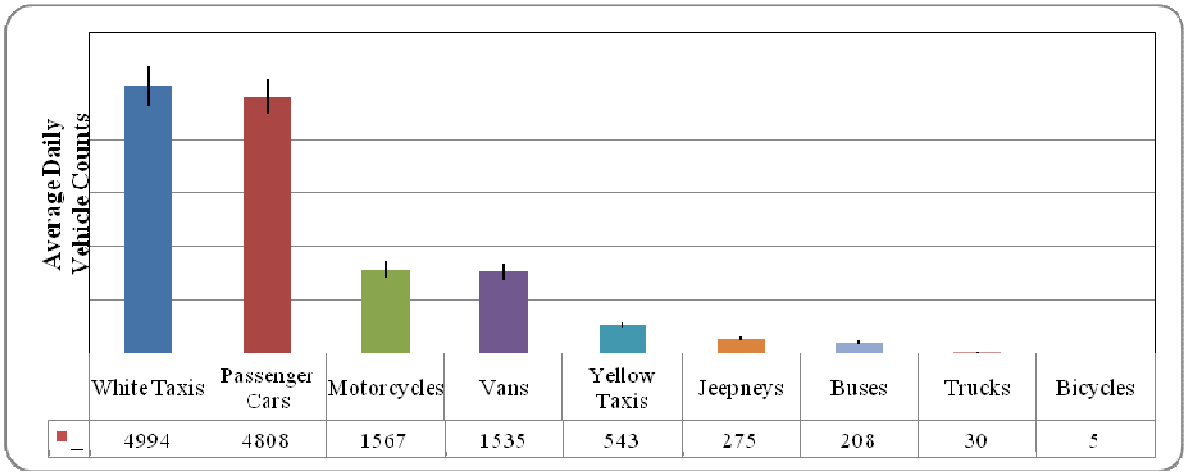


Figure 9-22 T
he types of vehicles with their corresponding average daily counts observed at the arrival and departure areas at the MCIA from August 18 – 24, 2014.

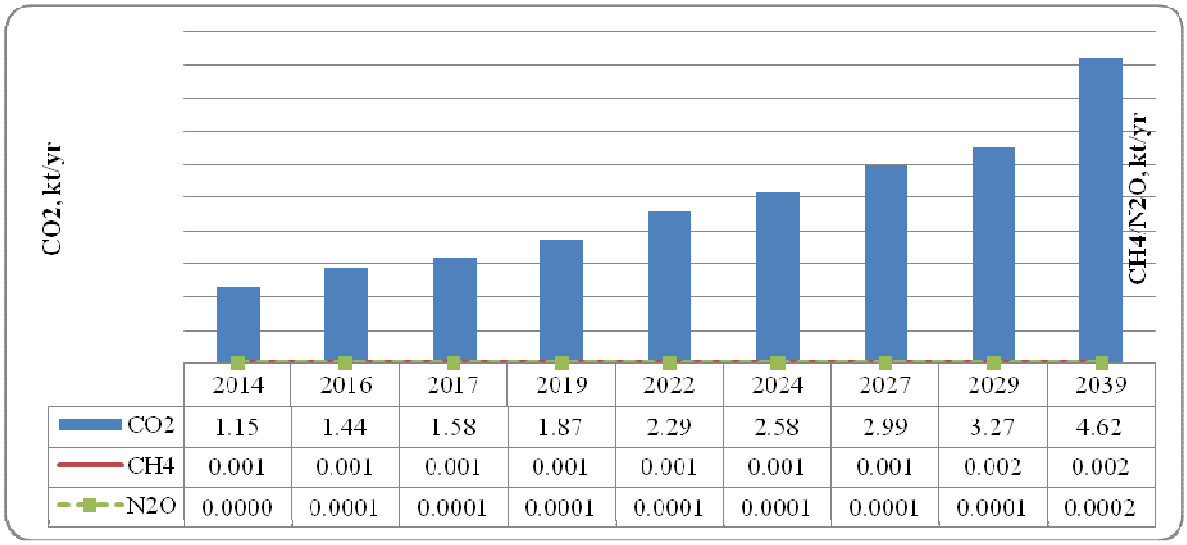


Figure 9-23
The CO_2, CH_4 and N_2O emissions (kt/yr) due to vehicular traffic inflow and outflow at the MCIA for the years 2014, 2016, 2017, 2019, 2022, 2024, 2027, 2029 and 2039.

Source 2 Emissions

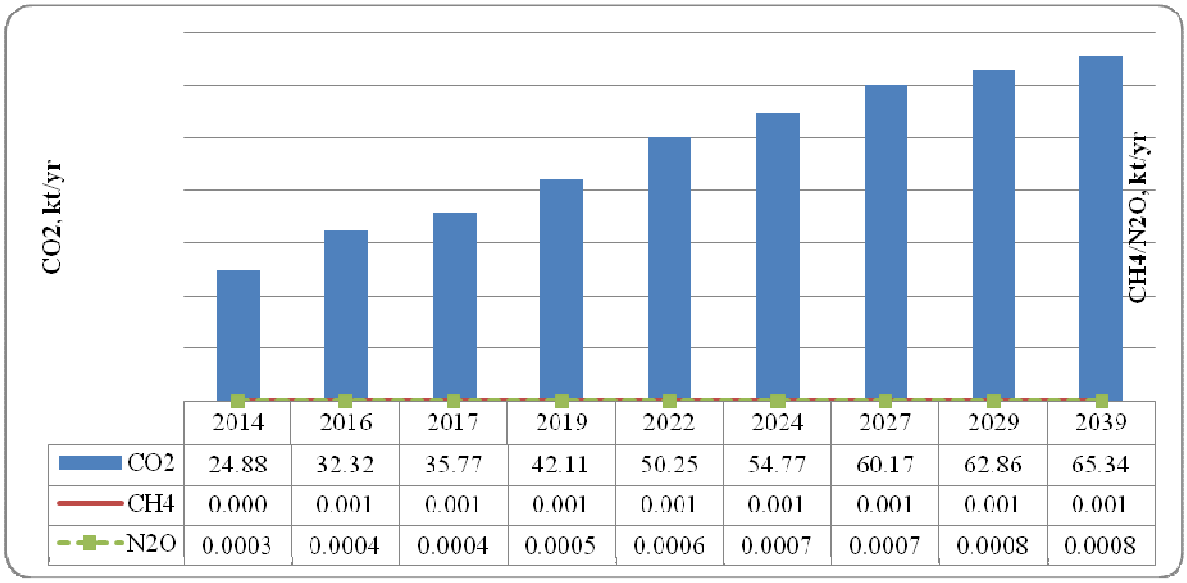
The calculated emission factors specific to the Visayas grid-sourced electricity were 13,004.95 kg CO_2/MW, 0.216 kg CH_4/MW and 0.162 kg N_2O/MW. These values were calculated taking into account the possible GHG contributions of geothermal and hydroelectric power plants. In comparison, the emission factors specific to the Philippines as

reported in a document prepared by the US EIA[35] were 12,624 CO_2/MW, 372.96 kg CH_4/MW and 186.48 kg N_2O/MW. The discrepancies in the calculated and reported values further justify the necessity of determining the area-specific emission factors. It is important to point out that the fuel mix used to generate electricity in Luzon, Visayas and Mindanao vary significantly[36].

It must be stressed that some countries, Italy and Iceland for example, have elected not to include CO_2 emissions from geothermal power plants[37]. The reason for the exclusion is that the CO_2 emissions from these power plants are components of the carbon dioxide cycle and that, unlike fossil fuel-fired power plants, no new CO_2 is being produced. Furthermore, technological advancements can be used to degas steam from geothermal areas to lessen CO_2 emissions to negligible levels. However, the GHG emissions of geothermal power plants are dependent on several factors including the process used to extract thermal energy for electricity generation[38]. GHG emissions from geothermal power generation were therefore included in the present calculations.

Nevertheless, the non-inclusion of geothermal and hydroelectric GHG contributions in the present work does not significantly alter the results since the bulk of the emissions can be traced to the usage of coal for electricity generation.

The MCIA-specific emissions for the baseline year 2014 and several representative years are shown in **Figure 9-24**. These estimates were calculated with the assumption that the Visayas grid will not significantly increase its current dependable capacity.



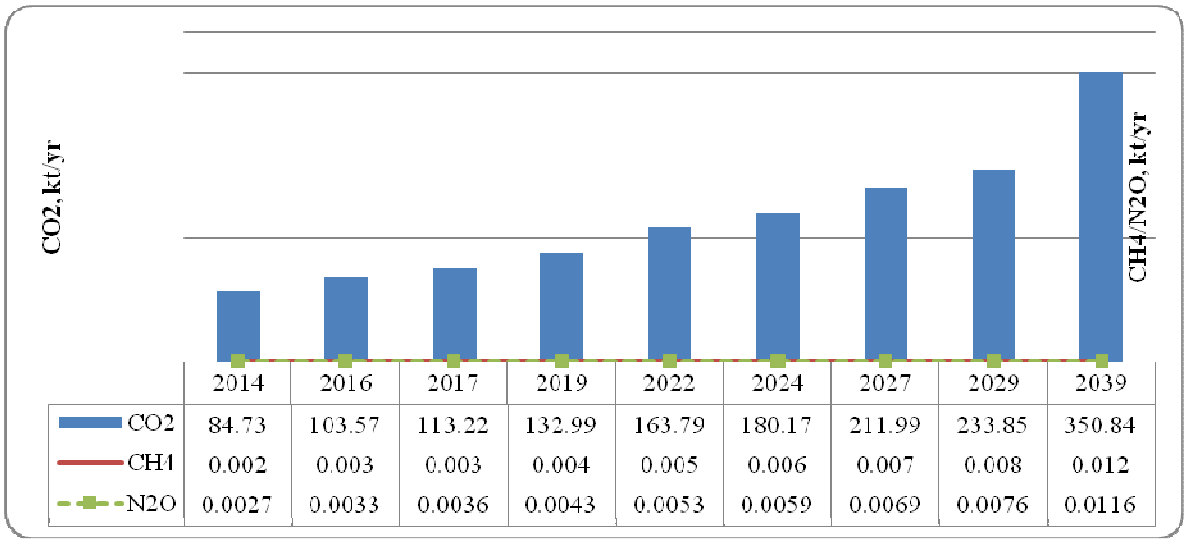
	2014	2016	2017	2019	2022	2024	2027	2029	2039
CO2	24.88	32.32	35.77	42.11	50.25	54.77	60.17	62.86	65.34
CH4	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
N2O	0.0003	0.0004	0.0004	0.0005	0.0006	0.0007	0.0007	0.0008	0.0008

Figure 9-24 T
he CO_2, CH_4 and N_2O emissions in kt/yr due to electricity consumption for airport operations at the MCIA for the years 2014, 2016, 2017, 2019, 2022, 2024, 2027, 2029 and 2039.

Source 3 Emissions

[35] Instructions for Form EIA-1605 Voluntary Reporting of Greenhouse Gases.
[36] Energy Situationer 2013
[37] International Geothermal Conference, Reykjavík, Sept. 2003.
[38] Geothermal Resources Council Transactions. 23, pp. 221-223.

The GHG emissions due to LTOs for the year 2014 and several representative years are shown in **Figure 9-25**. The domestic flights contributed most (up to 79%) of the GHG emissions due to LTOs, as is to be expected since they comprise most of the air traffic. The LTO-sourced emissions were made with the assumption that the types and percentages of aircraft models used for domestic flights in 2014 will not change significantly over the next 25 years. With this assumption, it is interesting to point out that there is a progressive increase in the relative contribution of the LTOs for international flights to the total GHG emissions.



	2014	2016	2017	2019	2022	2024	2027	2029	2039
CO2	84.73	103.57	113.22	132.99	163.79	180.17	211.99	233.85	350.84
CH4	0.002	0.003	0.003	0.004	0.005	0.006	0.007	0.008	0.012
N2O	0.0027	0.0033	0.0036	0.0043	0.0053	0.0059	0.0069	0.0076	0.0116

Figure 9-25
The CO_2, CH_4 and N_2O emissions (kt/yr) due to LTO cycles for airport operations at the MCIA for the years 2014, 2016, 2017, 2019, 2022, 2024, 2027, 2029 and 2039.

Source 4 Emissions

The emissions due to ground service equipment deployment for the year 2014 and other representative years are shown in Figure 7. The results show an increasing trend which parallels that of the emissions due to LTOs (**Figure 9-26**).

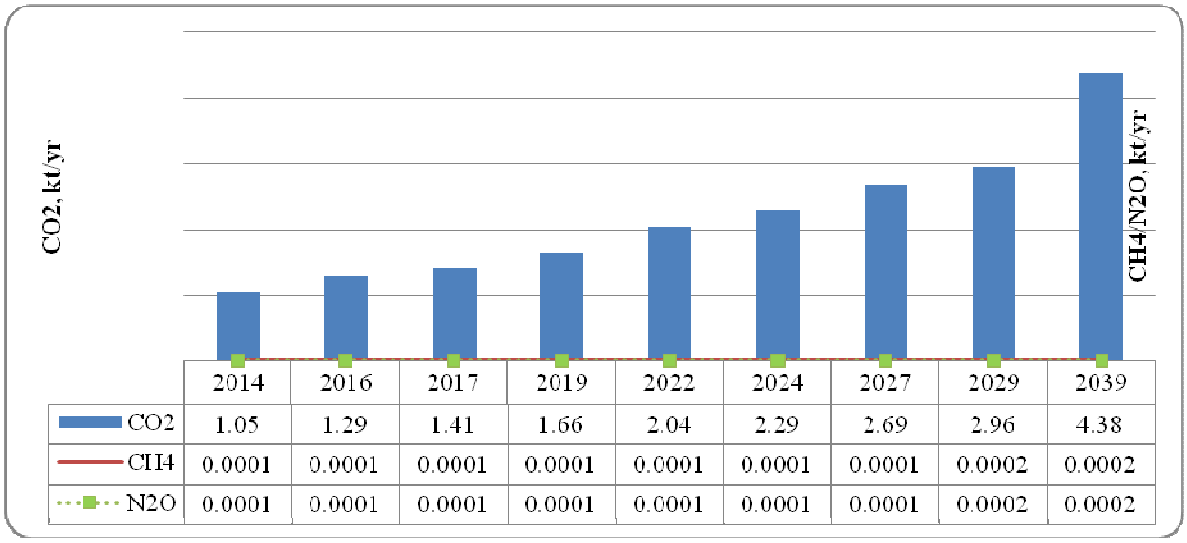


Figure 9-26
The CO_2, CH_4 and N_2O emissions due to ground service vehicles in MCIA for the years 2014, 2016, 2017, 2019, 2022, 2024, 2027, 2029 and 2039.

Table 9-14 shows the summary of the total equivalent CO_2 emissions from the four sources considered in the analysis. The results show that LTOs have the highest contribution (from 75 to 82%) which is consistent with previous reports[39].

The total emissions for CO_2, CH_4 and N_2O for the year 2014 were 111.80 kt, 0.00348 kt and 0.00314 kt, respectively. These emissions correspond to a total CO_2e of 112.825 kt/year. For the year 2039 wherein the total terminal floor area at the MCIA would be 105,860 m^2, the emissions are 425.177 kt CO_2, 0.01596 kt CH_4 and 0.01279 kt N_2O which correspond to a total CO_2e of 429.389 kt/year. In comparison, the average annual CO_2 emission (due to LTOs alone) for Incheon International Airport with a total terminal floor area of about 496,000 m^2 was 1,110 kt/yr. The Bologna International Airport, on the other hand, with a total terminal area of 36,100 m^2 emitted approximately 91.53 ktons CO_2 in 2012. The projected GHG emissions at the MCIA in the next 25 years are therefore comparable to other international airport emissions.

Table 9-14
The annual CO_2e produced from the four sources of airport-specific GHG emissions from years 2014 – 2039.

	CO_2e (metric tons)				
Year	***Source 1**	***Source 2**	***Source 3**	***Source 4**	**Total**
2014	1,172.89	24,986.35	85,600.27	1,065.82	112,825
2015	1,321.72	28,812.16	95,041.76	1,187.49	126,363
2016	1,470.00	32,454.58	104,638.58	1,310.30	139,873
2017	1,617.74	35,913.58	114,390.71	1,434.25	153,356
2018	1,764.93	39,189.18	124,298.15	1,559.35	166,812

	CO_2e (metric tons)				
Year	***Source 1**	***Source 2**	***Source 3**	***Source 4**	**Total**
2019	1,911.58	42,281.38	134,360.92	1,685.60	180,239
2020	2,057.69	45,190.17	144,578.99	1,812.99	193,640
2021	2,203.25	47,915.55	154,952.38	1,941.52	207,013
2022	2,348.27	50,457.53	165,481.09	2,071.21	220,358
2023	2,492.74	52,816.10	176,165.11	2,202.03	233,676
2024	2,636.67	54,991.27	182,059.24	2,334.00	242,021
2025	2,780.05	56,983.03	192,652.39	2,467.12	254,883
2026	2,922.89	58,791.38	203,375.35	2,601.38	267,691
2027	3,065.19	60,416.33	214,228.13	2,736.79	280,446
2028	3,206.94	61,857.87	225,210.72	2,873.34	293,149
2029	3,348.15	63,116.01	236,323.14	3,011.04	305,798
2030	3,488.81	64,190.74	247,565.37	3,149.88	318,395
2031	3,628.93	65,082.06	258,937.42	3,289.87	330,938
2032	3,768.51	65,789.98	270,439.28	3,431.00	343,429
2033	3,907.54	66,314.49	282,070.97	3,573.28	355,866
2034	4,046.02	66,655.60	293,832.47	3,716.70	368,251
2035	4,183.97	66,813.30	305,723.79	3,861.27	380,582
2036	4,321.37	66,787.60	317,744.92	4,006.99	392,861
2037	4,458.22	66,578.49	329,895.87	4,153.85	405,086
2038	4,594.53	66,185.97	342,176.64	4,301.85	417,259
2039	4,730.30	65,610.05	354,597.60	4,451.00	429,389
*Note: Source 1 – Ground access vehicles; Source 1 – Electricity consumption for airport terminal operations; Source 3 – Aircraft Landing and Take-off (LTO) cycles; Source 4 – Ground service vehicles					

MITIGATION MEASURES

For Source 1

Survey results indicate that taxis make up 40% of the vehicular traffic at the arrivals and departure areas while passenger cars at 34% came a close second. To mitigate GHG emissions due to these modes of transportation, the MCIA can regulate the entry of taxis into the airport premises, e.g. vehicles operating at substandard conditions will not be allowed to enter. Private vehicles on the other hand must be strictly discouraged from lingering in the airport premises with their engines turned on. The MCIA should explore partnerships with mass transport companies to further lower the GHG emissions at the airport.

For Source 2

To control or minimize the GHG emissions due to electricity consumption, the MCIA should implement power-saving guidelines and invest in energy-efficient equipment and devices.

For Source 3

The MCIAA must optimize the duration of the LTO cycle for every aircraft to minimize the corresponding GHG emissions. It can also impose penalties or levy environmental taxes to operators based on the emission factors specific to the aircraft model.

For Source 4

Lower GHG emissions may be achieved by utilizing a fleet of vehicles with higher fuel economies. These vehicles must also be selected based on the emission factors of its fuel requirement such that lower GHGs will be produced. Proper vehicle maintenance should also be strictly observed.

9.14 Other Airside Operations

POTENTIAL IMPACTS

One of the significant hazards associated with airport operation MCIAA has to deal with is on how to mitigate the impact of fuel storage and spillage. The presence of fuel tanks and depots within the airport premises poses incalculable risks to health, safety, and environment due to possible fire, explosion, and fuel spillage.

MITIGATION MEASURES

MCIAA currently addresses that with a Letter of Agreement between MCIAA and all fuel service providers. Contained in the agreement is the Fuelling and Spill Control Procedures covering Aircraft Fueling, Spill Prevention, and Spill Control and Clean-up.

10 Summary of Environmental Impact Assessment and Mitigation

Table 10-1 shows a summary matrix of the environmental Impact assessment and proposed environmental management plan (EMP) during the construction and operation phase of the project. The first column contains the activities in each project phase, the second column shows the key environmental aspects triggered by each Project activity, the third column shows a summary of environmental impacts, and the fourth column describes the mitigation measures.

Table 10-1.
Impact assessment and EMP matrix

Project Phase	Key Environmental and Social Aspects	Impact Assessment	Mitigation/Beneficial/Measures
CONSTRUCTION PHASE Construction of Passenger Terminal Building: Terminal 2 (2015-2017) Renovation and Expansion of existing Passenger Terminal Building: Terminal 1 (2015-2018)	Hazardous Materials	Paints, solvents, batteries, and fluorescent lamps will be usedduring the construction phase. Improper use, handling and storage of these may result to health and environmental risks.	All hazardous materials will be stored in a special facility appropriate for hazardous materials. Every type of item will have an MSDS (material safety data sheets) label attached. The facility will be provided with the suitable safety and protection equipment. An environmental officer shall be assigned to monitor the quantity of the generated hazardous wastes, and the performance of the 3rd party contractor to treat and dispose these wastes.
	Air Quality	Construction equipment and vehicles emit air pollutants that can be harmful to health and the environment such as CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. Vehicles passing by dry and windy areas generate dust which can increase the ambient Total Suspended Solids (TSP). Demolition of apron, MIP, and paved areas can increase the ambient TSP due to the release of fine debris particles and the increase in exposed (un-vegetated) ground areas.	Vehicles and equipment to be used must first pass mandatory emissions testing based on DENR/DOTC standards. Areas considered vulnerable to dust – generation will be sprayed with uncontaminated water on a periodic basis.

Project Phase	Key Environmental and Social Aspects	Impact Assessment	Mitigation/Beneficial/Measures
Complete reconstruction of Terminal 2 Apron (2015-mid 2016)	Noise	Construction activities such as the movement of heavy equipment and the delivery of construction materials to and from the site may cause noise and vibration to the surrounding communities.	Noise generating activities will be minimized during the night time period (10PM – 5AM). During the renovation of Terminal 1, passenger traffic inside the building will be designed in such a way that noise will be far from the people in transit. Delivery of materials will be properly scheduled such that traffic is minimized during night time.
	Surface Water	Sediments reaching surface water via runoff during rainfall events can come from exposed ground surfaces, stockpiles of excavated areas, and concrete and cement products attached to construction tools and equipment.	Sediment traps / sediment basins / energy dissipating areas will be provided to channel storm water from the work areas and to diminish the energy of the storm water flow and thereby control the movement of sediments that can affect the quality of the nearby body of water.
	Solid Waste	Solid wastes coming from the construction such as scrap wood, packaging materials, scrap metal, building rubble, gypsum wall board, asphalt, and concrete will be accumulated through time.	A strategic solid waste management plan will be implemented which gives hierarchy to the recycling and reuse of materials. All building rubble and other suitable organic-free solid wastes will be used as backfill materials. Waste containers will be placed at specific points for the segregation and collection of solid wastes. Other solid wastes not recycled/reused will be handled and disposed by a third party contractor.
	Hazardous Waste	The use, transport, and storage of fuels, motor oils, and chemical solvents may pose a negative impact	All fuel, motor oil, and chemical solvents must be sited on an impervious base within a suitable bund

Project Phase	Key Environmental and Social Aspects	Impact Assessment	Mitigation/Beneficial/Measures
		to the groundwater. If these toxic substances are not stored or handled properly, they can contaminate the land surface and seep down into the groundwater and contaminate it.	and properly secured. The base and bund walls must be impermeable to the material stored. Leaking or empty containers of these materials will be removed from the site and properly disposed of by a DENR-accredited third party contractor.
	Terrestrial Biology	A number of trees will be affected in the construction of Terminal 2. Initial tree inventory shows the presence of the following tree species in the area: fire tree, gemelina, bo tree, nara, talisay, mahogany, acacia, agoho, ipil-ipil, and neem.	The complete inventory of trees in map form will be incorporated to the over-all design of the new passenger terminal building.This way, some trees may still be possibly saved and be part of the landscaped area. All trees to be removed/balled will be addressed as per DENR standards.
	Public Health and Safety	*Construction Phase* Construction activities pose a serious impact to public health and safety since there is a high possibility that accidents can occur within and the surrounding construction site. With an impending short-term increase in vehicular traffic, there is a high tendency that vehicular and pedestrian accidents will occur. In addition, this traffic issue will also cause disruptions and delays to the other road users. It also has the potential to damage road infrastructures because of the increase road usage	A safety management program will be implemented to reduce the associated risks (such as accidents) in the construction area. There is an on-going vehicular traffic study to address the issues surrounding the impending short-term increase in vehicular traffic. Proper planning and scheduling of the use of heavy construction vehicles will be implemented such that the impact will be alleviated such as in the volume of traffic, possibility of vehicular accidents, and damage to road infrastructures.

Project Phase	Key Environmental and Social Aspects	Impact Assessment	Mitigation/Beneficial/Measures
		of heavy construction vehicles.	
OPERATIONAL PHASE	Hazardous Materials and Wastes	Used batteries,busted fluorescent lamps, and obsolete computers are expected to be generated within the operational phase. Improper disposal of these may result to health and environmental risks.	An environmental officer will be assigned to monitor the quantity of the generated hazardous wastes. Collected wastes will be disposed by a 3rd party DENR accredited contractor and will be disposed in an appropriate recycling or landfill facility.
	Air Quality	Passenger vehicles going to/leaving the airport emit air pollutants that can be harmful to health and the environment such as CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. Areas considered vulnerable to dust – generation such as un-vegetated areas may increase the ambient TSP.	All vehicles going to/leaving the airportshall be monitored in compliance withthe DENR/DOTC vehicular emissionstandards. Trees and shrubs will be planted within the concession agreement boundary according to the landscape engineering design to enhance the airport's air quality. Areas considered vulnerable to dust – generationwill be covered with grass according to the airport landscape engineering design and will be sprayed with uncontaminated water on a periodic basis.

Project Phase	Key Environmental and Social Aspects	Impact Assessment	Mitigation/Beneficial/Measures
	Noise	The major source of noise will be comingfrom the take-off and landing of aircrafts at the runway and will further increase with the projected growth in aircraft flights. Ground service equipment (GSE), auxiliary power units (APU), and landside vehicles will all also contribute to the ground noise of the airport.	MCIA operation is within the responsibility of MCIAA and as such, GMCAC will initiate measures to be recommended to MCIAA for discussion: MCIAA to conduct continuous periodic noise monitoring in the nearby communities and verify thenoise model results. MCIAA will then develop a noise exposure map (integrating noise model and land use plan) to determine communities most likely affected by airport operations. MCIAA and GMCAC will review the land use plan and work closely with the City Planning and Development Office and local stakeholders on how to minimizeexposure to aircraft noise. MCIAA to coordinate with airline operators in following the noise abatement flight procedures (NAP) such as Constant Descent Approach (CDA), Standard Instrument Departures (SIDS), Standard Terminal Arrival Routes (STARS), and Required Navigation Performance (RNP). MCIAA to establish MCIA Noise Management Committee (MNMC) composed of MCIAA, GMCAC, airline operators, Lapu Lapu City, PAF, flight training schools, the airport Tenant's Association, and affected community. MNMC will review and assess noise complaints and address through community consultation.

Project Phase	Key Environmental and Social Aspects	Impact Assessment	Mitigation/Beneficial/Measures
			MCIAA to ensure that equipment and vehicles as sources of ground noise (GSE, APUs, landside vehicles, etc.) will be properly operated and maintained, and will be used at appropriate operating hours. When applicable, appropriate noise control device/s such as mufflers and sound barriers will be installed. For GMCAC, planting of trees and/or provision of adequate barriers may be worked out within the concession agreement boundary to further mitigate propagation of noise from aircraft and ground operations MCIAA may consider provision for insulation to sensitive receptors (e..g schools, hospitals, churches) and residential houses and which are exposed to noise levels higher than 65 dBA and 70dBA, respectively, once the aircraft flights increased in 2017.
	Water	There is a projected increase in water demand that might be a source of water competition. There is a projected increase in BOD load due to sanitary discharges.	Require a number of water meters in the different sections of the airport terminal buildings and landside facilities to monitor water usage and adopt appropriate water conservation measures. Ensure efficient operation of MCIAA STP by setting GMCAC will periodic meet with MCIAA to be updated on the operations of the MCIAA STP and review the results of the STP effluent monitoring..

Project Phase	Key Environmental and Social Aspects	Impact Assessment	Mitigation/Beneficial/Measures
	Solid Wastes	There is a projected increase inthe quantity of solid wastes with an increase in the number of passengers entering and leaving the airport.	Ensure efficiency and capacity of the private hauler to segregate, recycle, and dispose solid wastes. Promote the 3-R (reuse, reduce, and recycle) concept within the airport.
	Biodiversity	It is expected that the airport will have a low biodiversity value since it is considered a built environment. With the airport expansion, biodiversity may be affected if no mitigating measures will be put in place.	GMCAC and MCIAA will develop a long-termsustainable biodiversity plan that is compatible withthe airport operational constraints and commercial development.
	Energy Use	There is a projected increase inthe energy demand with an increase in the number of passengers entering and leaving the airport.	GMCAC will strive to commit to the principles of sustainable development by minimizing the environmental impacts of its daily operations through reduction of its overall energy consumption. GMCAC will apply for a LEED (Leadership in Energy and Environmental Design) Silver Certification Rating.
	Labor	About 300-400 workers are expected to be employed during the construction period and it is expected that contractor ensure that labor conditions for the workers are at par with national labor standards. Influx of workers from other towns/provinces may increase incidence of STDs/AIDs	GMCAC to ensure contractors/subcontractors compliance with the national labor laws (mandated wages and benefits, number of hours worked, living conditions, etc) and undertake measures to comply with the core labor standards (prohibition on child labor, forced labor, discrimination, and workers rights for free association). Contractor contract to reflect labor clause and ensure monitoring. Contractors, in collaboration with relevant

Project Phase	Key Environmental and Social Aspects	Impact Assessment	Mitigation/Beneficial/Measures
			government units, to conduct seminar awareness/trainings on HIV/AIDS/STD. GMCAC contractors and subcontractors give priority to local labor from nearby barangays
	Labor restructuring resulting from the handing over of the Terminal operations	The wide gap in male-female employees ratio under the MCIAA operation is now greatly reduced with GMCAC's "equal opportunity" policy, i.e. percentage of female employees increased from 20% to 42%.	GMCAC to conduct appropriate trainings to increase the female employees' capability to handle their assigned tasks in the new operational set-up.
	Public Health and Safety	Airport facilities that cater specifically to the needs of women, elderly, and disabled persons may not be sufficient to address the increase in local and foreign passengers resulting from the expanded airport operations. The increase in tourist influx may result in increased activities related to prostitution.	Implement design features that will cater to the needs of women and disabled including separate toilet facilities for women and disabled people, baby changing and breast feeding rooms, rest area suitable for persons with disability, separate security checks for women, among others. In collaboration with the relevant government agency organize orientation and training programs on specialized topics such as HIV/AIDS awareness and anti-trafficking of women and children among airport personnel especially those who are assigned to ground terminal operations.

11 Preliminary Information, Education and Communication (IEC) Plan

At present, the Project has no existing IEC Plan. A preliminary IEC plan is developed as part of this IEE. In the IEC plan, target sectors were identified with corresponding areas of concern. Most of the areas of concerns were determined during the consultation meetings. The IEC is designed to enhance the stakeholders' awareness pertaining to the proposed Project. The IEC plan also includes recommendations for IEC strategies, medium of information dissemination, timelines and frequency of IEC, indicative expenses, and source of funding. **Table 11-1** summarizes the proposed preliminary IEC plan.

12. Indicative Social Development Plan (SDP)

An indicative social development plan was prepared as an initial step in establishing a full Social Development Plan. In this plan, the concerns of each identified beneficiarywill be addressed by assigned task proponent, supported by certain concerned government or non-government agencies. Source of funds for the SDPshall be from the LGU/IRA.

Table 12-1 summarizes the indicative social development plan for the proposed Project.

13. Institutional Plan for Environmental and Social Monitoring Implementation

GMCAC shall closely coordinate with the EMB Central Office and EMB Region VII. For an effective coordination, the proponent shall designate an Environmental Officer who shall be responsible for all environmental matters regarding the project. This is in compliance with DAO 26, Series of 1996 that requires the appointment/designation of an Environmental Officer.
Specifically, the following are the responsibilities of the Environmental Officer:

- Coordinate with EMB on the environmental aspects of the pre-construction, construction and operation activities of the project.

- Monitor and maintain records of the potential effects of the facility installed and other information for the project.

- Monitor all activities relative to compliance with the conditions stipulated in the Environmental Compliance Certificate (ECC) and Environmental Management Plan

Since noise impact is a major impact from the airport project, GMCAC will also closely coordinate with MCIAA on the implementation of the measures to minimize noise levels within the surrounding communities and ensure compliance with the Philippine Noise Regulations. Upon enactment of the Bill on Aviation Noise Limit, MCIAA will be required to take part in the development of medium-term plan to reduce at least 75% of the number of individuals residing in areas within the vicinity of the airport who are exposed to yearly DNL of 60 dBA.

GMCAC will closelywork with MCIAA in ensuring that the measures defined in the EMP are implemented prior to the increase inairflight operations which is anticipated at the earliest by 2017. ADB will also provide a TA to ensure that the MCIA will have sufficient technical capabilities and resources to implement the EMP.

Table 11-1
Preliminary INFORMATION, EDUCATION AND COMMUNICATION (IEC) PLAN

Target Sector Identified as Needing Project IEC	Major Topic/s of Concern in Relation to Project	IEC Scheme/ Strategy Method	Information Medium	Indicative Timelines/ Frequency	Indicative Expenses	Source of Funding
1.LGU of Lapu-Lapu City; (City Planning and Development Council, Tourism Council)	.1. General project orientation 2. Project implementation status 3. Project Impacts and Benefits 4. Roles & Responsibilities of concerned agencies in the implementation of the project 5.. Social development program (CSR) 6. Job opportunities during construction and operating stages of the project	- Meeting with local officials GMCAC Information/ and Inquiry Desk	- Handouts - Audio-Visual Presentations	Prior to start of project construction; Construction, and Operation phases	Supplies/ Communication Cost Design/Layout/ Printing costs Publication costs	GMCAC
2.Barangay leaders and residents from Bankal, Buaya, Basak;	1.Project status. 2. Project Impacts and Benefits 3.Social Development Program (CSR) 4. Job opportunities during construction and operating stages of the project	-Barangay assemblies	-Hand-outs -Audio Visual presentations	Prior to start of project construction/ Twice a month until CSR Program/ Plan is developed	FGD logistics	GMCAC
3.Business sector representatives from Lapu-Lapu City	1.Potential business gains 2.Roles and responsibilities of concerned business operators in the implementation of the project 3.Investment potentials	GMCAC Information/ Inquiry Desk	Hand-outs	Prior to start of project construction, during construction and during project operation	Printing and publication costs	GMCAC
4.Women's groups and local	Social Development Program (CSR) Small-scale business opportunities	FGD; Barangay assemblies	-Hand-outs -Audio visual	Prior to start of project	FGD expenses like food and	GMCAC

entrepreneurs from Bankal, Buaya, Basak			presentation	construction	venue; Printing costs	
5.MCIAA employees to be affected by the project	Scope of GMCAC operations in MCIA	Office assemblies within MCIAA	Posters; Bulletin Boards; Audio visual presentation			GMCAC
6. GMCAC employees	HR Policies such as those consistent with ILO core labor standards (Safety Management; Employee benefits and responsibilities; Position/job description and salary scales; policies and procedures for promotion)	Orientation meetings with individual employees	Posters Bulletin Boards Audio-Visual Presentations Employees' Handbook Memorandum circulars or staff directives.			GMCAC

Table 12-1
Indicative Social Development Framework/ Corporate Social Responsibility

CONCERN	Government Agency/ Non-government Agency and Services	PROPONENT	Indicative Timeline	Source of Funds
Support services for the tourism sector in Lapu-Lapu City in particular, and Cebu Province in general. Potential support areas: 1)Promotion of Cebu cultural heritage. Initial discussion with Lapu-Lapu City Tourism Office indicated their much needed support for the management and maintenance of Mactan Shrine.	City and Provincial Tourism Council	Lapu-Lapu City Tourism Office (Mr. Hembler Mendoza)	Prior to project construction phase, hold coordination meetings with City Tourism Office for potential CSR planning.	GMCAC
2) Facilitation of training program with tourist transport operators to facilitate safe and easy access of tourist transport requirement	City Tourism Council; Local tourist transport operators	Local Tourist Transport Operators	Prior to project construction phase, hold consultation meetings with City Tourism Office and representatives of Local Tourist Transport Operators to develop appropriate training program.	GMCAC

3) Capability upgrading of hotel management operations particularly in Lapu-Lapu City	City Tourism Council; Local hotel operators	Local Hotel Operators	Prior to project construction phase, hold consultation meetings with City Tourism Office and representatives of Local hotel operators to develop appropriate training program.	GMCAC
4) Social development project(s) in Bankal, Buaya, Basak, Pajo, Pusok, Pajac, and Ibo	Relevant government agency	Bankal, Buaya, Basak, Pajo, Pusok, Pajac, and Ibo barangay officials;homeowners associations, women and youth groups	Construction and operations phase	GMCAC

GMCAC will conduct follow-up consultations with various stakeholders including nearby communities to prepare the Social Development Plan for implementation during the construction and operations phases. GMCAC may update the SDP on an annual basis.

14. Grievance Redress Mechanism (GRM)

GMCAC has established its Grievance Management Policy contained in the Human Resources Policy Manual (**Annex 11**). Specifically, it applies to individual employee's grievances and complaints which are primarily a manifestation of dissatisfaction about working conditions and managerial decisions, that, if not promptly addressed may affect morale and productivity.

Such grievances for the purpose of this Policy cover only the following:

- Interpersonal Conflicts/Issues with the Superior or team members
- Payment of Salary
- Recovery of dues etc
- Working Conditions/ Health and Safety
- Leave and Attendance
- Medical Insurance/ Facilities
- Non- extension of benefits under rules
- Transfer
- Field management support related Issues (telephone, mobile, transport, food, guesthouse etc).
- HR Policy Administration
- Loan Administration

The procedures for addressing the above grievances are laid out in three stages as described in **Annex 11**.

However, there is a need for GMCAC to establish a Grievance Redress Mechanism to cater to grievances and complaints that are directly related to the project cycle in its various stages. Although the safeguard policies are not triggered by the project, it is likely that some environmental impacts like noise and dust pollution, among others, may trigger complaints from nearby settlements even if they are located outside of the airport boundaries.

The following benefits based on good international practice and as recommended by ADB, justify the need for an internal GRM for GMCAC.

Benefits to Project

- Provides information about project implementation
- Provides an avenue to comply with government policies
- Provides a forum for resolving grievances and disputes at the lowest level
- Resolves disputes relatively quickly before they escalate to an unmanageable level
- Facilitates effective communication between the project and affected persons
- Helps win the trust and confidence of community members in the project and creates productive
- relationships between the parties
- Mitigates or prevents adverse impacts of the project on communities and produces appropriate corrective or preventive action
- Helps avoid project delays and cost increases, and improves quality of work

Benefits to Affected Persons and Other Stakeholders

- Provides a cost-effective method to report their grievances and complaints
- Establishes a forum and a structure to report their grievances with dignity, and access to a fair hearing and remedy
- Provides access to negotiate and influence decisions and policies of the project that might adversely affect them
- Facilitates access to information

In order to address external grievances and complaints, a typical Grievance Redress Mechanism is therefore proposed to GMCAC, which can be modified appropriately as needed. The GRM implementing unit within GMCAC shall be a Grievance Redress Committee (GRC). The GRC shall be composed of GMCAC officers and technical staff, and MCIAA officer-representative.

Grievance Redress Committee Procedures and Time Frame:

1. Written complaints from individuals, groups or institutions are filed with the GRC.
2. GRC holds discussion meeting within two weeks from receipt of complaint.
   - GRC verifies documents.
   - GRC conducts field inspections to verify the authenticity and eligibility of the grievance reported.
3. GRC holds discussion meeting with parties involved.
4. GRC and parties involved arrive at a solution within two weeks after discussion meeting.
5. GRC implements the solution agreed upon.

In cases where no solution is mutually agreed upon by GRC and parties involved, the project may seek assistance from the City Government's Justice Department to provide a special mediation board independent of the project implementers, that can provide a voluntary process that uses well-trained mediators to assist disputing parties to reach an acceptable settlement.

Prior to start of construction, GMCAC will appoint the following office/unit [name of office or staff] to receive grievances and ensure the efficient and effective functioning of the grievance redress committee.

ANNEX 1:

MEMORANDUM OF AGREEMENT BETWEEN DOTC AND DND FOR THE REPLICATION OF THE PAF FACILITIES

MEMORANDUM OF AGREEMENT

KNOW ALL MEN BY THESE PRESENTS

This **AGREEMENT,** entered into by and between:

DEPARTMENT OF NATIONAL DEFENSE – ARMED FORCES OF THE PHILIPPINES, government agencies organized under the laws of the Philippines with principal offices at Camp General Emilio Aguinaldo, Quezon City, herein represented by the Secretary of National Defense, **Hon. VOLTAIRE T. GAZMIN**, hereinafter referred to as "**DND-PAF**".

– and –

DEPARTMENT OF TRANSPORTATION AND COMMUNICATIONS, a government agency organized by and existing under the laws of the Philippines with principal office at Columbia Tower, Ortigas Avenue, Mandaluyong City and **MACTAN-CEBU INTERNATIONAL AIRPORT AUTHORITY,** a government corporation organized and existing under Republic Act No. 6958 with principal office at Mactan International Airport, Lapu-Lapu City, Province of Cebu, both entities being herein represented by the DOTC Secretary and Chairman of the MCIAA Board, **Hon. JOSEPH EMILIO AGUINALDO ABAYA**, hereinafter referred to as **"DOTC-MCIAA"**.

WITNESSETH:

WHEREAS, in the later part of the 1950s the Philippine Government through the Civil Aeronautics Administration acquired numerous parcels of land located in Lapu-lapu City for airport use;

WHEREAS, on July 31, 1990 RA 6958 (MCIAA Charter) was signed into law creating the Mactan-Cebu International Airport Authority (MCIAA) and transferring the airport lands to the administration of MCIAA;

WHEREAS, Presidential Proclamation No. 784 signed on 15 April 1996 reserved for Military Use purposes of the Philippine Air Force, Department of National Defense, a certain parcel of land with an area of about 153.93 hectares from the airport lands;

WHEREAS, MCIAA remains to control and administer the airport lands outside of PP 784 as shown in the herein-attached plan **(ANNEX "A")**;

WHEREAS, part of the airport lands not subject of PP 784 are still occupied by the Mactan Airbase and under its control;

WHEREAS, there are existing structures and facilities used by the DND-PAF in their operations in the airport lands outside of PP 784;

WHEREAS, the said lands outside of PP 784 is necessary to be utilized as MCIAA Expansion project through Public-Private Partnership (PPP);

WHEREAS, in order not to disturb the operations of the DND-PAF there is a need to undertake a Replication Project wherein the DND-PAF structures and facilities located in the airport lands of MCIAA shall be replicated in the area under PP 784 so that DND-PAF may transfer therein to allow MCIAA's use of the existing areas;

NOW, THEREFORE, for and in consideration of the above premises and the terms and conditions hereinafter set forth, the parties hereto hereby agree as follows:

I

DND-PAF STRUCTURES AND FACILITIES

1. The PAF buildings and structures that will be subject of the Replication Project with its corresponding budgetary estimates is as follows:

L/I	NAME OF PROJECT	QTY	UNIT	AMOUNT
1	Construction of Base Operations Building	1,496.00	sqm	56,040,795.00
	Concrete Paved Parking	3,784.00	sqm	8,872,131.31
	Drainage System and Landscaping			3,517,860.73
2	Construction of ACP Hangar	1,859.00	sqm	35,537,661.00
3	Construction of Commel/VSAT Bldg., 5614TH CS	576.00	sqm	17,389,380.00
4	Construction of Communication Tower	1.00	lot	1,343,010.00
5	Construction of Military Parking Ramp	100,374.40	sqm	469,764,436.37
6	Construction of 2-units Non-elevated Guard Post	28.00	sqm	1,000,864.82
7	Construction of 2-units Elevated Guard Post	44.00	sqm	983,508.69
8	Construction of 505th SAR/Fire Crash Station/AGE	500.00	sqm	11,885,586.00
9	Construction of Perimeter Fence (CHB)	763.00	LM	7,711,651.00
10	Construction of Security Fence (Cyclone Wire)	2,384.00	LM	9,361,415.00
11	Construction of 2-Storey Bldg for 221st AS & 222nd AS	775.60	sqm	15,280,643.00
12	Construction of 2-storey 205th THW Barracks	832.50	sqm	13,557,487.93
13	Construction of POL Dump	120.00	sqm	2,467,469.00
14	Construction of Centralized Armory Bldg	360.00	sqm	9,563,988.51
15	Construction of 220th AW Warehouse	300.00	sqm	5,506,477.03
16	Construction of Power House	40.00	sqm	846,363.07
17	Roadnets with pathwalk	15,200.00	sqm	61,803,762.96
18	Drainage System	1,900.00	LM	28,906,304.42
19	Water Distribution System	1,700.00	LM	7,380,579.17
20	Electrical Distribution System	1,800.00	LM	5,743,331.01
21	Communication System	1,800.00	LM	31,478,883.62
22	Centralized Parking Area	5,143.00	sqm	11,584,189.99
23	Drainage System and Landscaping at Centralized Parking Area			3,757,420.05
	TOTAL PROJECT COST			821,285,199.68
	SAY			**821,285,200.00**

II

OBLIGATIONS OF THE PARTIES

A. The DOTC shall:

1. Transfer the amount of **EIGHT HUNDRED TWENTY ONE MILLION TWO HUNDRED EIGHTY FIVE THOUSAND AND TWO HUNDRED PESOS (Php821,285,200.000)** in favor of MCIAA to be used exclusively for the implementation of the Replication Project;

2. Transfer additional funds to MCIAA, if necessary, to complete the project and for other costs relating to the project;

3. Provide technical assistance to MCIAA;

4. Provide assistance for the administration requirements of the Technical Working Group (TWG);

5. Provide at least two (2) personnel to compose the Technical Working Group (TWG); and

6. Conduct regular Project inspections to determine full compliance with the terms and conditions of this Agreement.

B. The MCIAA shall:

1. Accept the funds transferred by DOTC and use the same exclusively for the Replication Project;

2. Secure the necessary permits and clearances from concerned government regulatory offices prior to the actual implementation of the Project;

3. Implement the Replication Project and create a Special Bids and Awards Committee (SBAC) for the purpose;

4. Submit, at the end of every month, an Accomplishment Report with complete supporting documents to DOTC;

5. Liquidate the transferred funds in accordance with existing government auditing rules and regulations;

6. Coordinate with PAF from the planning stage up to the implementation of the projects;

7. Provide personnel to compose the Technical Working Group (TWG);

8. Provide logistical support to the Technical Working Group; and

9. Upon completion of the Replication Project, and upon prior approval of the DOTC, transfer the completed structures and facilities to DND-PAF;

C. **The DND-PAF shall:**

1. Assign at least two (2) personnel who shall be MCIAA's resource persons and assist the MCIAA SBAC in the implementation of the Replication Project;

2. Coordinate with the MCIAA SBAC from the planning stage up to the awarding and transfer of the structures and facilities;

3. Conduct inspections and issue certificate of acceptance on the structures and facilities;

4. Provide the necessary assistance and access to the suppliers and/or contractor/s in the implementation of the project;

5. Supervise all the necessary surveys to establish the location of the buildings, facilities or structures to be constructed at the relocation site;

6. Vacate the affected structures and facilities in phases upon completion and acceptance of respective structures and facilities of the Replication Project, based on the design and specifications of the Philippine Air Force; and

7. Assume possession of any ammunition or military facilities to be found underneath the project land.

III

MISCELLANEOUS PROVISIONS

1. Subject to the applicable provisions of this Agreement, a party shall not be liable for a delay in the performance of all or parts of its obligation hereunder, nor be deemed to be in breach of this Agreement, if such failure or delay is due to *force majeure;*

2. Any dispute that may arise regarding the interpretation or performance under this Agreement shall be settled amicably by direct negotiation between the Parties and

3. The Technical Working Group (TWG) will be the one to facilitate the requirements for the whole replication project until completion and acceptance of the projects.

IV

EFFECTIVITY

This Agreement shall come into force and effect on the date of signing by the parties hereof.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed through its duly authorized representatives this 15th day of November 2013 in the City of Mandaue Philippines.

DEPARTMENT OF NATIONAL DEFENSE/PHILIPPINE AIR FORCE

By:

VOLTAIRE T. GAZMIN
Secretary, DND

SECRETARY OF NATIONAL DEFENSE
VTG-135088

DEPARTMENT OF TRANSPORTATION AND COMMUNICATIONS/MACTAN-CEBU INTERNATIONAL AIRPORT AUTHORITY

By:

JOSEPH EMILIO AGUINALDO ABAYA
Secretary, DOTC and
Chairman, MCIAA Board

DOTC-OSEC OUTGOING 13-01414

Signed in the presence of:

LTGEN LAURO CATALINO G DELA CRUZ AFP
Commanding General, PAF

NIGEL PAUL C. VILLARETE
MCIAA General Manager/CEO

ACKNOWLEDGMENT

Republic of the Philippines)
City of Mandaue)SS.

BEFORE ME, a Notary Public for and in the City of Mandaue, Philippines, personally appeared **VOLTAIRE T. GAZMIN** and **JOSEPH EMILIO AGUINALDO ABAYA** with Passport Nos. _____ and _____ issued on _____ and _____ at _____ and _____, respectively, all known to me and to me known to be the same persons who executed the foregoing instrument and they acknowledged to me that the same is their free and voluntary act and deed, as well as of the entities they represented.

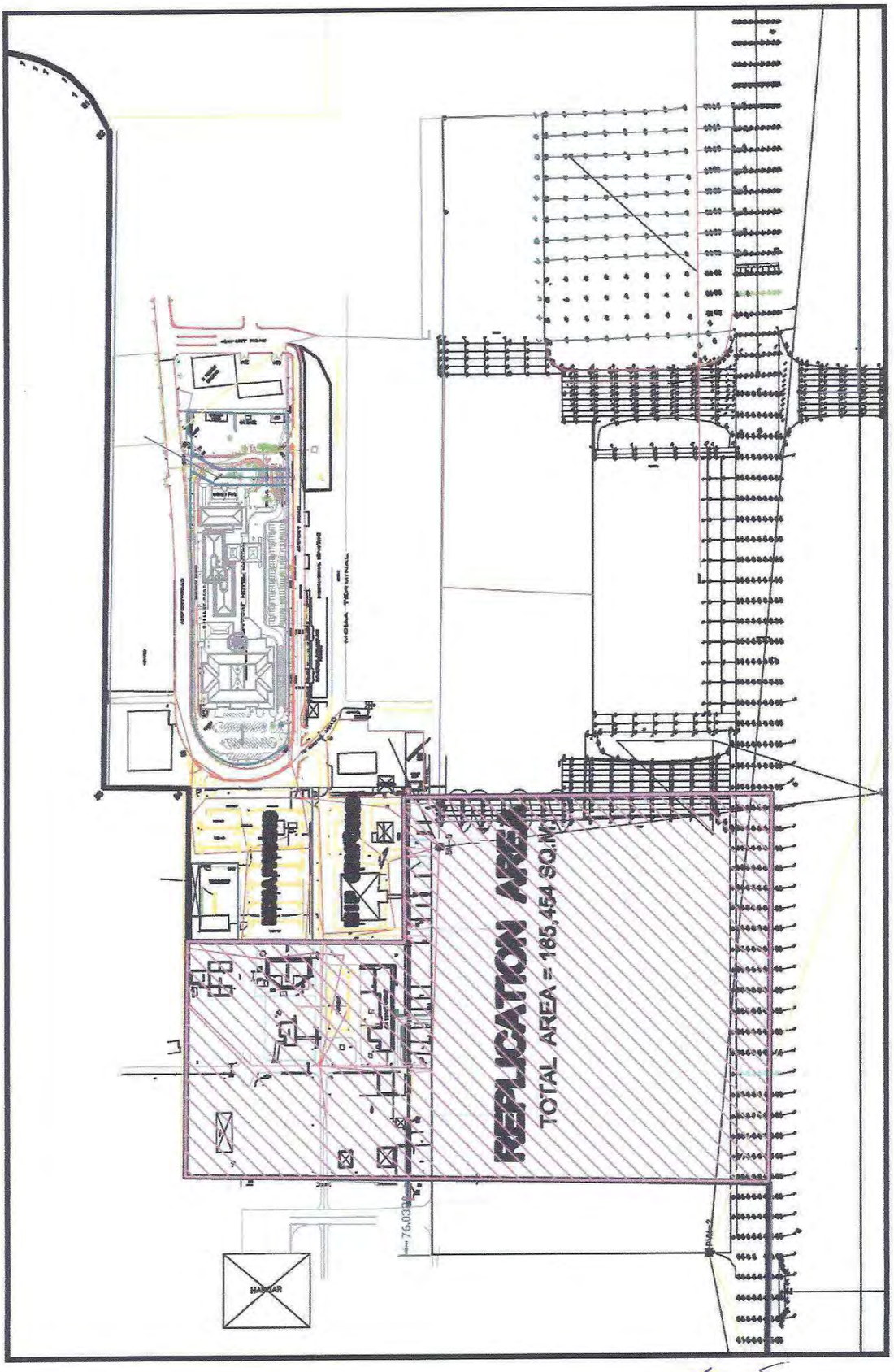
This instrument refers to a Memorandum of Agreement containing five (5) pages including the page on which this acknowledgment is written, signed by the parties and their instrumental witnesses on each and every page thereof and scaled with my notarial seal.

WITNESS MY HAND on this 15th day of November 2013 in the City of Mandaue.

Doc. No. 37;
Page No. 8;
Book No. 2;
Series of 2013

CYRIL B. APAO
NC # 2013-31 for Mandaue City
until December 31, 2014
Roll of Attorney No. 52902
PTR No. 0310040, Mandaue City, 1-09-13
IBP OR No. 900435, Cebu Chapter, 12-11-12
MCLE Compliance No. IV-0011720, 2-15-13
St. Maria Antonia Village, Labogon
6014 Mandaue City, Cebu, Phils.

"ANNEX A"



ANNEX 2:

TREE INVENTORY RESULTS

Result of Tree Inventory Survey of WCI (Oct.1-2, 2014)

Species No.	Species	Diameter (cm)	Merchantable Height (m)	Merchantable Volume (m^3)	GPS Reading	
					Northing	Easthing
1	Firetree	32	0.5	0.02	10° 18' 55.9"	123° 58' 39.3"
2	Gmelina	18	2	0.03	10° 18' 54.7"	123° 58' 37.3"
3	Bo tree	34	1	0.05	10° 18' 54.4"	123° 58' 37.4"
4	Bo tree	16	2.5	0.03	10° 18' 54.2"	123° 58' 37.6"
5	Bo tree	17	0.8	0.01	10° 18' 54.2"	123° 58' 37.5"
6	Talisay	20	3	0.06	10° 18' 53.1"	123° 58' 36.3"
7	Mahogany	22	0.5	0.01	10° 18' 52.8"	123° 58' 36.0"
8	Mahogany	23	2	0.05	10° 18' 52.6"	123° 58' 35.8"
9	Acacia	29	1	0.04	10° 18' 51.9"	123° 58' 35.3"
10	Gmelina	20	2.5	0.05	10° 18' 51.9"	123° 58' 34.9"
11	Gmelina	26	2	0.06	10° 18' 51.7"	123° 58' 34.9"
12	Gmelina	34	5	0.27	10° 18' 51.4"	123° 58' 34.7"
13	Gmelina	24	0.5	0.01	10° 18' 51.5"	123° 58' 34.4"
14	Gmelina	16	1	0.01	10° 18' 51.4"	123° 58' 34.4"
15	Bo tree	30	3	0.13	10° 18' 54.0"	123° 58' 36.5"
16	Bo tree	26	1.5	0.05	10° 18' 52.4"	123° 58' 38.1"
17	Bo tree	20	2	0.04	10° 18' 52.4"	123° 58' 38.1"
18	Narra	27	2	0.07	10° 18' 52.2"	123° 58' 37.9"
19	Agoho	18	3	0.05	10° 18' 52.0"	123° 58' 37.7"
20	Agoho	22	4	0.09	10° 18' 51.9"	123° 58' 37.7"
21	Agoho	20	5	0.09	10° 18' 51.9"	123° 58' 37.7"
22	Agoho	24	5	0.13	10° 18' 51.8"	123° 58' 37.5"
23	Agoho	38	5	0.34	10° 18' 51.7"	123° 58' 37.4"
24	Agoho	19	3	0.05	10° 18' 51.9"	123° 58' 37.4"

Species No.	Species	Diameter (cm)	Merchantable Height (m)	Merchantable Volume (m^3)	GPS Reading	
					Northing	Easthing
25	Neem Tree	15	1	0.01	10° 18' 51.7"	123° 58' 37.4"
26	Agoho	25	4	0.12	10° 18' 51.7"	123° 58' 37.4"
27	Agoho	33	5	0.25	10° 18' 51.7"	123° 58' 37.4"
28	Gmelina	80	5	1.49	10° 18' 50.5"	123° 58' 38.5"
29	Agoho	51	0.5	0.06	10° 18' 49.8"	123° 58' 38.7"
30	Agoho	40	1	0.07	10° 18' 49.6"	123° 58' 38.5"
31	Agoho	29	2	0.08	10° 18' 49.8"	123° 58' 38.3"
32	Agoho	45	1	0.09	10° 18' 48.8"	123° 58' 37.2"
33	Neem Tree	24	3	0.08	10° 18' 48.5"	123° 58' 37.4"
34	Agoho	40	0.5	0.04	10° 18' 48.3"	123° 58' 37.3"
35	Mahogany	20	3	0.06	10° 18' 50.9"	123° 58' 37.3"
36	Gmelina	25	4	0.12	10° 18' 48.7"	123° 58' 36.2"
37	Gmelina	15	3.5	0.04	10° 18' 48.8"	123° 58' 36.9"
38	Gmelina	25	5	0.15	10° 18' 49.0"	123° 58' 36.6"
39	Gmelina	26	5	0.16	10° 18' 49.0"	123° 58' 35.9"
40	Gmelina	25	6	0.17	10° 18' 49.4"	123° 58' 35.6"
41	Talisay	21	3	0.06	10° 18' 49.8"	123° 58' 35.5"
42	Ipil-ipil	22	5	0.11	10° 18' 49.7"	123° 58' 35.4"
43	Mahogany	44	3.5	0.32	10° 18' 50.3"	123° 58' 35.1"
44	Neem Tree	20	1	0.02	10° 18' 50.1"	123° 58' 34.9"
45	Gmelina	45	4.5	0.42	10° 18' 51.0"	123° 58' 34.8"
46	Gmelina	44	3.5	0.32	10° 18' 51.0"	123° 58' 35.0"
Total				**5.96**		

Result of Tree Inventory Survey of DENR CENRO CebueI (Frebruary 21, 2014)

Species No.	Species	Diameter (cm)	Merchantable Height (m)	Merchantable Volume (m^3)	GPS READING (UTM)	
					Northing	Easting
1	NEEM TREE	31.0	3.0	0.14	606644	1140439
2	NEEM TREE	26.0	3.0	0.10	606639	1140435
3	IPIL-IPIL	24.0	2.0	0.06	606628	1140425
4	IPIL-IPIL	22.0	2.0	0.05	606634	1140422
5	IPIL-IPIL	24.0	2.0	0.06	606624	1140420
6	IPIL-IPIL	18.0	2.0	0.03	606618	1140416
7	NEEM TREE	20.0	3.0	0.06	606630	1140417
8	NEEM TREE	42.0	3.0	0.26	606612	1140409
9	ALIM	16.0	3.0	0.04	606611	1140401
10	NEEM TREE	22.0	3.0	0.07	606623	1140402
11	ALIM	22.0	3.0	0.07	606626	1140406
12	NEEM TREE	38.0	3.0	0.21	606631	1140431
13	NEEM TREE	16.0	3.0	0.04	606631	1140409
14	NEEM TREE	20.0	2.0	0.04	606638	1140415
15	MAHOGANY	50.0	3.0	0.37	606647	1140436
16	MAHOGANY	46.0	4.0	0.41	606668	1140393
17	IPIL-IPIL	16.0	3.0	0.04	606678	1140404
18	IPIL-IPIL	16.0	3.0	0.04	606687	1140399
19	IPIL-IPIL	38.0	4.0	0.28	606694	1140394
20	IPIL-IPIL	24.0	3.0	0.08	606601	1140386
21	TALISAY	34.0	4.0	0.23	606680	1140383
22	BREADFRUIT	40.0	5.0	0.39	606691	1140381
23	BREADFRUIT	32.0	5.0	0.25	606698	1140378
24	JACKFRUIT	42.0	5.0	0.43	606791	1140299
25	MAHOGANY	24.0	2.0	0.06	606692	1140373
26	MAHOGANY	28.0	2.0	0.08	606703	1140373
27	MAHOGANY	24.0	2.0	0.06	606701	1140362
28	MAHOGANY	38.0	3.0	0.21	606691	1140360
29	NEEM TREE	26.0	3.0	0.10	606681	1140366
30	MAHOGANY	26.0	4.0	0.13	606680	1140355
31	MAHOGANY	16.0	3.0	0.04	606672	1140350
32	NEEM TREE	16.0	2.0	0.02	606657	1140340
33	IPIL-IPIL	34.0	6.0	0.34	606651	1140335
34	RUBBER TREE (FIC	18.0	1.0	0.02	606644	1140337
35	RUBBER TREE (FIC	17.0	1.0	0.01	606649	1140342
36	MAHOGANY	32.0	4.0	0.20	606639	1140339
37	MAHOGANY	40.0	3.0	0.23	606641	1140345
38	MAHOGANY	24.0	2.0	0.06	606635	1140345
39	MAHOGANY	38.0	3.0	0.21	606632	1140350
40	MAHOGANY	26.0	3.0	0.10	606627	1140355
41	JACKFRUIT	34.0	2.0	0.11	606638	1140203

42	IPIL-IPIL	26.0	3.0	0.10	606624	1140365
43	MAHOGANY (B1)	52.0	2.0	0.26	606637	1140375
	MAHOGANY (B2)	30.0	2.0	0.09		
	MAHOGANY (B3)	30.0	2.0	0.09		
44	MAHOGANY	26.0	3.0	0.10	606669	1140385
45	IPIL-IPIL	16.0	4.0	0.05	606643	1140390
46	MAHOGANY	16.0	3.0	0.04	606626	1140375
47	MAHOGANY	38.0	4.0	0.28	606613	1140372
48	MAHOGANY	42.0	6.0	0.52	606618	1140370
49	MAHOGANY	38.0	3.0	0.21	606614	1140363
50	MAHOGANY	36.0	3.0	0.19	606618	1140352
51	MAHOGANY	66.0	5.0	1.06	606603	1140360
52	ALIM	26.0	3.0	0.10	606604	1140369
53	BREADFRUIT	16.0	3.0	0.04	606603	1140375
54	MANGO	22.0	1.0	0.02	606600	1140383
55	NEEM TREE	24.0	2.0	0.06	606606	1140383
56	NEEM TREE	28.0	3.0	0.11	606622	1140380
57	NEEM TREE	26.0	1.0	0.03	606632	1140375
58	NEEM TREE	28.0	2.0	0.08	606649	1140349
59	NEEM TREE	20.0	2.0	0.04	606656	1140347
60	TALISAY	56.0	3.0	0.46	606675	1140341
61	JACKFRUIT	32.0	4.0	0.20	606766	1140263
62	MANGO	42.0	2.0	0.17	606686	1140353
63	MANGO	40.0	2.0	0.16	606690	1140357
64	JACKFRUIT	30.0	2.0	0.09	606639	1140175
65	JACKFRUIT	28.0	2.0	0.08	606757	1140245
66	JACKFRUIT	34.0	4.0	0.23	606757	1140245
67	NEEM TREE	16.0	1.0	0.01	606719	1140368
68	GMELINA	32.0	3.0	0.15	606698	1140370
69	GMELINA	32.0	5.0	0.25	606690	1140367
70	GMELINA	16.0	2.0	0.02	606688	1140373
71	GMELINA	26.0	3.0	0.10	606693	1140386
72	NEEM TREE	22.0	2.0	0.05	606698	1140378
73	NEEM TREE (B1)	18.0	3.0	0.05	606685	1140385
	NEEM TREE (B2)	16.0	2.0	0.02		
74	NEEM TREE	22.0	3.0	0.07	606665	1140282
75	NEEM TREE	24.0	4.0	0.11	606665	1140288
76	NEEM TREE	24.0	3.0	0.08	606669	1140293
77	NEEM TREE	26.0	3.0	0.10	606675	1140298
78	NEEM TREE	24.0	4.0	0.11	606682	1140307
79	NEEM TREE	34.0	4.0	0.23	606688	1140312
80	ACACIA (B1)	48.0	4.0	0.45	606694	1140317
	ACACIA (B2)	34.0	5.0	0.28		
81	ACACIA	54.0	3.0	0.43	606698	1140322
82	MANGO	32.0	2.0	0.10	606703	1140326
83	LANETE	26.0	4.0	0.13	606710	1140331
84	MAHOGANY	28.0	4.0	0.15	606714	1140338

85	MAHOGANY	56.0	4.0	0.61	606721	1140342
86	GMELINA (B1)	38.0	6.0	0.42	606726	1140348
	GMELINA (B2)	34.0	7.0	0.39		
87	MANGO	28.0	2.0	0.08	606731	1140353
88	TAMARIND	28.0	4.0	0.15	606750	1140333
89	NEEM TREE (B1)	26.0	2.0	0.07	606780	1140300
	NEEM TREE (B2)	26.0	2.0	0.07		
90	NEEM TREE	28.0	3.0	0.11	606762	1140302
91	MAHOGANY	30.0	6.0	0.26	606747	1140257
92	GMELINA	38.0	6.0	0.42	606749	1140241
93	GMELINA (B1)	30.0	6.0	0.26	606728	1140265
	GMELINA (B2)	32.0	7.0	0.35		
	GMELINA (B3)	30.0	6.0	0.26		
94	GMELINA	32.0	5.0	0.25	606737	1140280
95	IPIL-IPIL	30.0	6.0	0.26	606737	1140300
96	MAHOGANY	20.0	3.0	0.06	606754	1140308
97	IPIL-IPIL	30.0	4.0	0.18	606756	1140291
98	IPIL-IPIL	26.0	3.0	0.10	606720	1140290
99	IPIL-IPIL	30.0	3.0	0.13	606726	1140329
100	FICUS	50.0	2.0	0.24	606742	1140322
101	BITANGHOL	38.0	3.0	0.21	606768	1140321
102	PANDAN	22.0	1.0	0.02	606767	1140280
103	MANGO	26.0	3.0	0.10	606750	1140249
104	JACKFRUIT	28.0	3.0	0.11	606608	1140288
105	JACKFRUIT	28.0	2.0	0.08	606548	1140238
106	JACKFRUIT	28.0	2.0	0.08	606546	1140243
107	JACKFRUIT (B1)	24.0	2.0	0.06	606804	1140280
	JACKFRUIT (B2)	24.0	2.0	0.06		
108	JACKFRUIT	24.0	1.0	0.03	606555	1140240
109	MANGO	18.0	4.0	0.06	606614	1140283
110	BREADNUT	24.0	6.0	0.17	606811	1140279
111	JACKFRUIT	20.0	1.0	0.02	606644	1140257
112	BREADNUT	32.0	7.0	0.35	606606	1140276
113	STAR APPLE	26.0	2.0	0.07	606804	1140270
114	JACKFRUIT	18.0	2.0	0.03	606798	1140266
115	JACKFRUIT	18.0	2.0	0.03	606788	1140265
116	SINIGUELAS	38.0	1.0	0.07	606789	1140258
117	SINIGUELAS	32.0	1.0	0.05	606781	1140258
118	INDIAN TREE	18.0	5.0	0.08	606783	1140253
119	INDIAN TREE	16.0	5.0	0.06	606780	1140249
120	INDIAN TREE	16.0	5.0	0.06	606775	1140250
121	INDIAN TREE	18.0	5.0	0.08	606775	1140244
122	INDIAN TREE	16.0	4.0	0.05	606770	1140245
123	INDIAN TREE	16.0	4.0	0.05	606768	1140238
124	JACKFRUIT (B1)	18.0	1.0	0.02	606804	1140280
	JACKFRUIT (B1)	22.0	2.0	0.05		
125	IPIL-IPIL	18.0	5.0	0.08	606757	1140226

126	IPIL-IPIL	20.0	4.0	0.08	606747	1140226
127	IPIL-IPIL	16.0	3.0	0.04	606747	1140234
128	IPIL-IPIL	16.0	3.0	0.04	606741	1140239
129	IPIL-IPIL	16.0	4.0	0.05	606717	1140215
130	NEEM TREE	24.0	2.0	0.06	606707	1140219
131	NEEM TREE	16.0	3.0	0.04	606696	1140226
132	IPIL-IPIL	16.0	4.0	0.05	606688	1140236
133	IPIL-IPIL	16.0	3.0	0.04	606675	1140243
134	JACKFRUIT	18.0	4.0	0.06	606636	1140160
135	IPIL-IPIL	16.0	6.0	0.07	606640	1140238
136	IPIL-IPIL	48.0	3.0	0.34	606674	1140215
137	BAGALUNGA	40.0	4.0	0.31	606678	1140201
138	IPIL-IPIL	16.0	3.0	0.04	606661	1140222
139	IPIL-IPIL	26.0	4.0	0.13	606643	1140224
140	IPIL-IPIL	42.0	3.0	0.26	606653	1140215
141	JACKFRUIT	16.0	1.0	0.01	606681	1140378
142	AGOHO	28.0	2.0	0.08	606629	1140223
143	NEEM TREE	16.0	2.0	0.02	606608	1140219
144	NEEM TREE	30.0	3.0	0.13	606619	1140217
145	NEEM TREE	30.0	2.0	0.09	606655	1140208
146	NEEM TREE	28.0	3.0	0.11	606665	1140206
147	TALISAY	28.0	3.0	0.11	606685	1140199
148	INDIAN TREE	16.0	5.0	0.06	606686	1140221
149	ACACIA (B1)	26.0	3.0	0.10	606684	1140228
	ACACIA (B2)	35.0	3.0	0.18		
	ACACIA (B3)	30.0	3.0	0.13		
150	FICUS	48.0	3.0	0.34	606659	1140229
151	GMELINA	32.0	5.0	0.25	606649	1140205
152	STAR APPLE (B1)	28.0	2.0	0.08	606611	1140206
	STAR APPLE (B2)	24.0	2.0	0.06		
153	JACKFRUIT	16.0	1.0	0.01	606678	1140347
154	AGOHO	46.0	3.0	0.31	606678	1140184
155	AGOHO	30.0	5.0	0.22	606655	1140188
156	MAHOGANY	32.0	3.0	0.15	606663	1140173
157	MAHOGANY	24.0	3.0	0.08	606652	1140178
158	MAHOGANY	20.0	3.0	0.06	606649	1140185
159	MAHOGANY	28.0	5.0	0.19	606647	1140191
160	BREADNUT	24.0	3.0	0.08	606637	1140191
161	MAHOGANY	22.0	6.0	0.14	606614	1140189
162	MAHOGANY	26.0	6.0	0.20	606619	1140201
163	MAHOGANY	16.0	2.0	0.02	606632	1140217
164	MAHOGANY	28.0	5.0	0.19	606611	1140194
165	MAHOGANY (B1)	24.0	3.0	0.08	606649	1140164
	MAHOGANY (B2)	26.0	3.0	0.10		
166	MAHOGANY	20.0	3.0	0.06	606656	1140137
167	MAHOGANY (B1)	24.0	3.0	0.08	606656	1140136
	MAHOGANY (B2)	16.0	3.0	0.04		

168	MAHOGANY (B1)	24.0	5.0	0.14	606656	1140139
	MAHOGANY (B2)	16.0	4.0	0.05		
169	MAHOGANY	22.0	3.0	0.07	606659	1140144
170	MAHOGANY	24.0	3.0	0.08	606659	1140154
171	MAHOGANY	20.0	4.0	0.08	606642	1140152
172	MAHOGANY	26.0	5.0	0.16	606627	1140156
173	MAHOGANY	16.0	3.0	0.04	606622	1140166
174	MAHOGANY	28.0	5.0	0.19	606616	1140180
175	MAHOGANY	20.0	3.0	0.06	606600	1140195
176	MAHOGANY	22.0	2.0	0.05	606609	1140199
177	MAHOGANY	28.0	3.0	0.11	606626	1140209
178	MAHOGANY	20.0	4.0	0.08	606622	1140213
179	MAHOGANY	16.0	3.0	0.04	606642	1140219
180	MAHOGANY	28.0	3.0	0.11	606644	1140233
181	MANGO	32.0	4.0	0.20	606654	1140233
182	MANGO	30.0	4.0	0.18	606653	1140244
183	MANGO	42.0	2.0	0.26	606647	1140264
184	MANGO	42.0	3.0	0.26	606634	1140258
185	MAHOGANY	32.0	4.0	0.20	606629	1140252
186	MANGO	40.0	40.0	0.31	606628	1140244
187	NARRA	34.0	5.0	0.28	606642	1140246
188	NEEM TREE	44.0	6.0	0.57	606621	1140242
189	NARRA	36.0	4.0	0.25	606649	1140251
190	NEEM TREE	44.0	3.0	0.28	606623	1140236
191	NEEM TREE	18.0	3.0	0.05	606614	1140232
192	NEEM TREE	22.0	3.0	0.07	606613	1140226
193	NARRA	26.0	2.0	0.07	606664	1140245
194	AGOHO	36.0	7.0	0.44	606661	1140239
195	NEEM TREE	26.0	3.0	0.10	606623	1140214
196	NEEM TREE	43.0	3.0	0.27	606603	1140214
197	MAHOGANY	19.0	3.0	0.05	606613	1140171
198	JACKFRUIT	16.0	4.0	0.05	606776	1140281
199	JACKFRUIT	16.0	2.0	0.02	606762	1140233
200	JACKFRUIT	16.0	2.0	0.02	606630	1140234
201	AGOHO	30.0	7.0	0.31	606648	1140155
202	AGOHO	40.0	8.0	0.62	606655	1140160
203	GMELINA	26.0	3.0	0.10	606669	1140160
204	MAHOGANY	16.0	3.0	0.04	606674	1140170
205	GMELINA	26.0	3.0	0.10	606672	1140173
206	MAHOGANY	16.0	2.0	0.02	606674	1140193
207	MAHOGANY	28.0	4.0	0.15	606689	1140206
208	MAHOGANY	38.0	5.0	0.35	606667	1140216
209	MAHOGANY	20.0	3.0	0.06	606668	1140237
210	MAHOGANY	34.0	4.0	0.23	606670	1140246
211	BALETE (FISCUS S	20.0	2.0	0.04	606662	1140245
	BALETE (FISCUS S	16.0	1.0	0.01		
212	MAHOGANY	28.0	6.0	0.23	606652	1140227

213	GMELINA	18.0	3.0	0.05	606646	1140210
214	TRAVELLER'S PAL	18.0	3.0	0.05	606634	1140199
215	NARRA	24.0	3.0	0.08	606626	1140201
216	GMELINA	22.0	3.0	0.07	606630	1140208
217	GMELINA (B1)	20.0	1.0	0.02	606626	1140194
	GMELINA (B2)	20.0	1.0	0.02		
218	MAHOGANY	16.0	3.0	0.04	606628	1140190
219	GMELINA	30.0	3.0	0.13	606642	1140187
220	GMELINA	22.0	2.0	0.05	606656	1140191
221	NARRA	26.0	2.0	0.07	606672	1140207
222	NARRA	24.0	3.0	0.08	606673	1140222
223	NARRA	16.0	1.0	0.01	606673	1140227
224	NARRA	38.0	3.0	0.21	606672	1140232
225	GMELINA (B1)	50.0	2.0	0.24	606674	1140235
	GMELINA (B2)	28.0	2.0	0.08		
	GMELINA (B3)	30.0	2.0	0.09		
226	NEEM TREE	24.0	2.0	0.06	606637	1140237
227	IPIL-IPIL	28.0	3.0	0.11	606626	1140229
228	IPIL-IPIL	26.0	2.0	0.07	606620	1140226
229	NEEM TREE	42.0	3.0	0.26	606617	1140208
230	GMELINA	90.0	3.0	1.18	606615	1140219
231	TALISAY	18.0	5.0	0.08	606602	1140221
232	TALISAY	20.0	4.0	0.08	606596	1140218
233	TALISAY	16.0	4.0	0.05	606600	1140222
234	IPIL-IPIL	57.0	3.0	0.48	606616	1140240
235	IPIL-IPIL	26.0	4.0	0.13	606603	1140230
236	MAHOGANY	22.0	3.0	0.07	606590	1140214
237	AGOHO	48.0	2.0	0.22	606583	1140209
238	AGOHO	42.0	2.0	0.17	606808	1140272
239	AGOHO	52.0	2.0	0.26	606587	1140207
240	AGOHO	36.0	2.0	0.13	606594	1140208
241	AGOHO	38.0	3.0	0.21	606793	1140270
242	AGOHO	38.0	3.0	0.21	606696	1140201
243	AGOHO	24.0	3.0	0.08	606601	1140200
244	AGOHO	30.0	3.0	0.13	606598	1140188
245	AGOHO	30.0	3.0	0.13	606596	1140176
246	AGOHO	32.0	4.0	0.20	606555	1140225
247	AGOHO	24.0	3.0	0.08	606490	1140286
248	AGOHO	32.0	2.0	0.10	606499	1140283
249	AGOHO (B1)	26.0	3.0	0.10	606506	1140276
	AGOHO (B2)	30.0	3.0	0.13		
250	AGOHO	46.0	2.0	0.21	606514	1140273
251	AGOHO	28.0	3.0	0.11	606519	1140267
252	AGOHO	28.0	4.0	0.15	606526	1140260
253	AGOHO	44.0	3.0	0.28	606534	1140252
254	AGOHO	46.0	4.0	0.41	606539	1140242
255	AGOHO	32.0	3.0	0.15	606741	1140207

256	AGOHO	28.0	3.0	0.11	606543	1140237
Total				**40.53**		

ANNEX 3:

ENVIRONMENTAL MANAGEMENT PLAN (EMP) FOR THE EXISTING TERMINAL OPERATION OF CEBU INTERNATIONAL AIRPORT

(BY SGS PHILIPPINES)

ENVIRONMENTAL MANAGEMENT PLAN (EMP) FOR THE EXISTING TERMINAL OPERATION OF CEBU INTERNATIONAL AIRPORT

Prepared for:

GMR MEGAWIDE CEBU AIRPORT CORPORATION (GMCAC)
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ENVIRONMENTAL MANAGEMENT PLAN

This Environmental Management Plan (EMP) is being formulated to account for the incremental impacts, cumulative impacts, residual impacts, unavoidable impacts and all other major risk posed by the existing terminal operation of Cebu International Airport located in Lapu-Lapu, Cebu. The EMP contains the various proposed mitigation and enhancement measures, which are converted into programs, identifies responsible entity, and defines the mechanisms for ensuring the implementation of the proposed environmental protection measures.

The Environmental Management Plan (EMP) for the existing terminal operation of Cebu International Airport is comprised of the following:

1) Impacts Management Plan;
2) Environmental Monitoring Plan (EMoP);
3) Information, Education and Communication and Social Development Program;
4) Environmental Risk Management and Emergency Response Program;
5) Abandonment Program; and
6) Institutional Set-up

The preparation of the EMP is based on the guidelines as indicated in Revised Procedural Manual for Department of Environment and Natural Resources Administrative Order No. 30 Series of 2003 (Implementing Rules and Regulations of Presidential Decree No. 1586, Establishing the Philippines Environmental Impact Statement System).

1.0 IMPACT MANAGEMENT PLAN

This section presents the assessment of environmental impacts and its mitigating measures that the management is undertaking to enhance the positive impacts and mitigate the negative impacts. Specifically, the assessment is addressing the most likely changes that may be expected as a result of the operation of terminal operation of Cebu International Airport.

1.1 SOLID WASTE MANAGEMENT (Non-Hazardous Solid Waste)

Airport terminal generates enormous volume of solid wastes from its operation and is evolving a greater challenge from the terminal operator in complying with RA9003 – Ecological Solid Waste Management Act of 2003. The generation of non-hazardous solid wastes is coming from the following: garbage/food wastes from the restaurants and other concessionaires; papers, plastics, cartons from offices and commercial outlets; packaging materials from cargo handlers; yard wastes from the sweeping of roads and parking bays; wastes collected from the comfort rooms; sludge generated from the Sewage Treatment Plant facility; and other solid wastes such as plastic bottles, cans, metal scraps, and old furnitures.

The company will employ the following ecological solid management:

Waste Minimization

As a general policy, waste minimization shall be practiced in all of the terminal operations with much preference to solutions that avoid if not, reduce waste material at source instead of end-of-pipe options, e.g., treatment and disposal. The terminal operation shall strive to employ the most preferable options whenever possible in order to help in the reduction of solid waste generation.

Reusables

Prolonging the life and use of materials shall be promoted to all the employees and concessionaires. The use of reusable containers whenever possible is highly encouraged. Food being taken into the terminal should be placed in reusable containers.

Waste Segregation

In order to properly manage wastes generated by the terminal operation, an ecological waste segregation scheme shall be implemented by the terminal operator. Segregation bins shall be properly labelled in order to help educate and guide the employees, concessionaires, and all the passengers on the system being implemented. Three (3) bins labeled as biodegradable, non-biodegradable and recyclables are placed in different locations of the terminal for the proper segregation of waste.

Waste Storage On-Site and Disposal

All of the solid wastes collected at the waste bins are being collected by the housekeeping personnel and temporarily stored at the Central Storage Station of the terminal. Wastes are stored according to its classification as to biodegradable, non-biodegradable and recyclable waste. Wastes for disposal stored at the Central Storage Station are collected by the hired garbage collector. The segregated recyclable wastes are being separated for re-use. Scrap materials are being turned over to the Property Management for proper documentation and handling. Scrap disposal is being managed by Bid Award Committee for public bidding. Dried sludge generated from the operation of Sewage Treatment Plant is being composted as fertilizer. (Note: Sludge that passes the TCLP standard is being composted as fertilizer otherwise the sludge will be considered as hazardous).

1.2 SOLID WASTE MANAGEMENT

Hazardous waste are classified, handled, stored and disposed off separately from non-hazardous solid waste in accordance with the provision of RA6969 otherwise known as the “Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990. Hazardous wastes generated from the terminal operation are the following: medical waste from clinic; used oil, used filters and contaminated rugs; busted lamps; electronic waste and cartridges of inks and toners; and containers previously containing toxic chemical substances. Sludge generated from the operation of Sewage Treatment Plant facility that exceeded the TCLP limit of DENR shall be treated as hazardous waste. A DENR accredited transporter and treater will be engaged for the proper transport, treatment and disposal of these wastes in compliance with the RA 6969 and DAO 2013-22.

1.3 WATER AND WASTEWATER QUALITY MANAGEMENT

1.3.1 Water Conservation

The water requirement of the existing operation of the terminal is being supplied by Metropolitan Cebu Water District and Mactan Rock Industries. There is no direct extraction from the groundwater to supply the water requirement of the terminal. The company will be implementing the water conservation program to minimize and reduce the water consumption in its operation.

Some of the measures to be undertaken are the following:

- Dry cleaning process such as use of rugs in workshop and maintenance area to clean the oil spillages; and
- Use of low fixtures and appliances to reduce water consumption such as low flush water closets and cisterns;

On the other hand, the following measures shall be considered in the future by the company as it is continuously operating:

- Effluent discharge from the Sewage Treatment Plant will be further treated fit to use for green belt development and floor washing to reduce the fresh water requirement (future plan); and
- Construction of rainwater harvesting pit to collect rain water. The storm water from the pervious area will also be routed to the rainwater harvesting structure. The storm water during the rainy season will be harvested to maximum extent possible

1.3.2 Water Consumption and Wastewater Discharge

Continuous efforts will be made to reduce the water consumption and thereby reducing the volume of wastewater generation. Records will be kept for the delivery of raw water by Metropolitan Cebu Water District and Mactan Rock Industries. Also, automatic flow meter will be installed at the inlet of the Sewage Treatment Plant (STP) as well as the discharge point of the effluent. Flow rates at the treatment facility will be continuously monitored by the STP's operator. Periodic water audits will be conducted to explore the possibilities for minimization of water consumption.

1.3.3 Wastewater Generation and Disposal

The wastewater generation from the terminal operation is coming from the following: domestic activities of all the employees, concessionaires and passengers; discharged from the restaurants; discharged from the cleaning of floors; and make-up water from cooling towers. Wastewaters generated from the domestic activities are being directed to the existing septic tanks of the terminal. Grease traps are installed at the wastewater outlet of the restaurants. Wastewater generated from these sources is being directed to the sump pit of the pumping station located inside the terminal.

Wastewater discharge from the septic tanks, grease traps, floor drains, and cooling tower blow down are being directed to the Sewage Treatment Plant. Then the wastewater is being pumped into the Sewage Treatment Plant, which is approximately 1.5 kilometers away from the terminal. The present capacity of the STP is sufficient enough to treat the volume of the wastewater generated from the existing terminal operation.

Treated wastewater or wastewater effluent is being discharged to an open ditch then flows to Magellan Bay. To support the water conservation program, the treated wastewater will be directed to rainwater harvester pit once this pit has been constructed.

1.4 AIR QUALITY MANAGEMENT

1.4.1 Source Emission

The operation of the electricity generators at the substations, generators inside the terminal and the water/fire pump diesel engines at the pumping station are the sources of air pollutant emissions. Mitigation implemented to reduce the emission of air pollutants are the use of low sulfur fuel and conduct of regular maintenance of the generators and diesel engines. Emission of air pollutant from source can also be reduced by shutting down the combustion engines when not in use.

1.4.2 Vehicular Emission

The movement of vehicles inside the terminal and vehicles going to and from the airport increases the emission of air pollutant such as the particulate matter, oxides of nitrogen and carbon monoxide in the vicinity. The following methods of abatement are being employed to reduce the emission of pollutant to the ambient air:

- Shutting down the combustion engine when not in use;
- Minimizing the vehicular traffic,. Appropriate design of access roads is provided to avoid traffic jams to reduce air pollution;
- Provision of adequate buffer zones where pollution concentrations is highest to reduce the impact of emissions;
- Providing suitable green belt to reduce the impact of air pollution; and
- The vehicles moving within the airport are being maintained and emission checks are carried out on regular interval.

1.5 NOISE LEVEL MANAGEMENT

The operation of compressor, electricity generators, water/fire pump engine, and the take-off and landing of aircrafts are the possible sources that increase the noise level at the terminal area in excess of those typically found in the project environs. Controlling the noise at source is an important option in noise control strategies. Appropriate noise barrier/shields, silencers, etc. are provided wherever possible.

The following measures are being implemented to mitigate the sonic impacts (noise attenuation):

- Switching off the combustion engine when not in use;
- Adequate muffler system was installed to control much of the engine noise;
- Proper maintenance of equipment was implemented to reduce the high noise levels;
- Use of noise absorbing material at the terminal building;
- Electricity generators and water/fire pumps are provided with acoustic enclosure for effective noise reduction. Also, electricity generators are provided with exhaust muffler capable of effective noise reduction; and
- The sources of intermittent noise generating equipment such as compressors are also provided with appropriate acoustic barriers to reduce the noise level generated from the operation of these units.

1.6 PEOPLE COMPONENT

1.6.1 Occupational Safety of the Employees

Personnel exposed to occupational risk are being provided with appropriate Personal Protective Equipment (PPE) and occupational safety is being implemented on site.

1.6.2 Population

There will be no significant impact on the social demography of the area if the employees to be hired would come from the local communities.

1.6.3 *Employment*

The primary positive effect of the terminal operation is the generation of employment. Priority shall be given to the qualified residents of Lapu-Lapu for employment.

There are skills required by the operation, which may not be available locally. Hence, migrants would be needed by the project. However, this should be a last resort, after the company has extensively exhausted all means to locate qualified residents.

1.6.4 Additional Revenues to the Local Government Units

The barangays, municipality, province and region will directly benefit from the terminal operation because percentage of gross income of the company shall be remitted to the government as tax. As an enhancement measure, the company shall pay their percentage of gross income in time.

Presented in ***Table 1*** is the assessment of environmental impacts and its mitigating measures that the management has undertaken to enhance the positive impact and mitigate the negative impact. The recommended format in Annex 2-17 of RPM DAO 2003-30 was used in the preparation of Impact Management Plan.

Table 1. Impact Management Plan

Project Phase/Environmental Aspect	Environmental Component Likely to be Affected	Potential Impact	Mitigating/Enhancement Measures	Responsible Entity	Cost	Guarantee/Financial Arrangements
I. *OPERATION PHASE*						
The Land						
Solid Waste Generation from the terminal operation.	• Land (Soil) Quality	• Land contamination of non-hazardous solid waste generated identified in Section 1.1 of this EMP.	• Provision of trash bins and implementation of waste segregation, waste minimization, recycling, re-use in accordance to RA 9003. • Regular disposal of solid waste to government approved MRF or landfill facility thru garbage collector	GMCAC Management	Part of project cost	Included in the operations plan and part of the project cost.

Project Phase/Environmental Aspect	Environmental Component Likely to be Affected	Potential Impact	Mitigating/Enhancement Measures	Responsible Entity	Cost	Guarantee/Financial Arrangements
		• Land contamination of hazardous waste generated identified in Section 1.2 of this EMP.	• Storage and disposal in accordance with RA6969 and its applicable IRR such as DAO 2013-22, CCO for ODS (if this is used in the terminal operations. Hauling and treatment by DENR accredited transporter and treater.	GMCAC Management	Part of project cost	Included in the operations plan and part of the project cost.
Sludge generated from Sewage Treatment Plant.	• Soil Quality	• ENHANCEMENT	• Dried sludge is being composted for use as soil enhancer/fertilizer.	GMCAC Management	Part of project cost	Included in the operations plan and part of the project cost.
The Water						
Domestic wastewater generation	• Water Quality	• Pollution of Magellan Bay due to discharge of domestic wastewater.	• Treated at the existing Sewage Treatment Plant (STP).	GMCAC Management	Part of project cost	Included in the operations plan and part of the project cost.
Discharge of make-up water from cooling towers.	• Water Quality	• Pollution of Magellan Bay due to discharge of process wastewater.	• Treated at the existing Sewage Treatment Plant (STP).	GMCAC Management	Part of project cost	Included in the operations plan and part of the project cost.

Project Phase/Environmental Aspect	Environmental Component Likely to be Affected	Potential Impact	Mitigating/Enhancement Measures	Responsible Entity	Cost	Guarantee/Financial Arrangements
Wastewater generated from the cleaning of floors.	• Water Quality	• Pollution of Magellan Bay due to discharge of domestic wastewater.	• Treated at the existing Sewage Treatment Plant (STP).	GMCAC Management	Part of project cost	Included in the operations plan and part of the project cost.
Use of water	• Water Resources	• Water Depletion	• Implementation of water conservation program.	GMCAC Management	Part of project cost	Included in the operations plan and part of the project cost.
The Air						
Operation of Electricity Generators and water/fire pump diesel engines	• Air Quality	• Ambient air contamination • Increase of noise level in the vicinity	• Regular maintenance • Use of low sulfur fuel, i.e., diesel • Provided with muffler and being operated in an enclosed area • Switching off combustion engine when not in use.	GMCAC Management	Part of project cost	Included in the operations plan and part of the project cost.
Operation of Compressor	• Air Quality	• Increase of noise level in the vicinity	• Being operated in an enclosed room with acoustic barrier.	GMCAC Management	Part of project cost	Included in the operations plan and part of the project cost.

Project Phase/Environmental Aspect	Environmental Component Likely to be Affected	Potential Impact	Mitigating/Enhancement Measures	Responsible Entity	Cost	Guarantee/Financial Arrangements
Vehicular Emission	• Air Quality	• Ambient air contamination	• Shutting down the combustion engine when not in use; • Minimizing the vehicular traffic; • Provision of adequate buffer zones • Appropriate design of access roads • Provision of suitable green belt to reduce the impact of air pollution; and • The vehicles moving within the airport are being maintained and emission checks are carried out on regular interval.	GMCAC Management	Part of project cost	Included in the operations plan and part of the project cost.

Project Phase/Environmental Aspect	Environmental Component Likely to be Affected	Potential Impact	Mitigating/Enhancement Measures	Responsible Entity	Cost	Guarantee/Financial Arrangements
The People						
• Employment	• People	ENHANCEMENT: potential employment	• Prioritize hiring the qualified local residents	GMCAC Management	Part of project cost	Included in the operations plan and part of the project cost.
• Land Use	• Local Government Unit	ENHANCEMENT: Increase in local revenues of the LGU	• Prompt payment of taxes and other permits and licenses to the municipality	GMCAC Management	Part of project cost	Included in the operations plan and part of the project cost.
• Occupational safety	• People	• Exposure to Health and safety hazards due to operation of different production machines.	• Provisions of PPEs to workers • Health and safety training for the employees. • Health and Safety operational controls for specific hazards	GMCAC Management	Part of project cost	Included in the operations plan and part of the project cost.
II. *ABANDONMENT PHASE*						
Solid waste generation due to site clearing	• Land contamination	• Solid waste generation that may reduce the aesthetics of the site	• GMCAC to implement the same ecological solid waste management during its operation.	GMCAC Management	Part of project cost	Included in the abandonment plan and part of the project cost.

2.0 ENVIRONMENTAL MONITORING PLAN

The Environmental Monitoring Plan (EMoP) covers the compliance with the prescribed mitigation and enhancement measures provided for the EMP; the regular monitoring of environmental parameters; and the checking of the effectiveness of the EMP and the overall performance of the project from the environmental point of view and the corrective measures.

The EMoP shall have the following objectives:

- Ensure that all emissions and effluents as a result of the terminal operation are all in accordance with DENR Rules and Regulations, which include but not limited to RA8749 (Clean Air Act), RA9275 (Clean Water Act of 2004), etc.;
- Validate the changes in the various environmental media (impact monitoring) as identified in the impact assessment; and
- Provide early warning information of unacceptable environmental conditions;

The Environmental Monitoring Program is presented in Table 2. The environmental attributes will be monitored as given below:

2.1 Non-Hazardous Solid Waste Monitoring

The Pollution Control Officer (PCO) in close coordination with the Housekeeping Department and Property Management shall monitor the operation of the terminal's ecological solid waste management system by conducting regular monitoring. The company to ensure compliance to local and national laws, regulations and ordinances related to the handling, storage, collection, transport and disposal of solid waste generated. Volume of solid wastes generated on site and volume collected for disposal shall be monitored.

2.2 Hazardous Waste Monitoring

The Pollution Control Officer in coordination with Property Management shall monitor the generation, storage and disposal of hazardous wastes to ensure that these are properly managed and do not pose any hazards or risk to the neighboring community. The PCO shall oversee that the necessary documentation as part of the requirements for the monitoring reports of RA6969 is being implemented.

2.3 Water Consumption Monitoring

To support the water conservation program of the company, the volume of raw water consumption on a monthly basis shall be monitored by monitoring the volume delivered by the suppliers.

2.4 Wastewater Monitoring

Flow rates at the entry and discharge point of the STP shall be monitored on a daily basis and shall be recorded on the monitoring log sheet.

Quality of the effluent shall be monitored on a quarterly basis and results shall be compared with the standard set in DENR Administrative Order 35 for Class SC. Parameters to be considered are the following: Color, Temperature, pH, BOD, COD, TSS, Total Coliform, Surfactants, Oil & Grease and Phenolic Substances.

There will be no discharged of the untreated wastewater from the terminal operation as well as treated wastewater that will not comply with the effluent regulation.

2.5 Air Quality Monitoring

Source emission and ambient air quality monitoring shall be conducted within the terminal area and at the substations. Air quality monitoring shall be based on the provision of Implementing Rules and Regulations for RA 8749, otherwise known as the Philippine Clear Air Act of 1999.

The emission from the exhaust stacks attached to the electricity generators and water/fire pump engines shall be monitored for the concentrations of Particulate Matter and gaseous pollutants. Frequency of source emission monitoring shall be based on the conditions stated in DENR Memorandum Circular No. 2007-003.

For the ambient air quality monitoring, the concentration of Total Suspended Particulates and Gaseous Pollutants shall be monitored inside and outside the project boundaries as per direction of the DENR EMB Region 7. About four (4) stations will be selected for monitoring in consultation with regulatory body (DENR EMB Region7) at regular intervals.

2.6 Noise Level Monitoring

The level of noise at the terminal area and at the substations shall be monitored to assess compliance with the following:

- For ambient noise level – DENR standard with reference to 1978 Rules and Regulations of the National Pollution Control Commission on maximum noise levels emanating from the installation, operation, or use of equipment, appliances, and any sound sources at certain hours within residential or industrial area; and
- For workplace noise level- Occupational Safety and Health Standard of Department of Labor and Employment.

2.7 Reporting Requirement

After the issuance of the ECC, the proponent will ensure that all the ECC conditions and commitment in the EMP and EMoP for the operation stage are being implemented and complied. Self-Monitoring Reports (SMR) and Compliance Monitoring Report (CMR) detailing status of compliance with ECC and other environmental rules and regulations will be submitted regularly as required by the regulatory body.

Table 2. Environmental Monitoring Plan Matrix

Key Environmental Aspects per Project Phase	Potential Impacts Per Envt'l Sector	Parameters to be Monitored	Sampling & Measurement Plan			Lead Person	Annual Estimated Cost
			Method	Frequency	Location		
OPERATION PHASE							
Non-hazardous solid waste generation	Land Contamination	Volume of solid waste	In-house monitoring	Daily	Central Storage area	PCO	Part of the project cost
Hazardous waste generation	Land contamination	Volume of waste generated, transported and treated.	In-house monitoring	As generated and transferred to the storage area.	Property Management Area	PCO	Part of the project cost
Operation of Standby Electricity Generator and fire/water engine pumps	Air Quality	PM, Nox and CO or as recomended by the regulatory body.	As described in Clear Air Act	As described in DENR MC 2007-003	Substation and genset storage area at the terminal.	PCO	Part of the project cost
	Ambient Air	TSP, SO_2, NO_2 and CO	As described in Clear Air Act	Semi-annual or as recommended by regulatory body.	Within the terminal premises and substation	PCO	Part of the project cost

Key Environmental Aspects per Project Phase	Potential Impacts Per Envt'l Sector	Parameters to be Monitored	Sampling & Measurement Plan			Lead Person	Annual Estimated Cost
			Method	Frequency	Location		
	Ambient Noise	Noise Level	Direct measurement	Semi-annual or as recommended by regulatory body.	Within the terminal premises and substation	PCO	Part of the project cost
Operation of compressor	Ambient Noise	Noise Level	Direct measurement	Semi-annual or as recommended by regulatory body.	Compressor area	PCO	Part of the project cost
Generation of wastewater	Water Quality	Color, Temperature, pH, BOD, COD, TSS, Surfactants, Oil & Grease and Phenolic Substances	As described in DAO 35	Quarterly	At the discharge point going to the public sewer.	PCO	Part of the project cost
ABANDONMENT PHASE							
Solid waste generation	Land Contamination	Volume of solid waste	In-house monitoring	Weekly	At the site	PCO	Part of the abandonment cost

3.0 INFORMATION, EDUCATION AND COMMUNICATION (IEC)

IEC is the component to establish support, linkages and participation of a broader sector of stakeholders. It provides for the continuing information drive, community relations and community mobilization during the project implementation. It is also critical for bringing the transparency in implementation of Environmental Programs at the field level and for promoting the concept of accountability and social audit. And since the project is already at its operational phase, IEC should be undertaken to generate participation and support from communities in the following areas:

- participation in the project monitoring; and
- participation in the employment opportunities

IEC at this stage will be closely linked to the Social Development Program of this EMP. Other critical information that should be disseminated includes the following:

- list of potential employment opportunities for the local populace;
- the components of the EMP, particularly the Social Development Program; and
- other projects to be undertaken by the proponent, e.g. expansion or improvement of existing public utilities.

GMCAC to continue the IEC activities to keep in constant contact with the community in the project's environment.

4.0 SOCIAL DEVELOPMENT PROGRAM

The Social Development Program expresses the social responsibility of the proponent to address valid issues/concerns, which have bearing on social acceptability as well as commitment to achieving sustainable development. Mitigating and enhancement measures are included to address social issues and concerns of the community particularly on the employment program.

5.0 ENVIRONMENTAL RISK MANAGEMENT AND EMERGENCY RESPONSE PROGRAM

This section describes performance against any risk-related event or accident and how such will be managed to minimize environmental impacts/damages.

5.1 Environmental Risk Management

Environmental assessment and management will be implemented to help minimize the environmental impacts of its operations and enhance its business reputation and operational efficiency.

An environmental assessment identifies potential future hazards and challenges to decrease adverse impacts on the environment. By examining scenarios and anticipating future challenges, an environmental risk assessment will ensure that the project has been integrated and budgeted for all possibilities for the future of its site. It will also help operations to deal immediately with existing problems such as sources of pollution, thereby avoiding expensive remediation at a later stage.

5.2 Emergency Response Programs

An **Emergency Action Plan** will be formulated to provide for the necessary information and training which in turn will reduce reaction time in the event of an accident, thereby increasing the effectiveness of the preventative actions.

The **Emergency Action Plan** must address the necessary responses to the following:

- Accidents and injuries
- Building evacuation; including evacuation plans and personnel accounting
- Emergency communications
- Emergency response teams
- Emergency shutdown procedures
- Fire
- Natural Disasters
- Spills and other Releases

5.3 Company Safety and Health Policy

To address the safety, and health concerns of the project, GMCAC to formulate a Company Safety Policy to serve as a guiding principle in the implementation of safety and health programs on site. The safety policy shall include the reporting requirements of the Occupational Health and Safety Standards (OSHS), and other relevant DOLE issuances. This policy should conform to the rules of the OSHS, and example of which are listed below:

- RULE 1030 – Training of Personnel in Occupational Safety and Health.
- RULE 1040 – Health and Safety Committee
- RULE 1050 – Notification and Keeping of Records of Accidents and/or Occupational Illnesses
- RULE 1060 – Premises of Establishments. Provides rules on safety requirements for:
    - 1062 – Space Requirement
    - 1063 - Walkway Surface
    - 1064 - Floor and Wall Opening
    - 1065 - Stairs

  - 1066 - Windows Openings
  - 1067 - Fixed Ladders
  - 1068 – Overhead walks, Runways and Platforms
  - 1069 - Yards
- RULE 1070 – Occupational Health and Environmental Control
  - 1974.01 - Threshold Limit Values for Noise
  - 1074.02 - Permissible Noise Exposure
  - 1075 - Illumination
  - 1975.02 - Natural Lighting
  - 1075.03 - Artificial Lighting
  - 1075.04 - Intensity
  - 1075.06 – Emergency Lighting
  - 1076 – General Ventilation
  - 1076.01 – Atmospheric Conditions
  - 1976.02 – Air Supply
  - 1076.03 – Cleanliness
  - 1076.04 – Air Movement
  - 1076- 05 – Temperature and Humidity
  - 1077 – Working Environment Measurement
- RULE 1080 – Personal Protective Equipment and Devices
- RULE 1210 – Electrical Safety
- RULE 1960 – Occupational Health Services

5.4 Health and Safety

The designated Pollution Control Officer (PCO) may concurrently act as the Health and Safety Officer and will undergo necessary training on health and safety. Regulations. Health r and safety audits shall be conducted in parallel with the environmental audits with the aim of continuously improving health and safety practices at the airport terminal. Likewise, an annual health examination for employees shall also be conducted.

6.0 ABANDONMENT PROGRAMS

In the event that the concession agreement between Department of Transportation and Communication (DOTC) and GMR Megawide Consortium has ended, all of the assets will be turned over to DOTC. Materials or waste with potential hazards to the vicinity shall be removed by GMCAC prior to the end of its concession period. The same waste management measures as in the operational phase will be observed. Also, the site will be rehabilitated should it be contaminated by its operation. The rehabilitation efforts will be commensurate to the degree of the site contamination or damage. On the other hand, workers will be notified or informed of the of concession end period ahead of time.

7.0 INSTITUTIONAL PLAN

The main thrust of the Institutional Plan is to establish essential organizational components that will implement the proposed EMP as well as provide the necessary mechanism that will strengthen organizational relationship of the proponent with stakeholders and government agencies. The table below presents the institutional plan for the current EMPs that are in place for the existing terminal operation.

TABLE 3. INSTITUTIONAL PLAN FOR EMP IMPLEMENTATION

Item	Reporting Scheme		
	Reporter	**Recipient**	**Frequency**
Operational Phase			
Incident Report	Safety Officer	DOLE	Monthly
Self Monitoring Report	PCO	DENR	Quarterly
Compliance Monitoring Report	PCO	DENR	Semi-annual
Abandonment Phase			
Progress Report	Contractor	GMCAC	Daily
Incident Report	Contractor	GMCAC/DOLE	Once an incident occurs
Abandonment Report	PCO	DENR	Upon completion of project abandonment

ANNEX 4:

SAFETY MANAGEMENT SYSMTEM MANUAL OF MACTAN CEBU INTERNATIONAL AIRPORT AUTHORITY

Mactan-Cebu International Airport

SAFETY MANAGEMENT SYSTEM MANUAL

Issue 1
January 2011

Master Copy
Aerodrome Safety Management Unit

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Amendments

The amendments listed below have been incorporated in this copy of the Safety Management System Manual.

Amendment Number	Affected Parts	Affected Pages	Signature	Date

Revision History

The Safety Management System Manual has been revised as indicated by the changes listed in the following table.

Version	Date	Part / Section	Details

Introduction

This is the Safety Management System (SMS) Manual required by Civil Aviation Act of 2007 (RA 9497) for Mactan-Cebu International Airport operated by Mactan-Cebu International Airport Authority (MCIAA). This manual applies to all personnel employed by, or contracted to by MCIAA in any capacity (full time, part time or casual). All personnel shall abide by the procedures contained in this manual.

A functioning Safety Management System became a mandatory requirement for certified Aerodromes on 24 November 2005.

The heart of the SMS in this document is a hazard reporting process and a process for the risk assessment and treatment of the hazards identified by staff, or through investigation and analysis of incidents or accidents. The process is shown diagrammatically in a flowchart and table attached to this section. Other sections of the manual provide the context within which the SMS can function. This context is composed of elements like management commitment, definition of roles and responsibilities, safety training for staff and the regular evaluation of the effectiveness of the SMS.

Management commitment, effective two-way communication and a positive safety culture are the foundations for success.

The Mactan –Cebu International Airport safety management system is an integrated set of work practices, beliefs and procedures for monitoring and improving the safety and well being of all aspects of the organization. It recognizes the potential for errors and establishes robust defenses to ensure that errors do not result in incidents or accidents. It will incorporate the underlying principles of Quality Management and Risk Management with Safety Management principles and practices. These concepts build on and reinforce each other.

As with all management systems, Mactan-Cebu International Airport SMS involves goal setting, planning, documentation, and the measuring of performance against goals. This safety management system is a comprehensive integrated tool for managing safety in airside/landside operations. It sets out:

- The safety objectives;
- The systems and procedures by which these are to be achieved;
- The performance standards which are to be met; and
- The means by which adherence to these standards is to be maintained.

Written directions and instructions must be clear and concise, and readily available to everyone who may need them.

Document Amendment Procedures

CAAP regulation applies to procedures for amending an SMS Manual. The philosophy and process applicable to SMS Manuals, including amendment requirements, are applied equally to this manual unless or until specific instructions are provided for SMS Manuals.

Amendment Awareness Records

All personnel associated with any aspect of the aerodrome safety management system must sign the Amendment Awareness Record as evidence of having read, understood and agreed to apply the procedures and data contained in the SMS Manual.

All personnel who are required to sign must do so on initial issue of the manual, and additionally whenever an amendment has been made. It is the Aerodrome Manual Controller's responsibility to ensure that each amendment is brought to the attention of all relevant persons.

References

a) ICAO Document 9859 Safety Management Manual

b) ICAO Document 9774 Manual on Certification of Aerodromes

c) Annex 14 Aerodromes Volume 1 Fourth Edition, amendment 7

d) AO 139

e) Manual of Standards for Aerodromes

Definitions and Abbreviations

Definitions

All definitions contained *in the Civil Aviation Act, Regulations, Orders*, and the Aeronautical Information Publications are applicable whenever appearing in this Manual. The following definitions are provided for user's convenience or because they are additional:

Agent - means the name, address and contact details of the person who is authorized to act on behalf of the applicant and where all correspondence should be sent if this person and address is different from the entity. CAA will need written evidence that an agent is authorized to act on your behalf.

Aerodrome - means a defined area of land or water including any buildings installations and equipment intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

Authority - *The Civil Aviation Authority*.

Chief Executive Officer (CEO) - means a person with overall operational responsibility for a particular aerodrome. Other titles such as Airport Director, General Manager and Managing Director may be used in place of CEO where the role is essentially the same.

Company - The term "company" is used generically, and may include a council, an individual or a corporate body.

Change Management - The capabilities and support required by an organization constantly evolving in response to the changing requirements of interested parties, a dynamic business environment and the process of continual improvement. Change may also require that there be associated cultural and behavioral adjustments within an organization. Where these are necessary they will take time and resources and must be led by management.

Consigned freight - means cargo that is unaccompanied, therefore requiring it to be associated with appropriate documentation. Consigned freight is required to be formally accepted by an operator.

Critical safety information - Is the type of information that staff and management need to be aware of, in order to do their job. Typically, this would include information like a change to a company procedure required as part of a safety risk treatment option

Defences - Are actions or elements of a design put in place to reduce the likelihood or consequence of an event. Risk treatment will normally involve the introduction or enhancement of defenses against a specific negative outcome.

Deficiency -The result of lacking something essential; imperfect; defective. Such as hazards allowed to exist within a system result in a System Deficiency.

Employers/Employees - shall mean any person, corporation, partnership, joint venture, sole proprietorship, association or other entities conducting commercial activity at the airport and their subcontractors, ground transportation providers, construction contractors, Civil Aviation Authority of the Philippines (CAAP), or any local or national government agency operating in the airport. This includes all personnel involved in performing services which may directly impact safety, security and customer service.

Event - An incident or situation which occurs in a particular place during a particular interval of time. For the purpose of this manual, an incident or accident occurring at an aerodrome is regarded as an event.

Facility - means premises being used, or to be used, for the operation of an aircraft on the aerodrome. These premises may be fixed or portable, and may include communication facilities.

Hazard - A source of potential harm or a situation with a potential to cause loss.

Hazard Assessment - An activity to determine whether or not a reported hazard is in fact a risk to aerodrome safety in any way. The outcome of an assessment is to classify all reported hazards, incidents and accidents as a risk of a certain magnitude. Assessment involves transitioning reported hazards and events into risks so that they can be dealt with in a meaningful way.

Human Factors - Human Factors involves the study of the human's capabilities, limitations, and behaviors and the integration of that knowledge into the design of systems to enhance the safety, performance and the general well being of the operators of the systems.

Investigation - An activity to determine and assess any risks associated with an event using the hazard assessment process.

Legal Entity - means a person having legal personality (capable of enjoying and being subject to legal rights and duties). A legal entity may be a natural person or a group of natural persons, an incorporated company or association, a group of such companies or associations or a body corporate or politic created by statute.

Likelihood - Used as a qualitative description of probability or frequency.

Mitigation - The actions taken to control, reduce or remove a hazard or to reduce the probability or the severity of a risk. The result of an action to make milder or less severe.

Monitor - To check, supervise, observe critically, or record the progress of an activity or system on a regular basis in order to identify change.

Non-critical safety information - Is the sort of safety information that staff and management only need a general awareness of as part of their job

Owner - means the legal entity holding the Aerodrome Certificate.

Operator - has the same meaning as "company"

Probability - The likelihood of a specific outcome.

Risk - The chance of something happening that will have an impact upon objectives. It is measured in terms of consequences and likelihood.

Risk analysis: - A systematic use of available information to determine how often specified events may occur and the magnitude of their consequences.

Risk assessment - The overall process of risk analysis and risk evaluation.

Risk evaluation - The process used to determine risk management priorities by comparing the level of risk against predetermined standards, target risk levels or other criteria.

Risk identification - The process of determining what can happen, why and how.

Risk level - The level of risk calculated as a function of likelihood and consequence.

Risk management - The culture, processes and structures that are directed towards the effective management of potential opportunities and adverse effects.

Safety - A state in which the risk of harm to persons or property damage is reduced to, and maintained at or below, an acceptable level through a continuing process of hazard identification and risk management.

Safety culture - points out that all employees are responsible for safety

Safety Management System - A Safety Management System is an integrated set of management practices, beliefs and procedures for monitoring and improving the safety and health aspects of your organization.

Safety Officer - means a person with specific responsibilities under this manual.

Short Term Corrective Actions - Short term Corrective Actions are those which the Safety Officer considers can be completed within 2 months of the receipt of report.

Works Safety Officer - means a person responsible for the safety of works undertaken on an aerodrome

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Section 1

SAFETY POLICY AND OBJECTIVES

1.1 SAFETY POLICY STATEMENT

Safety is one of our core business functions. We are committed to developing, implementing, maintaining and constantly improving strategies and processes to ensure that all our aviation activities take place under a balanced allocation of organizational resources, aimed at achieving the highest level of safety performance and meeting national and international standards, while delivering our services.

All levels of management and all employees are accountable for the delivery of this highest level of safety performance, starting with the [chief executive officer (CEO)/managing director/or as appropriate to the organization].

Our commitment is to:

- **Support** the management of safety through the provision of all appropriate resources, that will result in and organizational culture that fosters safe practices, encourages effective safety reporting and communication, and actively manages safety with the same attention to results as the attention to the results of the other management systems of the organization;

- **Enforce** the management of safety as a primary responsibility of all managers and employees;

- **Clearly** define for all staff, managers and employees alike, their accountabilities and responsibilities for the delivery of the organization's safety performance and the performance of our safety management system;

- **Establish and operate** hazard identification and risk management processes, including a hazard reporting system, in order to eliminate or mitigate the safety risks of the consequences of hazards resulting from our operations or activities to a point which is as low as reasonably practicable (ALARP);

- **Ensure** that no action will be taken against any employee who discloses a safety concern through the hazard reporting system, unless such disclosure indicates, beyond any reasonable doubt, an illegal act,gross negligence, or a deliberate or wilful disregard of regulations or procedures;

- **Comply** with and, wherever possible, exceed, legislative and regulatory requirements and standards;

- **Ensure** that sufficient skilled and trained human resources are available to implement safety strategies and processes;

- **Ensure** that all staff are provided with adequate and appropriate aviation safety information and training, are competent in safety matters, and are allocated only tasks commensurate with their skills;

- **Establish and measure** our safety performance against realistic safety performance indicators and safety performance targets;

- **Continually improve** our safety performance through management processes that ensure that relevant safety action is taken and is effective; and

- **Ensure** externally supplied systems and services to support our operations are delivered meeting our safety performance standards.

(Signed) **ENGR. NIGEL PAUL C. VILLARETE**
Airport General Manager/CEO

1.1.1 Safety Objectives

The objective of Safety Management System is:

a. To provide a structured management system to eliminate or control risk in operations into an acceptable level.
b. To set up Safety Management System Unit to oversee the development and implementation of the Aerodrome Safety Management Unit and to ensure that the application of effective Safety Management System is integral to all our activities.
c. Develop and embed a safety culture in all our activities that recognize the importance and value of effective Safety Management and acknowledge at all times that safety is paramount.
d. Clearly define for all staff their accountabilities and responsibilities for the development and delivery of safety strategy and performance. Ensure that all staff is provided with adequate and appropriate safety information and training, are competent in safety matters and are only allocated tasks commensurate with their skills;
e. To ensure that all staff is provided with adequate and appropriate safety information
f. To provide the necessary training to build and maintain a meaningful aerodrome operational safety leadership skills.
g. To ensure that the measurement of the organizational safety performance and safety targets are in place.

1.2 MANAGEMENT SAFETY ACCOUNTABILITY

1.2.1 Accountability General

Responsibility and accountability are interlinked. While individual staff member is responsible for their actions, they are also accountable to their supervisor or manager for the safe performance of their functions and may be called on to justify their actions. Although individuals must be accountable for their own actions, managers and supervisors are accountable for the overall performance of the group that reports to them.. Accountability is a two-way street. Managers are also accountable for ensuring that their subordinates have the resources, training, experience, etc. needed for the safe completion of their assigned duties.

1.2.2 The senior management team members are committed to the following:

a. Demonstrating commitment to safety and the Safety Management System;
b. Setting the safety standards and policies for the operation;
c. Encouraging participation in safety management by as many staff as possible;
d. Allocating sufficient resources to the Safety Management System; and
e. Facilitating the flow of safety information.

1.2.2.1 **Within MCIAA, a visible commitment by senior management is demonstrated by the following:**

a. The appointment of a safety officer/manager;
b. Open communication about safety issues; and
c. Provision of adequate resources to address safety concerns.

1.2.3 **The company provides the following:**

a. Managers getting personally involved in safety activities;
b. Safety induction for all employees; and,
c. A commitment to safety that is evident in terms of finance, time, formal documentation and adequate qualified and experienced personnel.

1.2.4 The CEO/GM is accountable for performance relating to:

a. Development of the strategic business planning process, i.e. mission, strategies, goals, and initiatives;
b. Planning of the annual business and operating process;
c. Safety Policy is defined and/or clarified;
d. Establishment/approval of specific safety performance measurements by each operating division (part of the Risk Assessment);
e. Inclusion of safety responsibilities in each managers job description and performance review;
f. Appointment of specific individuals responsible to achieve divisional/departmental safety initiatives (the Safety Officer/ Safety Manager);
g. Providing an environment in which the Safety Manager is able to report safety concerns without fear or favor;
h. Sufficient resource reallocation or requirements for safety management;
i. Ensuring that each location within an operational division develops, maintains and implements a written Safety Plan including the emergency procedures;
j. Ensuring procedures that address the contractor risk exposures as part of the risk assessment are established;
k. Signing the safety policy for the organization;
l. Settlement of disagreements which create an impasse among the department heads; and
m. Reviewing and Evaluating the Safety Management System at regular intervals

1.2.5 Safety Manager Accountability

1.2.5.1 The CEO/GM may appoint a permanent safety manager or designate for a maximum period of one(1) year until a permanent safety officer is hired.

1.2.5.2 The Safety Manager has the authority to make decisions and recommends budget cost to the CEO/GM for approval of resources on safety matters as:

a. budget cost for each safety investigation/treatment
b. budget per annum
c. appointment of members or staff involved in investigation/treatment of hazards at any one time
d. other limits as stated by CEO

1.2.5.3 The Safety Manager reports directly to directly to the GM/CEO.

1.2.5.4 The Safety Manager is responsible for:

a. The review and revision of the safety management program
b. Providing timely advice and assistance on safety matters to managers and staff at all levels
c. Maintaining an appropriate reporting system to identify hazards
d. Monitoring the progress of safety reports and ensuring that hazards are addressed in a timely manner
e. Maintaining a list of personnel who are qualified to participate in a safety investigation
f. Providing feedback about ongoing safety issues
g. Reporting incidents and accidents as required by legislation
h. Distributing relevant and up-to-date safety information to staff and management and
i. Identifying safety training requirements

1.2.5.5 The Safety Manager is also required to:

a. Comply with all procedures and practices relating to the prevention and control of hazards;
b. Comply with all emergency procedures as defined in the Aerodrome Manual
c. Report any matters of which he is aware to the GM/CEO that may affect the company's compliance with the provisions of current legislation
d. Take corrective action and, if necessary, interrupt operations if they believe that there is an imminent danger of a major accident
e. Notify the GM/CEO or raise the alarm, as appropriate, before or as soon as possible after, taking such action
f. Discuss with senior management any potential hazards that they consider are capable of generating a major accident

1.2.6 Manager, Airport Operations Department

The Manager, Airport Operations Department is accountable for the safe implementation of the reporting procedures of the aerodrome operations and for advising AIS of permanent changes to airport information. He is also accountable for advising CAAP of any significant changes to aerodrome information that may occur and endangers aircraft operations.

1.2.7 Manager, International Terminal Operations Division

The Manager, International Terminal Operations Division is accountable for the safe coordination of all activities and safe use of equipments, facilities necessary to ensure the smooth flow of arriving, departing passengers and cargoes in the International Passenger Terminal building.

1.2.8 Manager, Domestic Terminal Operations Division

The Manager, Domestic Terminal Operations Division is accountable for the safe coordination of all activities and the safe use of equipments, facilities necessary to ensure the smooth flow of arriving, departing passengers and cargoes in the Domestic Passenger Terminal building.

1.2.9 Manager, General Aviation and Industrial Division

The Manager, GAID is accountable for the safe administration to the needs of the private and corporation aviation sector and the aviation industrial sector.

1.2.10 Manager, Engineering Department

The Manager, Engineering Department is accountable for the safe operations, management ,maintenance and repair of all MCIAA facilities and equipments , installations and buildings.

1.2.11 Manager, Electrical Division

The Manager, Electrical Division is accountable for the safe implementation, plans, policies and procedures for the installation, operation, repair and maintenance of all electrical equipments and installations of MCIAA. Accountable also for the safe conduct and inspection of all electrical installation, facilities to ensure their continuous service and or uninterrupted use and undertake all other activities relevant to the operation, maintenance and upgrading of said installation facilities.

1.2.12 Manager, Mechanical Division

The Manager, Mechanical Division is accountable for the safe development and implementation of plans, policies and procedures for the installation, operation, repair and maintenance, upgrading of all MCIAA's mechanical equipment and installation facilities. Accountable also for the safe conduct of periodic preventive maintenance and inspection of said equipment, facilities installation.

1.2.13 Manager, Civil Works Division

The Manager, Civil Works Division is accountable for the safe provision of all the services necessary for the proper management, improvement, maintenance and repair of the airports vertical and horizontal facilities.

1.2.14 Manager, Electronics and Communications Division

The Manager, Electronics and Communications Division is accountable for the safe, efficient and effective provision of all communications services as well as undertake the development and implementation of plans, policies and procedures for the installation, operation, repair, maintenance and upgrading of all the complex communication and electronic equipment installation facilities.

1.2.15 Manager, Emergency and Security Services Department

The Manager, Emergency and Security Services Department is accountable for the safety and security to passengers, cargoes, aircrafts, airport equipment, structures, facilities, personnel funds and documents and other emergencies within the airport in accordance with existing international requirements, standards and convention.

1.2.16 Manager, ID and Pass Control Division

The Manager, ID and Pass Control Division is accountable for the safety requirements before the issuance of the access pass to all airport personnel in accordance to the MCIAA rules, regulations and standards.

1.2.17 Manager, Police Force Division

The Manager, Police Force Division is accountable for the safe implementation and management of security and the maintenance of peace and order within the premises of the MCIAA in coordination with local police authorities and other authorized peace keeping entities within the airport.

1.2.18 Manager, Finance Department

The Manager, Finance Department is accountable for the release of all necessary resources for the implementation of all safety related activities and programs.

1.2.19 Manager, Administrative Department

The Manager, Administrative Department is accountable for the management and administration of personnel policies and procedures responsive to the Authority's operational needs, requirements. Formulate and implements comprehensive human resource staff development programs and schemes.

1.2.20 Manager, Human Resource and Management Division

The Manager, Human Resource Management Division is accountable for the approval of all the necessary human resource requirements for the Creation of the Safety Management System Unit.

SMS FUNCTIONAL CHART

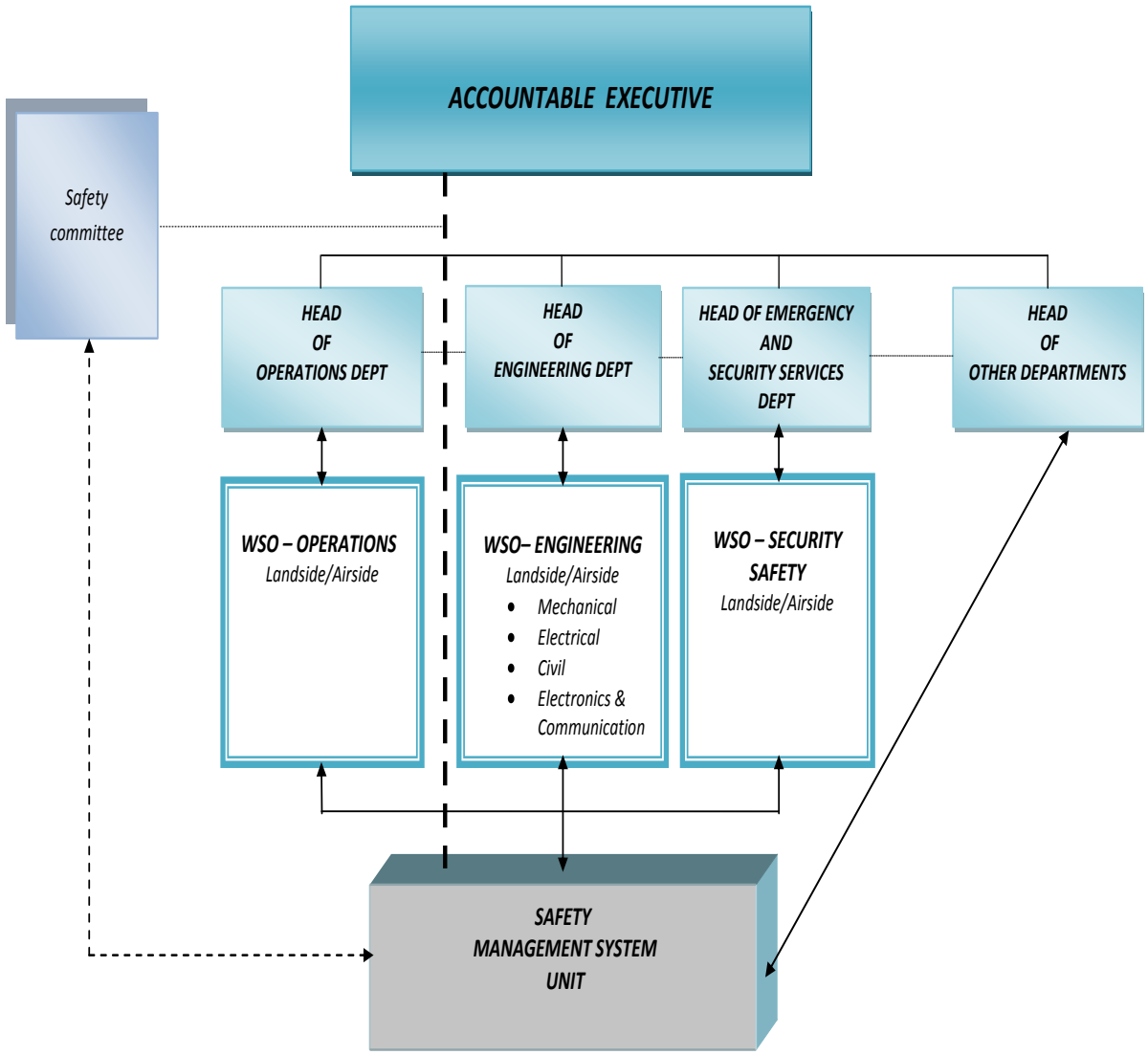


Fig. 1 SMS Functional Chart

1.3 APPOINMENT OF KEY PERSONNEL

Key to the effective implementation and functioning of a Safety Management Office/Unit is the appointment of the person in charge of its daily operations. The person will be identified by the different names in different organizations. In Mactan - Cebu International Airport Authority, an Aerodrome Safety Manager was appointed.

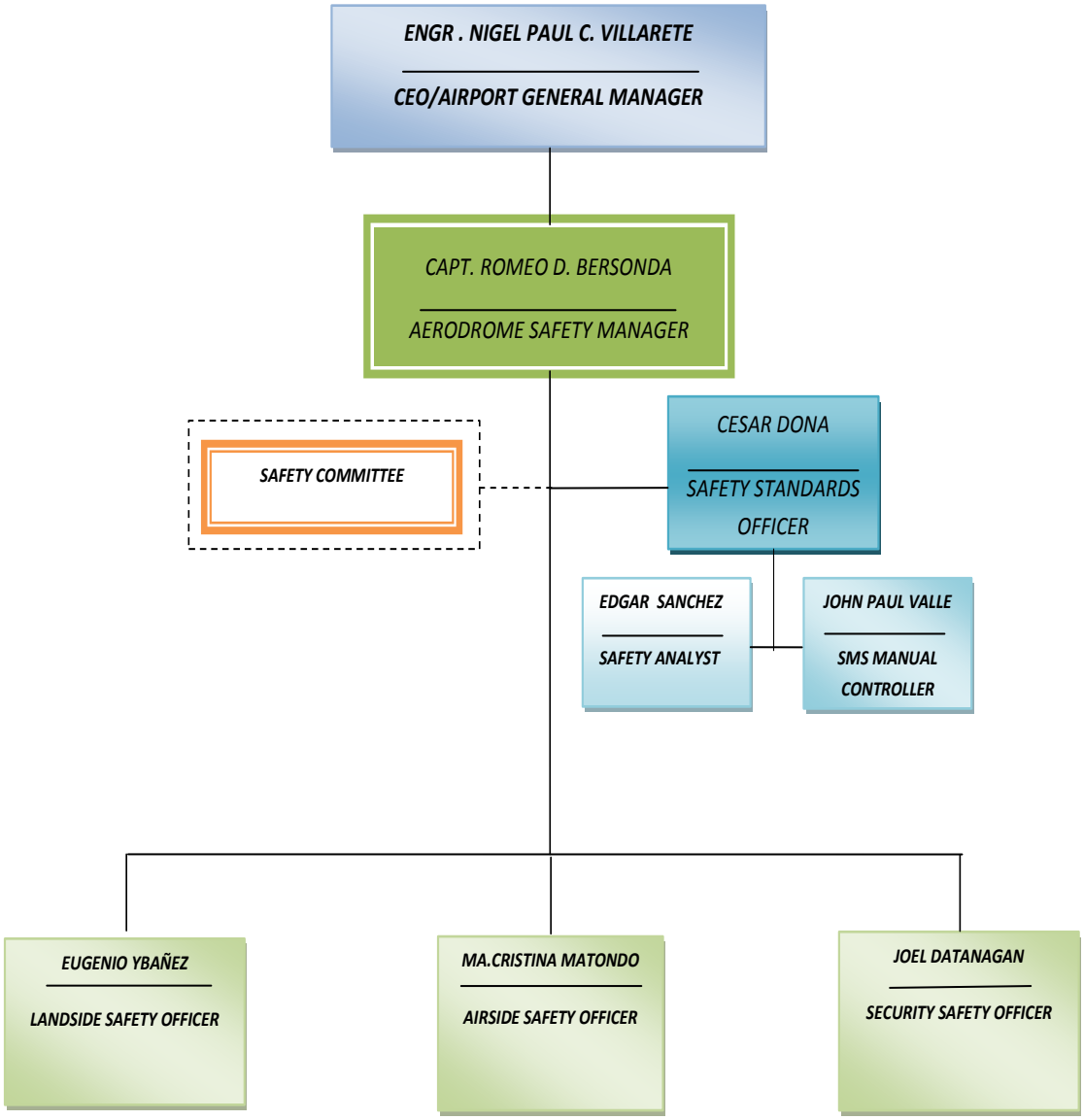


Figure 1.3

SAFETY MANAGEMENT SYSTEM UNIT ORGANIZATIONAL STRUCTURE

1.3.1 Aerodrome Safety Manager

1.3.2 Accountability

The Safety Manager is accountable to the GM/CEO for the safe and efficient operational management of Mactan-Cebu International Airport.

1.3.3 Duties and Responsibilities

a. Responsible for the implementation and administration of the safety management at MCIAA like:

- Review and revision of the safety management program
- Maintaining an appropriate reporting system to identify hazards
- Monitoring the progress of safety reports
- Reporting incidents and accidents as required by legislation

b. Has direct access to the Accountable Executive and appropriate senior and middle management regarding safety matters, authorized to conduct safety audits, surveys and inspections of any aspect of the operations
c. Authorized to conduct safety audits, surveys and inspections of any aspect of the operations like
d. Has the authority to conduct investigations of internal safety events in accordance with the procedures specified in the safety management system manual (SMSM) of the organization like :

- Maintaining a list of personnel who are qualified to participate in safety investigation.

e. Ensuring adequate resource allocation for design, implementation and administration of safety management system
f. Assuming the leadership role to ensure commitment throughout the MCIA to the safety policy intent and safety management system requirements
g. Acts independently of other managers within the organization
h. Responsible for providing information and advice to senior management and to the Accountable Executive on matters relating to safe operations like :

- Providing timely advice and assistance on safety matters to managers and staff at all levels
- Providing feedback about ongoing safety issues
- Distributing relevant and up to date safety information to staff and management

i. Ensuring that all MCIAA personnel are aware of safety guidelines and are held accountable for their safety performance
j. Ensuring provision of adequate level of Fire and Rescue services at MCIAA

k. Ensuring provision of adequately trained and competent manpower to assure safe operational management of the airport like
l. Identifying safety training requirements
m. Ensuring adequate liaison is conducted between various partners and other stakeholders including the state authorities for safe and efficient aircraft operations

1.4 COORDINATION OF EMERGENCY RESPONSE PLANNING (see separate manual MACTAN AIRPORT EMERGENCY PLANNING MANUAL- MAEP)

1.5 SMS DOCUMENTATION

1.5.1 **SAFETY DOCUMENTATION**

As depicted in fig. 2 (see next page) safety documentation includes SMS documentation and safety records.

1.5.2 **PURPOSE**

The purpose of the SMS documentation is to document the Safety Management System (SMS) of the MCIAA and communicate it internally to the whole organization and externally to the stakeholders and to the regulator(CAAP). It enables the correct execution of safety procedures and thus the achievement of the organization's safety objectives.

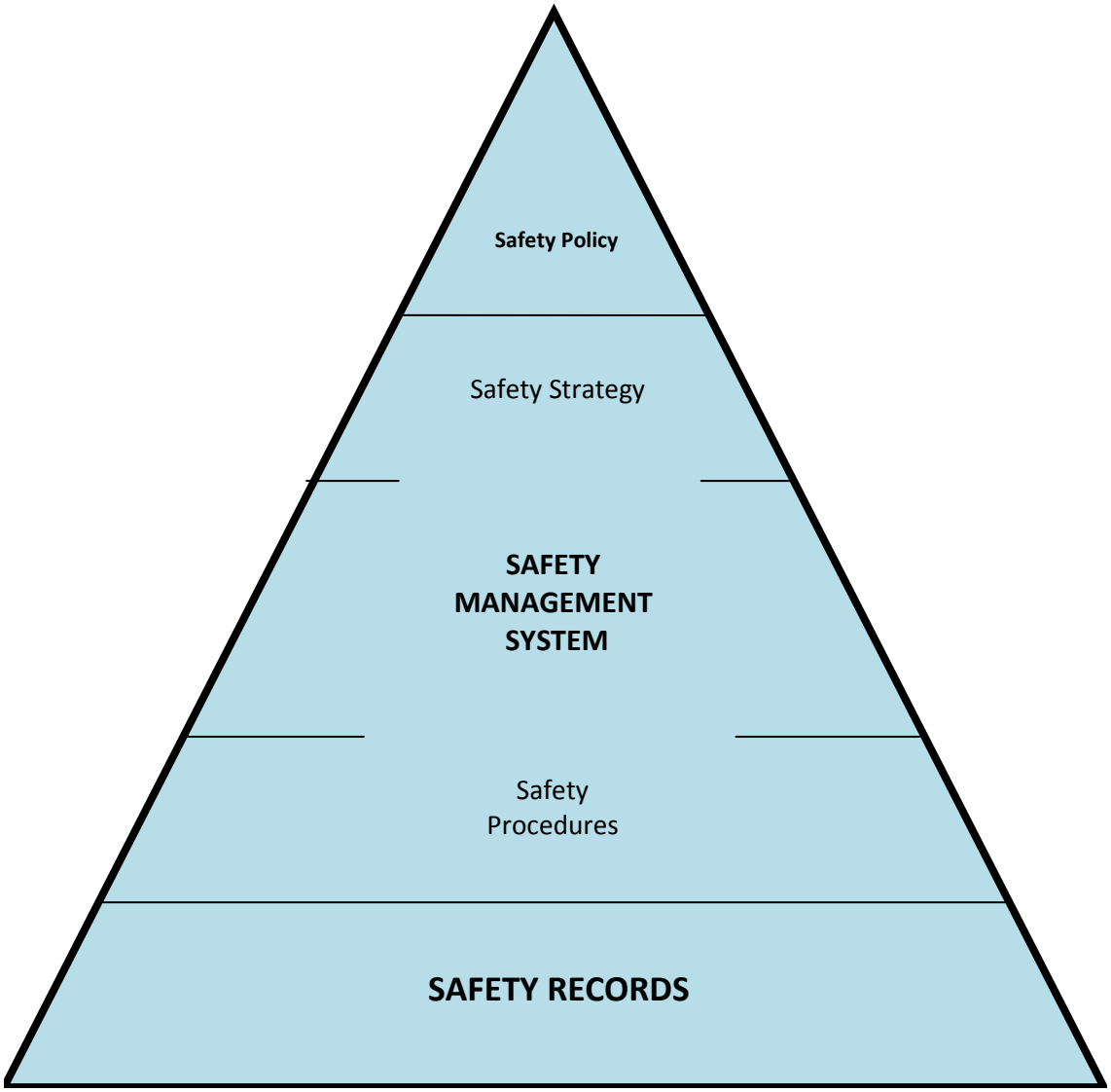


Fig. 2 Safety Documentation

1.5.3 Safety Records

Safety records are maintained in order to provide documented safety assurance to all associated with, responsible for or dependent upon the services provided by MCIAA, and to the regulator. Safety records are needed to demonstrate that the SMS is operated according to the expectations.

1.5.4 Safety Reporting System

1.5.4.1 Any hazard which has the potential to cause damage or injury or which threatens business viability in MCIA should be reported. Hazards, incidents or accidents are reported by staff, management, customers or passengers and external contractors. The forms may be paper or electronic. The report is considered and the need for a solution will be decided in a timely manner. All information is accepted with the aim of fixing problems not punishing people.

1.5.4.2 All records produced shall be legible, identifiable, traceable to the activity, and where staff submits the information, it is recorded on the appropriate form .

1.5.4.3 Reported risks are those that have been identified and can be managed. Unreported hazards and risks are difficult to identify and to fix. The company supports and encourages the open reporting and communication of hazards, incidents and accidents by having:

a. Non-punitive, confidential hazard reporting systems;
b. Formal and informal meetings to discuss safety concerns; and
c. Feedback from management about action taken as a result of hazard reports or safety meetings.

1.5.4.4 Both formal and informal processes are used to gather information from staff about hazards in our organization, including:

a. Hazard Report Forms
b. Safety Audits using Hazard Checklist
c. Confidential hazard reporting
d. Informal communication; and
e. Observations of work practices and work flow

1.5.4.5 Voluntary reporting of non-compliance is encouraged. MCIAA has a policy of not initiating disciplinary action against any employee who reports an incident affecting operational safety. However, blatant disregard of safety standards and rules will incur disciplinary action. If a breach of legislation has occurred the CAAP may also take action.

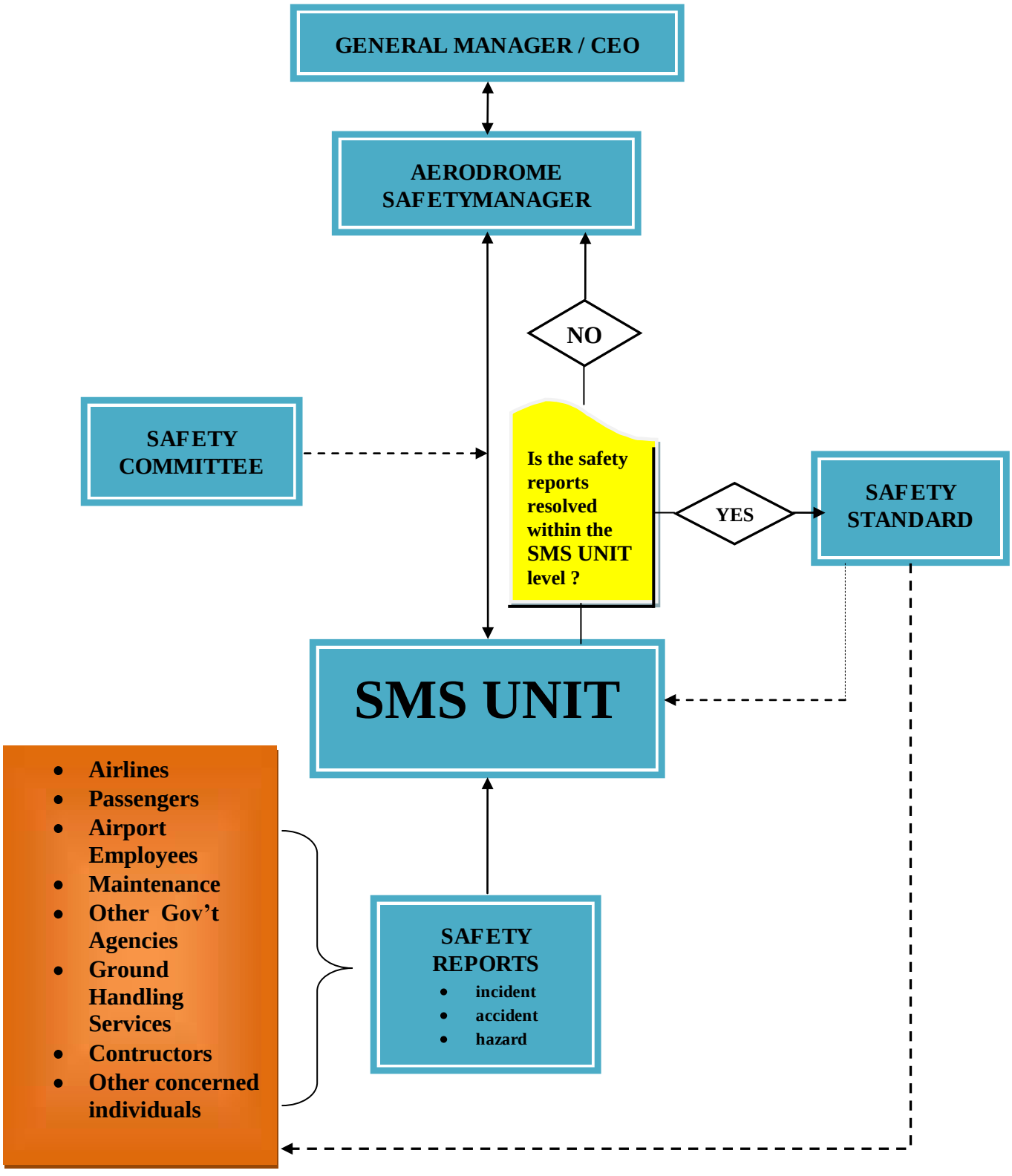


Fig. 3 Safety Reporting Flow Diagram

1.5.5 REPORTING HAZARDS, INCIDENTS AND ACCIDENTS

1.5.5.1 HAZARDS

Any employee observing a hazardous situation that could affect safety is encouraged to report it to the MCIAA Safety Management System Unit or directly to the Safety Manager. The Safety Manager will provide hazard-reporting forms, which may be used, for this purpose. Anonymous reports will be accepted.

1.5.5.2 INCIDENTS:

Apart from aircraft incidents, other incidents are events other than an accident, associated with the operation of the aerodrome that results in injury or damage to vehicles, plant or equipment.

1.5.5.3 ACCIDENTS

Apart from aircraft accident, other accidental damages to vehicles, plant or equipment; death or serious injury to personnel or customers resulting from aerodrome operations; or damage to other property or injury to other personnel resulting from company operations qualify as accidents and must be immediately reported to the Safety Manager. The Safety Manager shall notify the relevant authorities, as required, and conduct investigations into the event.

1.5.6 MANDATORY REPORTING

At MCIA, it is mandatory to report any incident involving an unsafe or potentially unsafe, occurrence or condition, irrespective of whether it involves injury or property damage or not. The report should be submitted to the Safety Management System Unit or directly to the Safety Manager as soon as possible after the occurrence/incident but in any case not later than 24 hours after the incident. The accident/incident reports may be submitted in the desired format.

The person reporting, at his/her own discretion, may or may not disclose his/her identity. It is mandatory to report the following occurrences:

a. Bird strike of an aircraft
b. Abnormal bird concentrations
c. Failure of Navigational/Landing Aids
d. Failure of Communication Services
e. Failure of Aerodrome lighting systems
f. Failure of any facility and procedure used in airside operations; Incorrect transmission, receipt or interception of radio telephone messages (ground to air, ground to ground)

g. Runway obstructed by foreign object
h. Presence of any animals in the operational area and likely to affect safe operations
i. Going round of an aircraft on final approach due runway not being available
j. Major deterioration of services in aerodrome maneuvering area
k. Collision between moving aircraft and vehicles or any other ground equipment
l. Collision between vehicles or vehicles and GSE
m. Fuel spillage
n. Failure in the serviceability of barriers
o. Failure of Firefighting apparatus and equipments capabilities
p. Unreported obstruction to Obstacle Limit surfaces
q. Unsafe storage of construction equipments and materials
r. Unreported security breaches
s. Failure in the serviceability of security barriers
t. Failure to comply requirements on Aerodrome works standards
u. Failure to conduct runway friction testing
v. Failure to conduct regular monitoring and inspection of airside vegetation control
w. Deviation to existing airside security policies and regulations
x. Incorrect taxiway and runway markings
y. Failure to provide safe storage for hazardous chemicals and materials
z. Absence of safety signages on operational areas in the terminal buiding
aa. Lack of traffic signs, construction signs, warning signs, custom signs in the airport operational areas
bb. Failure to perform immediate actions on reported hazard incidents

1.5.7 SAFETY RECORD MANAGEMENT

1.5.7.1 All safety reports are submitted to the Division/Department concerned and the concerned manager will make appropriate actions/recommendations. The formal action report will be forwarded to the SMS Unit for review and finalization.

An official daily observation report is made by operations center and is submitted to the Manager, Airport Grounds Operations Division copy furnished SMS Unit. This report is a summary of all observations, reports, incidents and or accidents in relations to the airside and landside operations that are course through the operations center and informally recorded at the operations center logbook for purposes of recording.

1.5.7.2 **Actions Taken**

The Safety Management System Unit will review all the safety reports submitted according to its nature of concern. Reports concerning landside operations safety will be acted by the landside Safety Officer and those reports concerning airside operations safety will be acted by the Airside Safety Officer. Reports concerning security operations will be acted by the Security Safety Officer. However, those reports which affects safety in the airside operational activities and needs to be discussed with the safety committee will be acted by the Safety Manager. The Safety Manager calls for an Emergency meeting with the Safety Committee if deem necessary or if not may include the report in the agenda of the next Safety Committee regular meeting for discussion.

Recommendations made by the Safety Committee meeting and discussion will be reviewed by the Safety Standards for drafting of necessary safety regulation or policy to effectively addressed the hazard.

1.5.7.3 Informal safety reports are recorded/logged in the operations center log book. Other safety reports are being recorded on the log book of the Division/Department concerned.

1.5.7.4 In due course all safety reports are stored in a data base (networking system) and all safety report forms will be accessed thru the computer (LAN) and shared to the different MCIAA offices and to stakeholders. This activity is included in the PHASE 2 of the SMS implementation plan.

1.5.8 DOCUMENT CONTROL PROCEDURES

1.5.8.1 Document Identification

The SMS Manual was prepared in accordance to the following template:

Section 1 Safety Policy and Objectives

1.1 Management Commitment and Responsibility

1.2 Management Safety accountabilities

1.3 Appointment of Key Safety Personnel (Safety Manager)

1.4 Coordination Of Emergency Response Planning

1.5 SMS Documentation

Section 2 Safety Risk Management

2.1 Hazard Identification

2.3 Risk Assessment and Mitigation

Section 3 Safety Assurance

3.1 Safety performance monitoring and measurement

3.2 The Management of change

Section 4 Safety Promotion

4.1 Training and Education

4.2 Safety Communication

1.5.8.2 **Drawing Up and Presentation**

Fig. 1 - SMS Functional Chart

Fig.1.3 - SMS Unit Organizational Structure

Fig. 2 - Safety Documentation

Fig. 3 - Safety Information flow Diagram

Fig. 4 - Safety Risk Management

Fig. 5 - Safety Assurance Flow Diagram

Table 1 - Illustration (Hazard Analysis)

Table 2 - Safety Risk Probability Table

Table 3 - Safety Risk Severity Table

Table 4 - Safety Risk Assessment Matrix

Table 5 - Safety Risk Tolerability Table

Table 6 - Safety Training and Education

Illust. 1 - Safety Risk Management Diagram

1.5.8.3 Verification

The SMS Manual was corroborated by CEO/Airport General Manager and verified by Aerodrome and Navigational Safety Oversight Office Of the Civil Aviation Authority of the Philippines(AANSOO-CAAP) in coordination with the International Civil Aviation Organization (ICAO).

1.5.8.4 Authorization

The SMS Manual was endorsed by the CEO/Airport General Manager for approval of the Civil Aviation Authority of the Philippines.

1.5.8.5 Distribution List

Copy	Copy Holder	Location
Master Copy	Safety Management Safety Unit	MCIAA
Copy No. 1	Airport General Manager	MCIAA
Copy No. 2	Airport Assistant General Manager	MCIAA
Copy No. 3	Aerodrome Safety Manager	MCIAA
Copy No. 4	Manager, Airport operations Department	MCIAA
Copy No. 5	Manager, Airport Grounds Operations Division	MCIAA
Copy No. 6	Manager, International Terminal Operations Division	MCIAA
Copy No. 7	Manager, Domestic Terminal Operations Division	MCIAA
Copy No. 8	Aerodrome Auditor, AANSOO - CAAP	CAAP, Manila
Copy No. 9	Manager, Cargo and MRO Division	MCIAA
Copy No. 10	Manager, Engineering Department	MCIAA
Copy No. 11	Manager, Emergency and Security Services Department	MCIAA
Copy No. 12	Manager, Rescue and Firefighting Services Division	MCIAA
Copy No. 13	Manager, Police Force Division	MCIAA
Copy No. 14	Manager, Medical Division	MCIAA
Copy No. 15	OIC, General Aviation and Industrial Division	MCIAA
Copy No. 16	Area Manager, CAAP Mactan	CAAP, LLC
Copy No. 17	Chief, Air Traffic Controller	ATC, Mactan
Copy No. 18	Chief, 7TH PCAS	MCIAA
Copy No. 19	Airlines	Mactan Station
Copy No. 20	Ground Handling Companies	Mactan Station
Copy No. 21	General Aviation Aircraft Operators	Mactan Station
Copy No. 22	Aircraft Catering Services	Mactan Station
Copy No. 23	Cargo Handling Companies	Mactan Station
Copy No. 24	Refueling Services Providers	Mactan Station
Copy No. 25	Aircraft Utility Services Providers	Mactan Station

1.5.8.6 Update and Filing

The SMS Manual was completed on January , 2011 and to be submitted to AANSO - CAAP for verification and approval.

1.5.8.7 Amendments

Procedures for Amendment /Revision of the SMS Manual

a. The Safety Manager is responsible for the continuous improvement of the manual including processing, issuance and control of amendments. All copies of the SMS manual are numbered and issued in accordance with the distribution list. Individual holders of a copy of the manual as indicated in the distribution list are responsible for insertion of all amendments.
b. A copy of the amendment will be submitted to the Civil Aviation Authority of the Philippines.
c. Proposed amendment will be submitted to the Civil Aviation Authority of the Philippines.
d. Upon approval by the Chief, AANSOO - CAAP, copies of the approved amendment /revision will be made and distributed to the holders of the SMS manual.
e. The SMS manual amendment/revision page will be completed and submitted with the amendment/revision.
f. Minor amendments (e.g. telephone number, clerical error) can be accommodated by hand amendment with prior approval of the Airport General Manager.
g. Each page of the amendment/revision, including the amendment/revision page will have the date of the amendment/revision and the original approval date of the manual.

If an amendment is to be undertaken in the SMS Manual it is reflected in the Amendment Table below.

Amendment Number	Affected Parts	Affected Pages	Signature	Date

1.5.8.8 **Revisions**

If a revision is to de made in the SMS Manual it is reflected in the Revision Table below.

Version Number	Version date	Items Affected	Details
Initial Issue	March 30,2011	Complete Manual	Initial draft completed for further review by CAAP

SECTION 2

SAFETY RISK MANAGEMENT

Section 2 SAFETY RISK MANAGEMENT

2.1 HAZARD IDENTIFICATION

Hazard identification is the process used to determine all possible situations, events and circumstances that may expose people to injury, illness, disease or death or may cause damage or loss of equipment and property, or damage to the environment.

2.1.1 INCIDENTS

Apart from aircraft incidents, other incidents are events other than an accident, associated with the operation of the aerodrome that results in personnel injury or damage to vehicles, plant or equipment.

2.1.2 ACCIDENTS

Apart from aircraft accident, other accidental damages to vehicles, plant or equipment; death or serious injury to personnel or customers resulting from aerodrome operations; or damage to property or injury to other personnel resulting from company operations qualify as accidents and must be immediately reported to the Safety Manager. The Safety Manager shall notify the relevant authorities, as required, and conduct investigations into the event.

2.1.2.1 Any employee observing a hazardous condition or object that could affect safety at MCIAA is encouraged to report it to the Safety Manager or to the Safety Management System Unit. The Safety manager will provide hazard-reporting forms, which may be used for this purpose. Anonymous reports will be accepted.

2.1.2.2 At MCIA, it is mandatory to report any incident involving an unsafe or potentially unsafe, occurrence or condition, irrespective of whether it involves injury or property damage or not. The report should be submitted to the Safety Manager or to the Safety Management System Unit as soon as possible after the occurrence but in any case not later than 24 hours after the incident(see appendices for incident report forms) The accident/incident reports may be submitted in Standard format. The person reporting, at his/her own discretion, may or may not disclose his/her identity.

It is mandatory to report the following occurrences:

a. Bird strike of an aircraft
b. Abnormal bird concentrations

c. Failure of Navigational/Landing Aids
d. Failure of Communication Services
e. Failure of Aerodrome lighting systems
f. Failure of any facility and procedure used in airside operations
g. Incorrect transmission, receipt or interception of radio telephone messages (ground to air, ground to ground)
h. Runway obstructed by foreign object
i. Presence of any animals in the operational area and likely to affect safe operations
j. Going round of an aircraft on final approach due runway not being available
k. Major deterioration of services in aerodrome maneuvering area
l. Collision between moving aircraft and vehicles or any other ground equipment
m. Collision between vehicles or vehicles and GSE
n. Fuel spillage
o. Apron jet blast incident
p. Breaches of airside driving rules resulting in hazards to aircraft
q. Failure to detect an unserviceable condition of airside facilities
r. Any incident of fire which either necessitates use of fire extinguishers or causes failure of any equipment or facility or disturbs smooth flow of air traffic or passengers or visitors
s. Any incident that has jeopardized safety of passengers / public and was avoided being an accident only by exceptional handling or by good fortune
t. Any incident that causes trauma to passengers/visitor or third party

2.1.3 HAZARD IDENTIFICATION PROCESS

Hazard identification process in MCIAA is done through the following work systems applied in the day to day basis at the airside and landside operations of the airport as follows :

a. visual inspection
b. auditing
c. testing
d. technical or scientific evaluation
e. an analysis of injury or near miss data
f. discussions with designers, manufactures, suppliers, importers, employers, employees or relevant parties.

2.1.3.1 All MCIAA divisions involve in the maintenance of facilities and equipments and operations of the airport conducts regular and periodic inspection of facilities and equipments under their respective area of jurisdiction. The inspection is done through the guide of an inspection checklist/inspection form. Visual inspections are also conducted by duly

authorized technical personnel or any competent personnel for that purpose assigned by the Division Manager.

2.1.3.2 **Airside Inspection**

A daily airside inspection is conducted twice daily through a composite team. The first inspection is conducted in the morning between 6am to 7am to see to it that aircraft movement areas are free of hazard. The second inspection is conducted during night time between 9pm to 10pm to see to it that all pavement, taxiway and runway markings are visible for nighttime aircraft operations and to check that all airside lightings are operational including navigational facilities. Any observation during the inspection is reflected in the Airside inspection forms provided for the activity (Refer to Appendices of this manual for the inspection forms).

The scope of the inspection covers the whole apron and aircraft movement areas, airside navigational equipments and facilities, the airport security access road, airport security posts and the General Aviation Area.

The members of the Inspection team are the following:

a. Airport Grounds Operations Division personnel
b. Airport Police personnel
c. Civil Works personnel
d. Electrical personnel
e. Crash Fire Rescue personnel

Each member will complete the inspection form provided for this purpose (see appendices of this manual for inspection forms) and submit it to the Operations Center Office and furnish a copy to the SMS Unit. The inspection forms are checklists for each concerned personnel line of work including facilities and equipments within their respective area of jurisdiction and the operations of ground support vehicles and equipments on the ramp.

The scope of the inspection covers the whole apron and aircraft movement areas, airside navigational equipments and facilities, the airport security access road, airport security posts and the General Aviation Area.

2.1.3.3 **Landside Inspection**

2.1.3.4 **Terminal and Facility Inspection**

A terminal and facility inspection is conducted daily at the start of the day between 5am to 6am by the Domestic and International Terminal Operations Division authorized personnel by completing a terminal and facility inspection checklist provided for the said activity. The report will be forwarded to the Manager, Domestic Terminal Operations Division and to the Manager, International Terminal Operations Division for review. The purpose of the inspection is to check the status of all terminal facilities including the terminal building to ensure that all problems and hazards within the terminal building are reported on time to address solutions or mitigations in a timely manner so as to assure uninterrupted operations. An inspection form is provided for this activity. Refer to Appendices of the this manual for the inspection forms).

2.1.3.5 **Electrical Facility and Equipment Inspection**

An inspection of electrical facilities and equipments is conducted daily by competent personnel in charge of the following facilities:

a. Airfield lightings
b. Constant Circuit Regulator Room (CCR)
c. Main Sub Station
d. Power Plant

An electrical inspection checklist (refer to the appendices of this manual for inspection form) is provided for the said
activity and to ensure that all electrical works related problems and hazards and hazards are reported and addressed on time.

2.1.3.6 **Mechanical Facility and Equipment Inspection**

An inspection of mechanical facilities and equipments is conducted daily by competent personnel in charge of the following facilities:

a. Centralized Air Condition and Chiller System
b. Split Type Air Condition System
c. Sewage Treatment plant
d. Pump House Plant
e. Boarding Bridge, Elevator and Escalator
f. Baggage Handling System

An inspection checklist form is provided and completed for the said activity and to ensure that all problems and hazards related to mechanical works and operations are reported and addressed on time.

2.1.3.7 **Civil Works Engineering Inspection**

A visual and maintenance inspection of civil engineering facilities is conducted daily by competent personnel in charge of the following:

a. Runway
b. Taxiway
c. Apron
d. Landing zone/grounds
e. Roads and Parking spaces
f. Security and perimeter fences
g. Buildings and other vertical structures

An inspection checklist form is provided and completed for the said activity and to ensure that all problems and hazards related to civil engineering works and operations are reported and addressed on time.

2.1.4 **REVIEW PROCESS**

2.1.4.1 The Safety Manager is responsible for the review of all safety reports contained in the Safety Library. Safety reports that can be resolved within the SMS Unit level will be acted by the Safety Officers concerned. Safety reports that needs resolution and consultation with other stakeholders will be elevated to the Aerodrome Safety Committee for discussion.

2.1.5 **Hazard Analysis** is a three step process used to assess risks.

2.1.5.1 **Steps in Hazard Analysis:**

a. Identify the Generic hazard or the Top Level Hazard
b. Identify Specific hazards or Component Hazards
c. Link specific hazards to specific consequences

Table 1 Illustration (Hazard Analysis)

GENERIC HAZARD	COMPONENT HAZARD	SPECIFIC CONSEQUENCES
1.Taxiway Golf Asphalt Overlay	1.Closed taxiway Gulf 2. Construction equipments 3. Presence of construction workers	1. Aircraft using the wrong taxiway. 2. Aircraft colliding with construction equipment. 3. Worker crossing while an aircraft is taxiing.

2.1.6 DOCUMENTATION OF HAZARDS

Appropriate documentation management regarding hazard identification is important as a formal procedure to translate raw operational safety information into hazard-related knowledge. Continuous compilation and formal management of this hazard-related knowledge becomes the "safety library" of an organization.

In order to develop knowledge on hazards and thus build the "safety library", it must be remembered that tracking and analysis of hazards are facilitated by standardizing:

a. definitions of terms used
b. understanding of terms used
c. validation of safety information collected
d. reporting
e. measurement of safety information collected
f. management of safety information collected

2.1.6.1 Processes for Documentation of hazards in MCIAA

a. Safety Reporting – Refer to Section 1.5.5 (Safety Reporting system) of this manual.

b. Hazard identification - Safety reports are reviewed by the SMS Unit for Hazard identification. Refer to Section 2.4 (Hazard identification Process) of this manual.

c. Hazard Risk Assessment Process and makes studies and researches to develop hazard mitigation systems and processes.

d. Safety Information – the SMS Unit collects all hazard information derived as the product of the hazard assessment process done in terms of consequences and priorities and responsibilities regarding mitigation responses and strategies . These safety information serves as the safety feedback to MCIAA and will be contained in the Safety library used to provide material for safety trend analysis for safety education purposes (safety bulletins, reports, seminars and the like). 2.2 Risk Assessment and Mitigation

2.1.7 Safety Risks Management

Safety Risks Management is the process of classifying the associated risks or consequences of hazards according to its severity or magnitude.

SMS Unit reviews all hazards identified and identify their risks consequences. Following the identification of the risks consequences, classify them according to its severity or magnitude clearly defined as follows :

a. **Intolerable Risks** – are those risks that are practically unacceptable in any level and needs immediate mitigation. The risk probability and magnitude are damaging and poses threat to the viability of the organization in its delivery of services (i.e. runway closure due to disabled aircraft on the runway).
b. **Tolerable Risks** – are those risks assessed as damaging but acceptable based on applied mitigation. Cost benefit analysis is required (i.e. taxiway closure due to disabled aircraft on the taxiway). In this case the taxiway closure does not paralyzed the landing and take off operations.
c. **Acceptable Risks** – the risk is acceptable and manageable. No immediate mitigation is needed.(i.e. busted runway lights fixture)

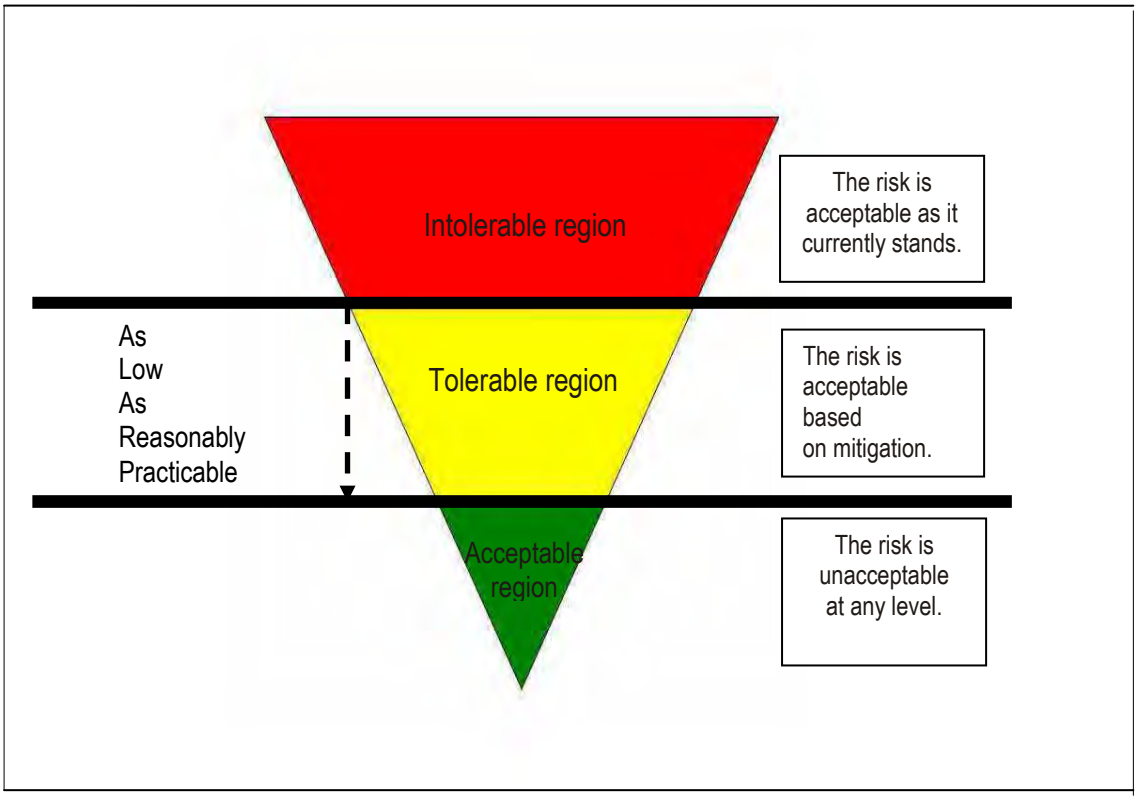


Fig. 4 Safety risk management

2.1.8 Safety Risks Probability

The process of bringing the safety risks of the consequences of hazards under organizational control starts by assessing the probability that the consequences of hazards materialize during operations aimed at delivery of services. This is known as assessing the safety risk probability.

Safety risk probability is defined as the likelihood that an unsafe event or condition might occur.

The definition of the likelihood of a probability can be aided by questions such as :

a. Is there a history of similar occurrences to the one under consideration, or is this an isolated occurrence?

b. What other equipment or components of the same type might have similar defects?

c. How many personnel are following, or are subject to, the procedures in question?

d. What percentage of the time is the suspect equipment or the questionable procedure in use?

e. To what extent are there organizational, management or regulatory implications that might reflect larger threats to public safety?

2.1.8.1 Safety Risks Probability is conducted by the SMS Unit by reviewing and assessing all safety reports, documents and safety data contained in the MCIAA Safety Library, apply answers to the sample questions above as an aide to determine the likelihood of the probability of an unsafe event as depicted in the table below:

Qualitative Definition	Meaning	Value
Frequent	Likely to occur many times (has occurred frequently)	1
Occasional	Likely to occur sometimes (has occurred infrequently)	2
Remote	Unlikely to occur, but possible (has occurred rarely)	3
Improbable	Very unlikely to occur (not known to have occurred)	4
Extremely Improbable	Almost inconceivable that the event will occur	5

Table 2 **Safety Risks Probability Table**

2.2.4 Safety Risk Severity

Safety risk severity is defined as the possible consequences of an unsafe event or condition, taking as reference the worst foreseeable situation. The assessment of the severity of the consequences of the hazard if its damaging potential materializes during operations aimed at delivery of services can be assisted by questions such as:

a. How many lives may be lost (employees, passengers, bystanders and the general public)?

b. What is the likely extent of property or financial damage (direct property loss to the operator, damage to aviation infrastructure, third-party collateral damage, financial and economic impact for the State)?

c. What is the likelihood of environmental impact (spillage of fuel or other hazardous product, and physical disruption of the natural habitat)?

d. What are the likely political implications and/or media interest?

At MCIAA the SMS Unit conducts assessment of the consequences of all identified hazards according to its magnitude in the worst foreseeable scenario. This is conducted by assessing all safety reports in the Safety library and assessed each report by applying severity analysis index below:

Severity of Occurrence	Meaning	Value
Catastrophic	- Equipment destroyed - Multiple deaths	A
Hazardous	- A large reduction in safety margins, physical distress or a workload such that the operators cannot be relied upon to perform their tasks accurately or completely - Serious injury - Major equipment damage	B
Major	- A significant reduction in safety margins, a reduction in the ability of the operators to cope with adverse operating conditions as a result of increase in work load, or as a result of conditions impairing their efficiency - Serious incident - Injury to persons	C
Minor	-Nuisance - Operating limitations - Use of emergency procedures - Minor incident	D
Negligible	Little consequences	E

Table 3 **Safety Risk Severity Table**

2.1.9 Safety Risk Tolerability

Once the safety risk of the consequences of an unsafe event or condition has been assessed in terms of probability and severity, the third step in the Risk Management is the process of bringing the safety risks of the consequences of the unsafe event or condition under organizational control. Assessment of the tolerability of the consequences of the hazard if its damaging potential materializes during operations aimed at delivery of services.

2.1.9.1 Safety Risk Tolerability Assessment Process

1. **Obtain an overall assessment of the safety risk.**

   This is achieved by combining the safety risk probability and safety risk severity tables into a safety risk assessment matrix, an example of which is presented in Figure 2.2.4 below (Safety Risk severity Table).
   For example, a safety risk probability has been assessed as occasional (4). The safety risk severity has been assessed as hazardous (B). The

composite of probability and severity (4B) is the safety risk of the consequences of the hazard under consideration.

2. The safety risk index obtained from the safety risk assessment matrix must then be exported to a safety risk tolerability matrix that describes the tolerability criteria. The criterion for a safety risk assessed as 4B is, according to the tolerability table in Figure 2.2.4 "unacceptable under the existing circumstances". In this case, the safety risk falls in the intolerable region of the inverted triangle. The safety risk of the consequences of the hazard is unacceptable.

2.1.9.2 **Mitigation**

a. allocate resources to reduce the exposure to the consequences of the hazards;

b. allocate resources to reduce the magnitude or the damaging potential of the consequences of the hazards; or

c. cancel the operation if mitigation is not possible.

The SMS Unit determine the Safety Risks Tolerability by applying the Risk Tolerability Index below:

Risk Probability	**Risk Severity**				
	Catastrophic A	**Hazardous B**	**Major C**	**Minor D**	**Negligible E**
Frequent 5	**5A**	**5B**	**5C**	**5D**	**5E**
Occasional 4	**4A**	**4B**	**4C**	**4D**	**4E**
Remote 3	**3A**	**3B**	**3C**	**3D**	**3E**
Improbable 2	**2A**	**2B**	**2C**	**2D**	**2E**
Extremely improbable 1	**1A**	**1B**	**1C**	**1D**	**1E**

Table 4 Safety Risks Assessment Matrix

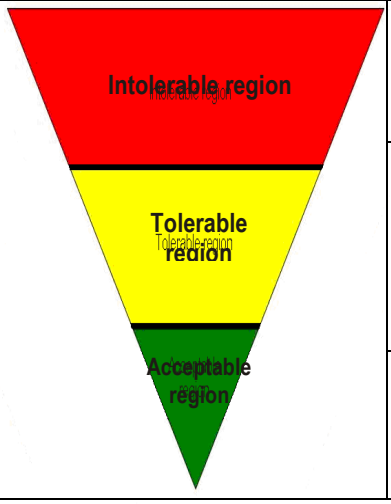
Suggested Criteria	Assessment risk index	Suggested criteria
	5A, 5B, 5C, 4A, 4B, 3A	Unacceptable under the existing circumstances
	5D, 5E, 4C, 4D, 4E, 3B, 3C, 3D, 2A, 2B, 2C	Acceptable based on risk mitigation. It may require management decision.
	3E, 2D, 2E, 1A, 1B, 1C, 1D, 1E	Acceptable

Table 5 Safety Risk Tolerability Table

2.1.10 Safety Risk Control/Mitigation

The fourth and final step of the process of bringing the safety risks of the consequences of an unsafe event or condition under organizational control, control/mitigation strategies must be deployed to address the hazard and bring under organizational control the safety risk probability and severity of the consequences of the hazard.

Continuing with the example presented in 2.2.6, the safety risk of the consequences of the hazard under analysis has been assessed as 4B ("unacceptable under the existing circumstances"). Resources must then be allocated to slide it down the triangle, into the tolerable region, where safety risks are ALARP (As low as Reasonably Practicable). If this cannot be achieved, then the operation aimed at the delivery of services which exposes the organization to the consequences of the hazards in question must be cancelled. Figure 5-6 presents the process of safety risk management in graphic format.

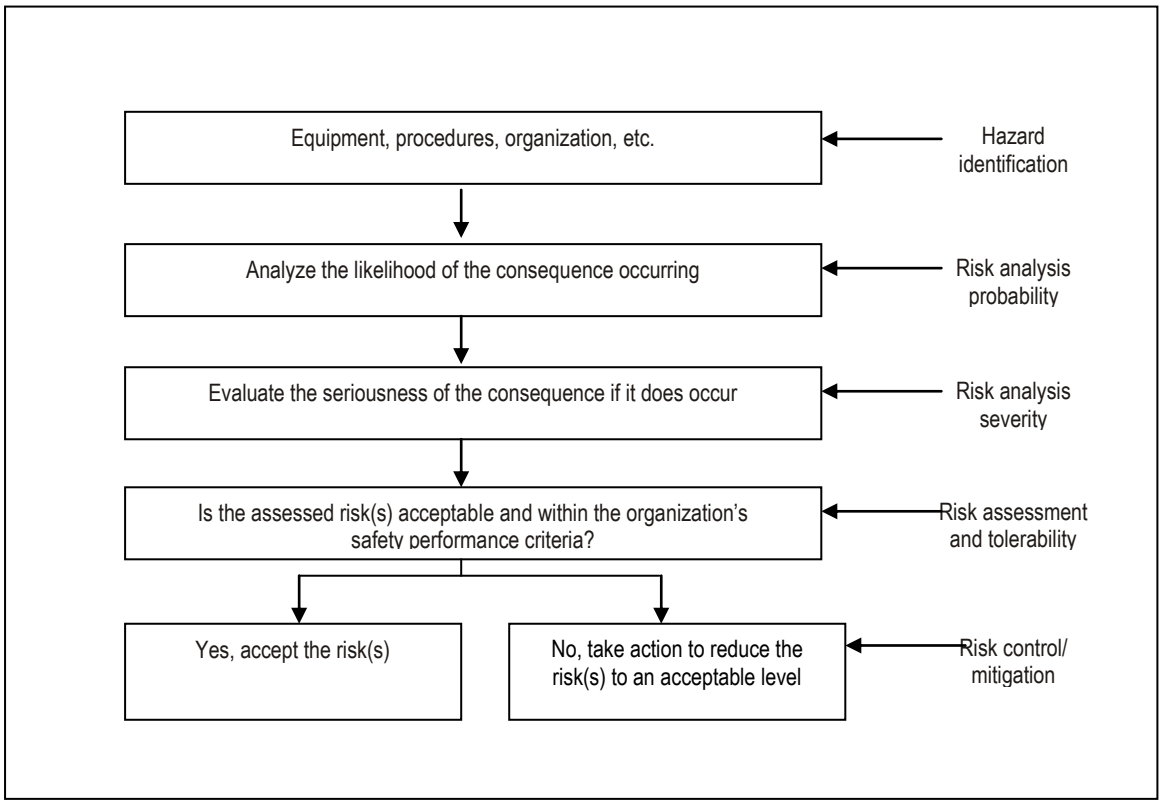


Illustration 1 - Safety Risk Management Diagram

2.1.10.1

After assessment of the hazards identified, or as a result of an investigation into an incident or accident, the Safety Manager assigns a priority to the risk associated with the hazard, incident or accident and identify the best risk treatment option. The Safety Manager elevates hazards that needs involvement of other organizations/stakeholders to the Safety Committee for discussion of risk mitigation/treatment.

Safety information can help in the assessment and evaluation of these breakdowns with the goal of preventing its occurrence through an effective operational error management and to apply the three strategies to control operational errors namely:

a. Reduction
b. capturing and
c. tolerance strategies.

Corrective and preventive actions have to be discussed between the General Manager and the Safety Manager based on Safety information and Safety Reports.

The Safety Manager prioritizes the action/s required, to ensure remedial action is undertaken in a timely manner. When immediate response is required, the Safety Manager takes all necessary steps to resolve the situation and may revert to following emergency procedures as required.

Except where circumstances exist clearly preventing such an outcome, company policy is to treat risks in the following order of preference:

a. Eliminate the hazard/risk completely
b. Reduce the level of risk, or the consequences or likelihood of that risk occurring;
c. Avoid the risk by actions such as closing the aerodrome for a period
d. Transfer the risk to other risk stakeholders (such as insurers) or
e. Accept the risk

The Safety Manager reports the outcome of the assignment of each risk to the personnel making the report. The results of treatment options may be communicated generally using one of the means stated Section 4.2 (Safety Communication).

The Safety Officer responsible for taking action to address and assessed risk will report to the Safety Manager on the results. If the risk has been categorized as a "Short Term Corrective Action", the responsible manager/supervisor shall report back to the Safety Manager within 2 months of the date of report.

The Safety manager makes periodic reviews of the Hazard Log/Reports for trends in risk. Unless there are reasons, this trend should be towards less risk over time, as hazards are identified and treated.

Depending on the severity and magnitude of the risks associated for a particular hazard identified at MCIA, the following proposed actions to treat the risks are recommended whichever is most appropriate considering its cost and effectiveness:

a. Reprimand
b. Recurrent training of personnel
c. Ongoing review of a particular activity or task
d. Improve personnel supervision
e. Targeted safety information or advice
f. Limit exposure to the risk
g. Availability of documented Procedures
h. Improve staff and management commitment to work safety.
i. Adequate resource allocation for safety related activities
j. Testing the procedures of the Airport Emergency Plan(drill exercises)

k. Close supervision of security personnel assigned at airside access gates
l. Make representations with identified nearby barangays regarding the need to pass an ordinance prohibiting the flying of kites within the vicinity of the airport's obstacle limitation surface area.

A formal report for each action taken on each particular risk will be submitted to the Airport General Manager by the Safety Manager for his information, review and approval for implementation.

Example 2.1.3 Hazard Identification and Risk index calculation. (Note: this is merely an illustration and does not take into account all the possible hazards, risks and control/mitigation measures at MCIA).

Identify **Type of current measure further action to reduce** **State generic specific identity** **Hazard to operation procedure risk(s) and resulting risk** **Hazard components risk(s)**					**Responsibility**
6/2008 AERODROME WORKS SAFETY-Ramp Operations Incident	Service Stairs of CPA hit by Qatar aircraft	Damage to aircraft parts Damage to Equipment Risk index: 2B Risk tolerability : Acceptable based on risk mitigation/requires management decision	1. Ensure GSE is placed in its designated standby safety boxes/areas 2. Ensure routine safety check by maintenance personnel in the parking area before the aircraft lands is conducted 3. Pilot to ensure safety check on the area for any possible obstruction Risk index: 2C Risk tolerability: Acceptable after application of mitigation	1. Safety routine checks on the parking area surroundings by designated maintenance personnel Risk index: 2E Risk tolerability: Acceptable	1. Works safety officer/ Maintenance officer 2. Ground shift supervisor/works safety officer
06/2008					

CPA – Cebu Pacific Air GSE - Ground Support Equipment

SECTION 3

SAFETY ASSURANCE

SECTION 3 Safety Assurance

Introduction

Safety risk management requires feedback on safety performance to complete the safety management cycle. The safety risk management process culminates in development and implementation of appropriate safety risk controls. Once controls for the safety risks of the consequences of hazards are designed, deemed to be capable of controlling safety risks, and put into operation, safety assurance takes over safety risk management.

Safety assurance consists of processes and activities undertaken by the organization to provide confidence as to the performance and effectiveness of the controls. Deterioration in operational procedures, facilities and human performance would signal the need to return to the safety risk management process to review and revise existing safety risk controls or develop new ones

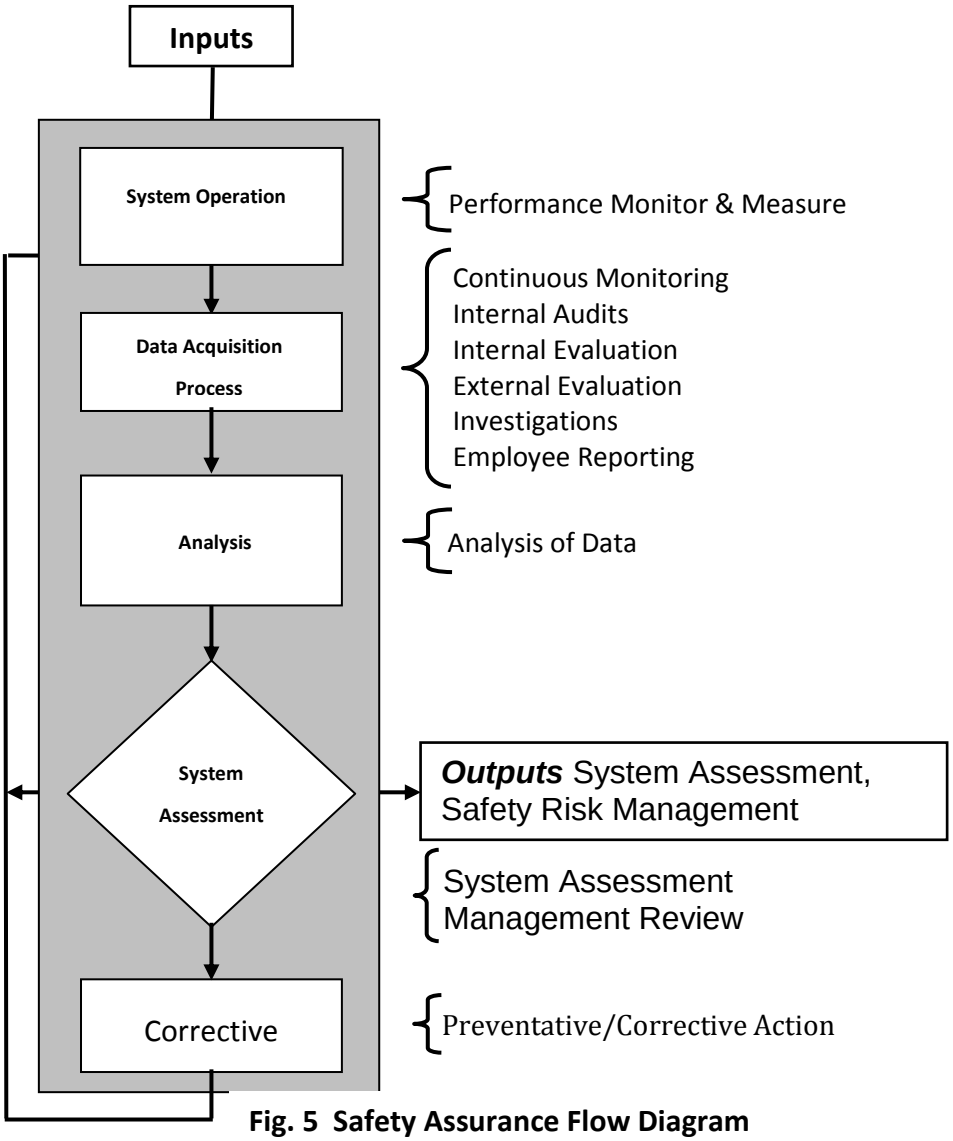


Fig. 5 Safety Assurance Flow Diagram

3.1 SAFETY PERFORMANCE MONITORING AND MEASUREMENT

The primary task of safety assurance is control. This is achieved through safety performance monitoring and measurement, the process by which the safety performance of the organization is verified in comparison with the safety policy and approved safety objectives. Safety assurance control is conducted by monitoring and measuring the outcomes of activities that operational personnel must engage in for the delivery of services by the organization.

3.1.1 Data Monitoring Plan

Data will be collected quarterly using paper surveys and theoretical data collection sheets as well as electronic data storage. Paper data records will be stored in a locked location in the Safety office. Electronic files containing confidential participant information will be stored on the local area network at the SMS office, using a password protected folder through which Safety staff may access and update records.

3.1.2 Safety Monitoring Plan

In line with MCIAA Accident / Incident reporting procedure or theoretical data which Risk Rating higher than Tolerable level, the elements will be reactively monitored. Based on the issued MCIAA safety procedures, a range of active safety performance indicators is established and will be used to assess compliance with the requirements of the procedures. Active monitoring performance indicators will be reviewed (and may be changed) as procedures are issued or modified.

On a quarterly basis, a report will be sent from each department to the SMS Unit. The report will be used to update the Safety Action Plan with

a. Accidents and Incidents,
b. Compliance with performance indicators,
c. Summary of activities within the quarter.

3.2 Management of Change

Changes in organizations occur constantly due to many factors: expansion, contraction, changes and upgrades of equipment, programs, products and services. With these changes, hazards are introduced. Safety management practices require that hazards that are a by-product of change be systematically and proactively identified and those strategies to manage the safety risks of the consequences of hazards be developed, implemented and subsequently evaluated.

The key activities are;

a. Monitoring,
b. Informing and communicating,
c. Control activities (reviews and reports).
d. Risk Assessments

In order to demonstrate that we have adequate control over our safety systems we must also be able to demonstrate control over the wider operational environment.

3.2.1 Risk

If not properly controlled changes could be made which negatively impact on the business and prevent people from fulfilling their roles. Changes could be made by individuals who are not fully aware of the impact on other areas of the business. If change is not controlled the organization could be exposed to fraudulent activities.

3.2.2 Responsibility

The SMS Safety Manager ensures that changes follow the change management procedure. The change management schedule is reviewed quarterly to ensure all changes follow the procedure by both Management and Safety Committee.

3.2.3 Change Procedures

All communications need to be in writing, i.e. by email, meetings need to have minutes taken etc. This documentation will be retained by the SMS Controller and filed with the Change Documentation relating to the change. For this reason verbal requests and authorization are not acceptable.

1. **Submit The Change Request**

a. Enter as much detail as possible in the Request Details section. If this change will affect other departments please enter the names of the Department Managers in the Other Departments Affected section.

b. Once the request has been completed send them to the safety officer. They will log the request and pass it to the SMS Controller so that the change can be scheduled.

2. **Review the Specification**

The Change Request will be reviewed by the SMS Controller who will gather additional information, add Department Managers deemed to be affected

and arrange meetings. Then the SMS Controller creates a specification detailing exactly what is being changed, which is sent to all Safety Committee members. The specification should incorporate all the requirements.

a. The Safety Committee carefully review the specification to ensure that all the requirements and their particular interests are covered.

b. The Safety Committee will need to approve the specification.

3. **Risk Assessment**

The SMS Controller will check all the Risk Assessment and processes affected by the proposed change and list recommendation of change. A copy of the Risk Assessment, including the change recommendation, will be sent to the Safety Committee.

a. Check the Risk Assessment and Recommendation carefully to make sure that nothing has been missed.

b. Notify the Safety Manager, of any missing risks or if there are problems with the recommendation.

c. Authorize the Risk Assessment and Recommendation.

4. **Implementation Plan**

The Implementation Plan details all the stages that are required in order to successfully manage the change and include a Test Plan and Roll Back Strategy. In more complicated changes this may also include a project schedule and timeline.

a. Review the Implementation Plan.

b. Make the SMS Controller aware of any amendments or changes.

c. Make note of the timeline and any training or testing and how this will affect department staff.

d. Make note of any dependant tasks (i.e. if one department is unable to make a change until another has completed theirs).

e. Authorize the Implementation plan.

5. **Pre-Change**

Once the Implementation Plan has been approved it is vital that the staff in each department is made aware of what needs to happen, when and by whom. The SMS Safety Manager:

a. Notifies affected Staff of the change and assigns actions and makes them aware of the Strategy.

b. Ensures that Staff who have been allocated Test Actions have copies of the Test Plan and are aware that all test documentation is to be retained.

c. Safety Manger and the Change Management Controller shall ensure that all aspects of the change are progressing as planned.

6. **Change**

To minimize unnecessary disruption ensure that the plan is followed as closely as possible and any issues are highlighted to the SMS Controller as soon as possible. The SMS Controller will co-ordinate communications between all the Safety Committee Board.

Ensure all staff follow the Implementation Plan.

Post Implementation Review:

Once a change has been implemented it is important that the situation is reviewed to identify any problems that could be prevented in future or improvements that could be made.

The Safety Committee will carry out a Post Implementation Review one month after the change has been promoted to Live (unless problems or issues present themselves more immediately).

Two months after the change has been implemented the Safety Committee will conduct a further review.

The SMS Safety Manager will review Change Documentation and follow up material quarterly. The minutes and action points of these reviews are held on file with the SMS Controller.

The Safety Officers will examine the Change Management Documentation on a half yearly and End of Year basis and their comments and recommendations will be acted upon.

3.3 CONTINUOUS IMPROVEMENT AND AUDIT

3.3.1 **Continual Improvement Activities**

The planning, coordination and control of activities for continual improvement is the responsibility of the Safety Manager and the Safety Officers. Continual improvement activities include - but are not be limited to - the following:

a. activities of the Safety Officers under the responsibility of the Safety Manager
b. actions on results from analysis of data
c. evaluation of Safety
d. achievement of departmental Safety objectives
e. results from internal Safety audits
f. corrective actions and preventive actions (CAR)
g. periodic review of controlled documents

The objectives of the corporate Safety Policy are taken into consideration for planning of improvement. During SMS Reviews, the effectiveness of continual improvement is reviewed and opportunities for improvement are identified.

3.3.2 **Informal Inspection**

Informal inspections are carried out by employees and work site supervisors in their own work areas on a daily, weekly, monthly or annual basis. Work sites that are not used on a daily or weekly basis are visually inspected upon entry. Supervisors and employees should develop an informal inspection checklist that is specific to their work area.
Only those inspections that result in a problem being identified will be reported. Identified problems will be reported by the work site supervisor to the Manager responsible for the work site and will state what the problem is, what action was taken and outline any recommendations for change. It is recommended that all informal inspections be recorded to show due diligence.

3.3.3 **Formal Inspection**

SMS Unit is responsible to ensure a safe and healthy workplace and is responsible to inspect the workplace to ensure its safety. The formal inspection shall be conducted by the Safety Manager at least annually and must include any forms used during the inspection along with any written recommendations.. The Safety manager will send the workplace Formal Inspection Form to the concerned Manger with a copy to the Safety Committee.

3.4 ACCIDENT/INCIDENT INVESTIGATION PROCEDURE

No.	Steps	Notes
1	Check work site where accident incident occurred.	When first notified, ensure host employer does not move or change anything at the accident / incident work site (if possible).
2	Interview Co-workers, supervisor, host employers representative and worker (if possible).	Use accident investigation control document to ensure full history of accident / incident is documented.
3	Sketch diagram of work site where accident / incident occurred.	Include at least the following:- • layout of immediate work site • work operation at time of accident / incident • materials/stock/equipment involved how the accident / incident occurred (if possible)
4	If possible, and can be completed in a safe manner, observe others undertaking the same task.	Observe for system failures or contributing factors ie: distractions, complacency, repetitive task, environmental factors etc.
5	Discuss accident / incident with host employers OHS representative (if applicable) and the workers direct supervisor.	Determine whether accident / incident occurred through failure of the following systems, policies or procedures:- • employee training/induction • work practice • supervisory control (direct/indirect) • machinery/tools work site layout
6	Determine how future accidents / incidents could be avoided / controlled	Liaise with host employer and make suggestions, recommendations.

When the Accident/Incident Investigation occur, the Accident/Incident Investigation Checklist and the Accident/Incident Investigation Report are used (see Appendix)

SECTION 4

SAFETY PROMOTION

SECTION 4 SAFETY PROMOTION

Safety promotion are processes and procedures that ensure that personnel are trained and competent to perform their safety management duties and allow for communication of safety issues among operational personnel and with the organization's management.

Through safety promotion an organization adopts a culture that goes beyond merely avoiding accidents or reducing the number of incidents, although these are likely to be the most apparent measures of success. It is more to do the right thing at the right time in response to normal and emergency situations.

4.1 SAFETY TRAINING AND EDUCATION

4.1.1 Training – General

4.1.1.1 An organization's safety culture is adhered to the success of its safety management training program. All personnel must understand the organization's safety philosophy, policies, procedures and practices, and must be aware of their roles and responsibilities within that safety management framework. Safety training begins with the initial familiarization of employees and continue throughout their employment. Specific safety management training are provided for staffs who occupy positions with particular safety responsibilities. The training program ensures that the safety policy and principles of the organization are understood and adhered to by all staff, and that all staff concerned is aware of the safety responsibilities of their positions.

4.1.1.2 The Safety Management System Unit through its Aerodrome Safety Manager develops a training program relating to the functioning of the safety program for the induction/refresher training of all relevant personnel. The details of the safety responsibilities would then be added to the job descriptions and records reflecting dates, names, subjects covered and course presenters will be maintained.

4.1.1.3 Where government or commercial training providers have a relevant course, the Safety Management System Unit may arrange for staff training external to the company.

4.1.2 TRAINING PROGRAMS

4.1.2.1 The Safety Management System Unit through its Safety Manager would, in conjunction with the personnel department, review the job descriptions of all staff and identify those positions that have safety responsibilities. The details of the safety responsibilities would then be added to the job descriptions. Once the job descriptions have been updated, the Safety Manager should conduct a training need analysis to identify the training that will be required for each position.

4.1.2.2 Depending on the nature of the task, the level for safety management system training required will vary from general safety familiarization to expert level for safety officer (safety specialists), for example:

a. Corporate safety training for all staff according to training needs evaluation

b. Training designed at management's safety responsibilities

c. Training for operational personnel

4.1.2.3 During the initial implementation of an SMS, specific training will be provided for existing staff. Once the SMS is fully implemented, the safety training needs of those other than the safety officer (safety specialist) should be met by incorporating the appropriate safety content into the general training program for their positions.

4.1.2.4 One of the functions of safety management training is to create awareness of the objectives of the SMS of the organization and the importance of developing a safety culture. All staff would receive a basic introductory course covering:

a. Basic principles of safety management;

b. Organizational safety philosophy, safety policies and safety standards (including organizational approach to disciplinary action versus safety issue, integrated natures of safety management, risk management decision-making, safety culture, etc.)

c. Importance of complying with the safety policy and with the procedures that form part of the SMS

d. Organization, roles and responsibilities of staff in relation to safety

e. Corporate safety record, including areas of general weakness

f. Corporate safety goals and objectives

g. Corporate safety management programs (e.g. incident reporting systems, voluntary reporting scheme and incident recall meetings)

h. Requirement for ongoing internal assessment of organizational safety performance (e.g. employees surveys, safety audits and assessments)

i. Reporting accidents, incidents and identified hazards

j. Lines of communication methods for safety matters

k. Feedback and communication methods for the dissemination of safety information

l. Safety awards programs (if applicable)

m. Safety audits

n. Safety promotion and information dissemination

4.1.3 Safety Training for Management

It is necessary that the management team must be fully aware and knows the safety standards on which SMS is supported. Training guarantees managers and supervisors to be well versed of the viewpoint of the Safety Management System and their accountabilities and responsibilities with regards to safety. In short, proper training is a must.

4.1.4 Safety Officer's (Safety Specialist) Training

4.1.4.1 Various safety associated task needs well verse and trained personnel, it comprises training to :

a. Investigate safety occurrences

b. Monitor safety performance

c. Perform safety assessments

d. Administer safety data bases

e. Conduct safety audit

4.1.5 Safety Training for Operational Personnel

4.1.5.1 In addition to the corporate introduction outlined above, personnel engaged directly in airport operations will require more specific safety training with respect to :

a. Procedures for reporting accidents and incidents;

b. Unique hazards facing operational personnel

c. Procedures for hazard reporting;

d. Specific safety initiatives, such as safety committee(s), seasonal safety hazards and emergency procedures.

e. Managing safety databases

f. Performing safety audits

Note :

It is mandatory that staff performing these task receive proper training in the special methods and technique involved, on how important the training requires and the level of existing expertise in safety management within the organization, acquiring assistance from external specialist is also necessary to get hold of that expertise

Safety Training and Education – A building block					
	Operational Personnel 1) Organizations Safety Policy 2) SMS fundamentals and overview	+	**Managers and Supervisors** 3) The safety process 4) Hazard identification and risk management 5) The management of change	+	**Senior Managers** 6) Organizational safety standards and national regulations 7) Safety Assurance	

Table 6 Safety Training

4.1.6 MCIA Training Standards Program

The Mactan – Cebu International Airport has adopted the MCIA Training Standards Program to enhance safety, security and customer service within the airport area of responsibility. In line with these, the program is required by the Mactan – Cebu International Airport Authority to generate and provide well – trained workforce as maintaining airport safety and security as well as customer service being one of its primary objective which is significant for the successful operation of the aerodrome.

4.1.6.1 General Standards

The MCIA Training Standards Program provides basic standards and requirements for training of all employees, requirements for training records, and annual training updates and certifications. The training standards are focused in four general areas:

Area	General Standards
Safety	General safety standards and evacuation procedures for emergency situations
Security	Compliance with security regulations and knowledge of the security concerns specific to an airport
Customer Service	Appropriate positive interaction with passengers in representation of the airport and the employer
Assisting Persons with Disabilities	Proper etiquette in assisting persons with disabilities and compliance with Person with Reduced Mobility regulations

4.1.6.2 Personnel Covered per Type of Badge and Access Requirements

The program is applicable to all employees as well as new entrants, and both current and future employees, contractors and vendors of employers who work at Mactan - Cebu International airport. It includes but is not limited to individuals who have one of the following airport security badges:

a. Aircraft Movement Area (AMA)

b. Terminal (Landside / Airside)

c. General Aviation Area

d. Cargo Area

4.1.7 Training Delivery Methods

4.1.7.1 MCIA General Training Modules

The MCIA General Training Modules will be provided by the Safety Management System Unit in the following formats :

a. PowerPoint presentation

b. Train-the-Trainer for employers to provide the training to their employees

c. Orientation Sessions or Orientation Packets for employers to present to their new employees.

Note:

New employees should receive orientation within the first month the new employee is working at the airport. This includes employees transferring from other locations/airports.

4.1.7.**2** MCIA Badging System

The MCIAA Airport Badging System will be administered by the Emergency, Security Services Department through the ID/Intel Pass Division.

4.1.7.2.1 Role Specific Training Modules

The Role Specific Training Modules will be provided either through the badging process or provided to the employer to present to their employees, dependent upon the type of training. Employers must ensure required training modules are provided to applicable employees.

4.1.8 Training Requirements

The individual training standards and requirements for each employee are determined by several factors:

a. MCIAA Airport ID System

b. Role (Job Function)

c. Passenger / Customer Contact

d. Work Location

The minimum training standards for each type of employee are based primarily on their security badge, with additional training based on their role, work location, and contact with passengers. Attachment A lists the training standards for each type of employee. Attachment C-4 provides a short description of each training module.

4.1.9 Employees Impacting Safety

Employees in this category include those directly engaged in activities which may impact safety within the Aircraft Movement Area (AMA) or in and around the terminal. These employees include but are not limited to the following :

a. Employees providing ramp handling functions including aircraft cleaning, fueling, and baggage / cargo handling

b. Employees operating catering vehicles regularly on the AMA for servicing aircraft

c. Other employees issued a Restricted Area Badge (RAB) with AMA access working in and around the AMA in the performance of their duties

d. Employees stationed within the airport, including concessionaires

4.1.10 Employees Impacting Security

Employees in this category include those directly engaged in performing checkpoint security screening, passenger check-in activities; catering services and baggage check-in and handling services, Aircraft Movement Area (AMA) perimeter control, and other employees issued an airport Restricted Area Badge (RAB) with AMA access working in and around the AMA in the performance of their duties.

4.1.11 Employees in Contact with Passengers and Customers

Employees in this category include those directly engaged in activities bringing them in contact with passengers and other customers including employees of other organizations. These employees include but are not limited to the following:

a. Employees interacting directly with passengers including passenger check-in activities, and baggage check-in and handling services, gate assistance and loading, food and beverage service, retail service, car rental, wheelchair escorts, parking attendants, and airport parking and car bus drivers.

Customer service training includes a basic overview in the Orientation Module for all employees and a comprehensive training session for those listed above.

4.1.12 Employees in Contact with Persons with Disabilities

Employees in this category include those directly engaged in activities assisting persons with disabilities or those who may come into contact with persons with disabilities. These employees include but are not limited to the following:

a. Employees assisting persons utilizing wheelchairs or escorting persons with disabilities

b. Employees assisting passengers, including those directly engaged in passenger check-in activities, baggage check-in and handling services, gate assistance and loading, food and beverage service, retail service, car rental, airport parking, and shuttle bus drivers

4.1.13 Regulatory Compliance

Compliance monitoring for the MCIA Training Standards Program is governed by AO 139 (see Chapter B/Div 139.B.3/139.170) and the MCIA Aerodrome Manual.

The requirements of the MCIA Training Standards Program are subject to change upon notice to the Employers/Employees.

4.1.14 Record Keeping, Reporting and Auditing

Employers must submit training records (Attachment F) to provide evidence their employees, contractors and vendors are in compliance with training requirements. The Training records are subject to audit by the Safety Management System Unit (SMSU). Training records must include the employee's name, job function, date the employee began working at the Mactan-Cebu International Airport (MCIA), and the date of each training class required by the MCIA Training Standards Program (See Attachment F).

Each employer must submit at least by June 30 of each year a statement certifying that it is in compliance with the MCIA Training Standards Program. (MCIA Training Standards Certification Form)

4.1.15 Measurements of Program Value

Each year the employer will be asked to include a statement of the success of the MCIA Training Standards Program, as measured through improvements in productivity, safety, and customer service and employee turnover.

The MCIA Training Standards Program is developed in support of the Mactan-Cebu International Airport's Mission and Vision. (see MCIA Aerodrome Manual- Part 5 section 5.7-5.8)

Attachment A: Role Based Training – Training Requirements per Function

		Badge Requirements			Role Specific Training Modules				
	Orientation	Security Badge	Basic Security	Customer Service Overview	Authority to Drive Airside	Ramp Area Safety	Vehicle Inspection	Customer Service	AMA Awareness
Gate/Ticket Agents	x	x		x				x	
Ground Handling Services	x	x		x	x	x		x	x
Baggage Handlers	x	x		x					
Concessionaires	x	x		x				x	
Security Guards	x	x	x				x	x	
Aircraft Interior Cleaning	x	x				x			
General Aircraft Maintenance	x	x			x	x			
Aircraft Mechanics	x	x			x	x			
Aircraft Fueling	x	x			x	x			
Water/Lavatory Servicing	x	x			x	x			
Aircraft Catering Services	x	x			x	x			
Cargo Carriers	x	x			x	x			
Car Rental Agencies	x	x		x				x	
Parking Lot Attendant	x	x		x			x	x	
Facility Maintenance	x	x			x	x			x
Fixed Base Operators	x	x			x	x			

Legend : x typically

Attachment B: Security Badge Definitions, Training Requirements

Badge Type	Ramp	Gen Av	Sterile	
Location	**Airside**	**General Aviation**	**Terminal Landside Terminal Airside**	**Landside**
Area Definition	Consists of areas designated for aircraft parking and maneuvering, enplaning/deplaning of passengers, and loading of cargo	Consists of ramp areas designated for fixed base operations (FBO), general aviation. Access is limited to these areas only.	Terminal Landside – transition point between the Landside and the Airside areas which includes carrier ticket counters, baggage claim, rental car counters, restrooms, applicable concessions, and security screening. Terminal Airside – transition point between landside and airside which includes retail food concessions, restrooms, passenger waiting areas, and aircraft gate access.	Consists of roadways, parking lots, rental car facilities and curbside.
Employees	Includes airlines and cargo personnel, ground support, and fixed base operations (when applicable). Access maybe limited for cargo employees.	Includes employees of Fixed Base Operators (FBO) and General Aviation tenants.	Includes employees working within the terminal beyond the check point.	May include car rental employees, hotel and tour operator representatives and porters. Access is limited to public areas only.
Training Requirement	1. AMA Awareness 2. Basic Security Awareness 3. Service Overview	1. Basic Security Awareness 2. Customer Service	1. Sterile Area Rules and Regulations 2. Basic Security Awareness 3. Customer Service	1. Basic Security Awareness 2. Customer Service
Additional Endorsement	1. Authority to Drive Airside (ADA) 2. Movement Area Driving	1. Authority to Drive Airside (ADA)		
Airport Security Guards	1. Vehicle Inspection 2. Basic Security Awareness			

Attachment C-1 : MCIAA General Training Modules Required for everyone

Module	Orientation	Basic Security Awareness	Service Overview
Topic 1	Introduction:	Area Definitions: Describes security areas: Landside, Terminal and Airside	Importance of Customer Service : Identifies reasons providing excellent customer service
Topic 2	Airlines, Destinations, Car Rentals; Business activity at MCIA	Access Control: Requirements for individuals and vehicles on ramp.	Attitude: Details importance of maintaining a positive attitude while serving customers.
Topic 3	MCIA Facilities: Runways, Terminals, Businesses	Security Agencies: Identifies the key players in airport security including the OTS and local law enforcement.	Consistency: Details importance of offering consistent service.
Topic 4	Working at an Airport: Different than any other organization	Security Measures: Basic vigilance measures to ensure security, reporting unattended bags and suspicious individuals.	Teamwork: Stresses the importance of teamwork to enhance the customer's perception of work group.
Topic 5	Customer Service: Representing MCIA, importance of good service, characteristics, measurement	Reporting Procedure: Procedures to report security issues to local law enforcement	Problem Solving: Encourages employees to be proactive in problem solving
Topic 6	ADA Awareness: Assisting persons with disabilities, mobility devices, hard of hearing/deaf, speech impediments, blind, developmental disabilities	Recognizing Security Issues: Ensure integrity of access control system, importance of monitoring doors and gates for security breach.	
Topic 7	Security Awareness: Unique environment, your responsibilities		
Topic 8	Safety: Basic principles, prevention and vigilance		
Topic 9	Airport Emergency Devices: What are they, where are they, who can use the defibrillators		
Topic 10	Evacuation Plan: Overview of process and rules, possible emergency situations		
Topic 11	MCIAA Mission and Vision		

Attachment C-2: Training – MCIA Airport ID System Modules

Module	AMA Training	Non – Movement Area Training	Sterile Area Training
Topic 1	Security Team Members: Describes the key players involved in airport security	Non-Movement Area Rules: Describes basic rules associated with the Non-movement area badge.	Security Definitions : Identifies definitions applicable to sterile area security and acronyms
Topic 2	Security Areas: Defines the different security areas located within the airport.	Security Areas: Defines the different security areas located within the airport	Security Areas: Defines the different security areas located within the airport
Topic 3	General AMA Rules: Describes in brief detail rules associated with an AMA badge	Escort Procedures: Details the requirements necessary to escort inside the Non-Movement Area.	General Security Rules: Describes requirements for receiving a sterile area badge
Topic 4	Individual/Group Access: Describes the difference between single and group access and associated rules	Administrative Cites: Describes security violations and associated monetary penalties	Responsibilities: Identifies responsibilities of sterile badge holders to challenge individuals unauthorized to be in sterile areas, including summoning of law enforcement
Topic 5	Vehicle media and Access: Describes type of vehicle media required to drive within AMA and associated procedures for entering the AMA with vehicle, including escort of other vehicles	Transient Aircraft Operations: Identifies which areas transient aircraft may park at when at the airport	Challenge Procedures: Describes the responsibility of sterile badge holders to challenge individuals unauthorized to be in sterile areas, including summoning law enforcement
Topic 6	Escort Procedures: Details the requirements necessary to escort an individual, who does not possess a badge, inside the AMA		Escorting Procedures: Identifies restrictions on escorting non-badged individuals inside sterile areas
Topic 7	Challenge Procedures: When and how to challenge individuals within AMA and procedures for summoning law enforcement personnel		Airport Security Program: Discusses the program in place to ensure airport security by employees working at the airport
Topic 8	Administrative Cites: Discusses the penalties associated with violations of the security rules and regulations		

Attachment C-3: Training – Role Specific Mandatory (Additional Endorsements to Badge for Certain Jobs)

Module	Authority To Drive Airside (ADA)	Movement Area Driving	Physical Vehicle Inspection
Topic 1	Air Operations Area (AOA): Defines areas within the AOA as either a movement or non-movement	Minimum Requirements: Discusses the minimum requirements to drive on the movement area	Safety Zone: Defines purpose and parameters associated with safety zones by airport terminal
Topic 2	Marking and Lighting: Describes types of marking and lighting used to help drivers navigate on the AOA	Obstacle free Zone: Describes OFZ and importance of keeping vehicles out of this area	Explosive Detection: Identifies methods of detecting potential explosives devices in vehicles
Topic 3	Perimeter Access Roads: Discusses when these roads may by used and by whom	Definition of Movement Area: Defines the location and purpose of the movement area	Reporting: Identifies measures to be taken in the event that a potential explosive device is found
Topic 4	Tug Use: Stipulates restrictions on tug use including the amount of carts a tug may pull and the number of individuals who may ride on a tug	Escorting Procedures: Identifies procedures for escorting vehicles and drivers which do not possess movement area privileges	Inspections: Provides basic instructions necessary to visually inspect a vehicle for explosive devices
Topic 5	Driving Safety Procedures: Discusses key elements in operating safely while on the AOA. Includes airport signage, key elements when operating in the close vicinity of aircraft, and driving at night	Safety Measures: Details basic safety measures to be taken to ensure safety when driving on the movement area including monitoring for aircraft and emergency vehicles	
Topic 6	Aircraft Refueling/HAZMAT Spills: Conveys basic procedures for refueling aircraft and steps to take when responding to HAZMAT spills	Runways and Taxiways: Details characteristics associated with runways and taxiways including lighting, markings and signage	
Topic 7	Lavatory Waste Operations: Describes basic procedures and safety measures for servicing aircraft lavatories, which includes proper response to lavatory (HAZMAT)	Tower Communications: Describes procedures when communicating with the air traffic control tower including procedures to follow during a radio communication failure	
Topic 8	Ramp Safety Program: Discusses the program in place to ensure ramp safety by employees working at the airport		

Attachment C-4: Training – Role Specific Customer Service, Disabilities, Ramp Area Safety

Module	Customer Service	Disability Awareness	Ramp Area Safety
Topic 1	You are an ambassador	Objective: Sensitivity training to best assist guests with disabilities	Definitions: Individuals, equipment and areas in the ramp and service areas
Topic 2	Creating Customer Service Excellence	General Practices: Etiquette, assistance and terminology	License and Permit Requirements: Training and employer responsibility
Topic 3	How customers are different at MCIA and how to help them	Disability Law	Authority to Drive Airside (ADA): Requirements for driving in restricted areas
Topic 4	Greeting Customers	Mobility Disabilities: Assisting individuals utilizing wheelchairs	Airport Citation Procedures: Responsibilities of enforcement
Topic 5	Giving directions, providing assistance	Individuals who are deaf: Methods and etiquette	Aircraft Gate Arrival/Push Back Procedures: Right of way and ground handling
Topic 6	Thank you and proper send off	Individuals with speech difficulties: Assistance	General Operating Rules: Restricted areas, proper vehicle
Topic 7	Calming down upset customers	Blind or low vision: Human guide, communications	Aircraft Fuel Servicing Rules: Maintenance and safety rules
Topic 8	Retail and Food Service	Developmental Disability: Providing assistance, respect	Fuel Spill Safety Procedures: Handling fuel spills
Topic 9	How MCIA measures good customer service	Quiz and Summary	Lavatory/Waste Material: Collection and Disposal Procedures

Attachment C-4: Training – Role Specific Customer Service, Disabilities, Ramp Area Safety

Module	Customer Service	Disability Awareness	Ramp Area Safety
Topic 1	You are an ambassador	Objective: Sensitivity training to best assist guests with disabilities	Definitions: Individuals, equipment and areas in the ramp and service areas
Topic 2	Creating Customer Service Excellence	General Practices: Etiquette, assistance and terminology	License and Permit Requirements: Training and employer responsibility
Topic 3	How customers are different at MCIA and how to help them	Disability Law	Authority to Drive Airside (ADA): Requirements for driving in restricted areas
Topic 4	Greeting Customers	Mobility Disabilities: Assisting individuals utilizing wheelchairs	Airport Citation Procedures: Responsibilities of enforcement
Topic 5	Giving directions, providing assistance	Individuals who are deaf: Methods and etiquette	Aircraft Gate Arrival/Push Back Procedures: Right of way and ground handling
Topic 6	Thank you and proper send off	Individuals with speech difficulties: Assistance	General Operating Rules: Restricted areas, proper vehicle
Topic 7	Calming down upset customers	Blind or low vision: Human guide, communications	Aircraft Fuel Servicing Rules: Maintenance and safety rules
Topic 8	Retail and Food Service	Developmental Disability: Providing assistance, respect	Fuel Spill Safety Procedures: Handling fuel spills
Topic 9	How MCIA measures good customer service	Quiz and Summary	Lavatory/Waste Material: Collection and Disposal Procedures

Attachment D: MCIA Annual In-house Training Program

Name of Training	Operations	Security	RFFS	Engineering	Administration/ Medical Services	Airlines/Ground Handlers
Back to Basics – Airport Self Inspection	x	x	x	x		
Airside Safety and Security Awareness	x	x	x	x		x
Airside Safety Driving	x	x	x	x		x
Basic Occupational and Health Training	x			x	x	
Wildlife Assessment and Management Training	x	x		x		
Full Scale Emergency Exercise	x	x	x	x	x	x
Runway Incursion Seminar	x	x	x	x	x	x
Basic Life Support Seminar	x		x	x	x	
Security Refresher Course		x				
Defensive Driving Course	x	x	x	x		x
Fire Drill	x	x	x	x	x	x
Marksmanship Training		x				
Intel/Investigation Training		x				

Attachment E: MCIA Annual Training Program by Invitation (ICAO, COSCAP, APEC, CAAP, IATA, IFALPA, ACI sponsored programs)

a. Aviation Security Related Trainings and Seminars

b. Aerodrome Safety Management System

c. Airport Operations (Ramp, Cargo and Terminal Operations)

d. Rescue and Fire Fighting Services Related Trainings and Seminars

e. Engineering Accredited Seminar

Attachment F: Training Records

It is a requirement of the program that each covered employer maintain training records to cover the period of time each employee is working at MCIA. It is preferable the records be maintained in a spreadsheet, but not required, they may be kept in your usual format (individual records, database, log, spreadsheet, etc.) and must be available for audit.

The records shall include the following data:

(a) Employee Name
(b) Role/Function
(c) Employee's Date of Hire
(d) Employee's First Date at MCIA
(e) Employee's Last Date at MCIA
(f) Date Badge Issued
(g) Type of Badge
(h) Date of Orientation Training
(i) Specific Modules: Date of training for each module
(j) Specific Modules: Signature of Trainer

Name of Company: _____

Employee Name	Date Start at MCIA	Last Date at MCIA	Role/ Function	Date Badge Issued	Type of Badge	Date of MCIA Orientation	Date of Customer Service	Date of ADA	Signature of Employee	Trainer/ Verification

Attachment G: Training Exemption Process

All Restricted Area Badge required training is mandatory.

Airport Stakeholders may request that their internal company training be accepted in lieu of the following two Role Specific training modules:

a. Customer Service – Working at Mactan-Cebu International Airport

b. Assisting Persons with Disabilities – Providing Exemplary Service

Exemption Process:

a. Review Airport Training Standards module and compare to your internal training to ensure all training topics are amply covered.

b. Fill out Training Exemption Request Form and submit to:

Safety Management System Unit
Mactan-Cebu International Airport Authority
3rd Level, Viewing Deck
Lapu-lapu City

c. Attach a copy of your training program materials or the course description and outline of topics covered in the relevant company training to be substituted in place of the training module.

d. The Airport will notify the company if the exemption for the training module has been granted or if follow up information is needed.

e. If request is denied, may appeal to Manager, Airport Operations Department.

f. The Covered Employer must secure any such approval from the Airport in advance of the time period the training covers.

4.1.16 RECURRENT TRAINING

4.1.10.1 The Safety Officer is responsible to ensure all staff to receive relevant recurrent training. This training shall consist of:

a. The Safety Management System
b. Compiling and submitting Hazard Reports, and reporting incidents and accidents
c. The responsibilities of all employees to participate in the Safety Management System
d. When new technology or equipment is introduced, or changes made to aerodrome operations (with an impact on safety), training will be provided.

4.1.10.2 In addition to formal training, the Safety Officer will keep staff informed and educate about current safety issues through providing relevant, safety related literature, sending them to safety related courses and seminars, thereby improving the safety health of the company.

4.1.17 TRAINING EVALUATION

4.1.11.1 The Safety Manager shall evaluate the effectiveness of the company training programs by the use of training feedback sheets that are designed to measure:

a. How well staff understand the operation of the Safety Management System;
b. How well staff are aware of the role they play in the Safety Management System; and
c. How much do staffs understand that the aim of the Safety Management System is to improve safety, and not to attribute blame.

4.1.11.2 Actual application of the effectiveness of the training result is easily observed and evaluated by the supervisors and managers in the knowledge and practices used in the workplace, and in any specific competencies that are required in the disposition of a certain work or field of assignment of the employee.

4.1.11.3 The Safety Manager shall monitor training records for any required personnel who have not attended induction or ongoing safety training, and invite them to the next relevant course.

SECTION 4.2 SAFETY COMMUNICATION

Safety communication is an important enabler for improved safety performance. Safety lesson dissemination is a vital element of safety communication because lessons learned from past experiences

implemented within the organization reduce the chances of accident and incident recurrence and thus improve safety.

4.2.1 **Dissemination of Safety Information**

The Aerodrome Safety Manager – Safety Management System Unit is the focal point for safety related information, hazard reports, risk assessments, safety analysis, investigation reports, audit reports, minutes of meeting, conference proceedings, and others. From all this information, the most relevant safety messages for dissemination will be identified. Messages will be classified as urgent (before the next flight), directive, for background understanding, or seasonal. Most staff does not have enough time to read all this information, and the salient points will be incorporated into easily understood safety messages. Several considerations would dictate the message classification and dissemination for example:

a. criticality of the information

b. the target audience

c. best means for disseminating the information (e.g. briefings, directed letters, newsletters, organizations intranet, videos and posters)

d. timing strategy to minimize the impact of the message (ex. Rainy season briefings generate little interest during summer

e. contents (e.g. how much background information should be given versus the core message)

f. wording (e.g. most appropriate vocabulary, style and tone)

4.2.2 **Safety Critical Information**

Urgent safety information are disseminated using such means :

a. direct message (oral or written) to responsible managers

b. direct briefings (e.g. for controllers in a specific unit)

c. shift change over briefings

d. direct mail (posts, facsimile or e-mail)

4.2.3 **Nice – to – know Information**

This material includes accident/incident reports, safety studies, aviation journals, proceedings of conferences and symposia, manufacturers reports, training videos, etc. Increasingly, this information is available electronically. Regardless of the format of the information, it will be made available to staff and management through.

a. an internal circulation system for critical/important information

b. a safety library

c. summaries notifying staff of the receipt of each information
d. directed distribution to selected managers

4.2.4 **Reporting to Management**

All reports to the management should conform to the points below unless unavoidable.

a. what is the problem?

b. how could I affect the organization?

c. how likely is it to happen?

d. what is the cost if it does happen?

e. how can the hazard be eliminated?

f. how can the risk be reduced?

g. how much will it cost to fix?

h. what are the downsides of such action?

4.2.5 **Objectives of Safety Promotions**

a. An ongoing program of safety promotion will ensure that employees benefit from safety lessons learned and continue to understand the organizations SMS. Safety promotion is link closely with safety training and the dissemination of safety information. It refers to those activities which the organization carries out in order to ensure that the staff understand why safety management procedures are being introduced, what safety management means, why particular safety actions are being taken, etc. Safety promotion provides the mechanism through which lessons learned from safety occurrence investigation and other related activities are made available to all affected personnel. It also provide a means of encouraging the development of a positive safety culture and ensuring that, once established, the safety culture will remain.

b. It is important that personnels see evidence of the commitment of management to safety. The attitudes and actions of management must be a significant factor in the promotion of safe work practices and the development of a positive safety culture.

c. Safety promotion plays an important role for the safety awareness, and it is the channel by which safety issues are communicated within the organization. These issues will be addressed through staff training programs or less formal mechanisms.

d. In order to propose solutions to identified hazards, personnel must be aware of the hazards identifications that have already been implemented. The safety promotion activities and training program address the rationale behind the introduction of new procedures. With the lessons learned, consideration would be given to wider dissemination of the information.

4.2.6 **Promotion Methods**

a. If a safety message is to be learned and retained, the recipient has to be positively motivated.

b. Safety topic would be selected for promotional campaigns based on their potential to prevent and reduce losses. Selection would therefore be based on the experience of past accidents or near misses, matter identifiedby hazard analysis and observations from routine safety audits. In addition, employees would be encouraged to submit suggestions for promotional campaigns.

c. The safety promotion program will be based on several modern communication methods

SECTION 5

EMERGENCY ACTION PLAN

SECTION 5 EMERGENCY ACTION PLAN

5.1 Emergency Action Plan

5.1.1 Introduction

The purpose of an Emergency Action Plan is to protect persons and management from serious injury, property loss, or loss of life, in the event of an actual or potential major disaster. A major disaster may include, but not limited to, any of the following: fire, tornado, earthquake, bomb threat, or hazardous chemical spill.

This Emergency Action Plan also assists personnel in making quality decisions during times of crisis. This plan describes the initial responsibilities and guidance in determining the appropriate actions to be taken to prevent injury and property loss from the occurrence of emergency incidents.

5.1.2 Emergency Alerting Procedures

In order to provide for the safety of employees and passenger, it is essential that early warning of emergency situations be made so that evacuation procedures can be implemented and emergency response organizations notified of the situation.

The facility uses incident reporting and notification either of the following:

a. Fire alarm pull station or activation of the fire protection system
b. Telephone call
c. Hand-held radios
d. Public address system

5.1.2.1 Notification for Small Area-Specific Incidents

Incidents such as individual medical emergencies will generally not require the notification of the entire facility.

5.1.2.1.1 Preferred means of notification

The telephone will be the preferred means of reporting such as emergencies. Reports of emergency situations will be reported to the Safety office. When available, the hand-held portable radios maybe used to make notification of an emergency situation.

5.1.2.1.2 Secondary means of notification

A runner will be sent to the Safety Office for a verbal notification of the situation.

5.1.2.2 **Notification of Serious or Facility wide Emergency Situation**

Facility wide emergency situations include incidents such as a fire or explosion, which require that all or the majority of the facility be notified.

5.1.2.2.1 **Preferred means of notification**

The preferred means of notification is the activation of the fire alarm pull station.

5.1.2.2.2 **Secondary means of notification**

The secondary means of notification is by telephone from an area not involved in the emergency situation or by hand-held portable radio if available.

5.1.3 **Emergency Contact List**

Name	Emergency Number
Crash Fire and Rescue	
Operations Center	
Medical Clinic	
Police Force Division	
Safety Manager/SMS Unit	

5.2 EVACUATION PROCEDURES

5.2.1 **General Procedure In The Event of Fire**

To evacuate the building upon seeing smoke/fire or hearing the fire alarm:

a. Verbally warn employees in the immediate area, (such as, yelling “FIRE!”) and activate alarm upon discovery of smoke or fire. The signal for a building wide evacuation will be the sound of the fire alarm. All employees are required to evacuate the building, unless otherwise assigned or authorized to remain by the emergency agency in charge.

b. If necessary for a safe, orderly evacuation, activate fire extinguishers or fire hose. At the discretion of the individual, use extinguisher if trained and assigned to do so.

c. Do not stop for the valuables.

d. Assist any special needs people in evacuating .

e. When evacuating WALK, never run.

f. Leave the building, even if the alarm stops while you are on your way out.

g. Use Stairways and not elevators.

h. Once outside, move away from the building to allow room for the firefighters and their equipment. Look for the others who work with you to insure everyone has evacuated.

i. Give any information about the fire or about persons who might still be in the building to your manager. The Fire Fighting Team, Emergency Response Team, or SMS Officers.

j. Do not re-enter the building for any reason until told to do so by any Emergency Response Team.

5.2.2 IF YOU CANNOT LEAVE BECAUSE ALL EXITS ARE OBSTRUCTED

Crawl or stay low to the floor where there is cleaner and cooler air. Get to a phone, dial to Emergency Services and let someone know where you are.

5.2.3 OF PARTICULAR IMPORTANCE

Do not run if your clothes catch fire. Running will only fan the fire, causing it to intensify. Drop to the floor and roll back and forth to smoother the flames. Call for help. Rescuers can smother the flames the flames by quickly wrapping a blanket, coat, sheet or rug over the victim. Leave the building.

5.3 EVACUATION ROUTE AND ASSEMBLY AREA

A map of evacuation routes will be displayed in hallways and departments. Each map will show the way to an exit, depending on where employees are located in the building. It will be the responsibility of the first-line supervisor to inform employees of these evacuation routes. The SMS Safety Manager shall verify that the signs are in place and up to date.

5.3.1 Designated Assembly areas:

a. Ramp
b. Departure Service Road
c. Arrival Service Road

5.3.2 Evacuation In The Event Of a Bomb Threat

Evacuation procedures are the same as fire evacuation procedures.

NOTE:
The handling of explosives is a job strictly for professionals. Should you notice something you suspect may be a bomb because it is an unusual item in an area you are very familiar with, do NOT touch it! Report it to the K-9 Security Group, Emergency Response personnel. Be prepared to describe the item and its location.

5.3.3 Evacuation In The Event Of an Explosion

In the event that an explosion occurs, use the Fire Evacuation Procedure.

5.3.4 Earthquake Emergency Procedures

An earthquake usually occurs without any type of warning. Due to the suddenness, all personnel should attempt to get under a table or desk, or any place that the employee feels is safe. After an earthquake has stopped, initiate the following procedure:

a. Stay calm and await instructions from the designated official.

b. Keep away from overturned fixtures, windows, filing cabinets, and electrical power.

c. Check for injuries and provide assistance as needed.

d. CFR Fire Safety Office should check for fires and shut off utilities to control leaks.

e. If major structural damage has occurred, the Emergency Operations Team should order a complete evacuation. The building should be inspected by Facilities Management for damage before reentry.

f. Facilities Management should then notify proper agencies, companies or departments as needed.

5.3.5 Elevator Entrapment Emergency Procedures

Occasionally, elevators will malfunction and stop which results in the entrapment of a person or persons. If you are advised of such a situation do the following:

a. Make verbal contact with the person or person in the elevator, and advise them that you are aware of their entrapment, and that campus police has been or will be notified immediately.

b. Notify key personnel using at contact list and report the location of the entrapment. Be sure to advise them of any other emergency information

(such as whether a person in the elevator reports being injured or ill, hurt leg, trouble breathing, dizzy, smoke in or near the elevator, etc.)

c. If possible, have someone remain with the people in the elevator until the Rescue Team arrives on the scene. Rescue Team will contact Mechanical Division to carry out extrication activities.

5.4 Medical Emergency Procedures

MCIAA Medical personnel or those individuals who are trained will provide first aid. Until Rescue Team personnel arrive, administer first aid in the building or, in the event of a complete evacuation, at a designated safe assembly area outside. All Medical Division personnel are trained in First Aid and CPR.

APPENDICES

Appendix 1

AIRPORT GROUNDS OPERATIONS DIVISION
Special Serviceability Inspection

TO : **Romeo D. Bersonda**
Manager, Airport Operations Department

Date : _____

FACILITIES	DAY	NIGHT	COMMENTS	RESOLVED BY (Date/Initials)
Water on Runway				
Damp				
Wet				
Water patches				
Flooded				
Debris on Runway				
Check for debris, mud and washouts on or at the edges of runway				
Runway and Taxiway Strips and Safety Areas				
Check storm water system to verify that inlets are not clogged and drainage channels are free of debris				
Ensure all drain covers are in place and flush with the surface				
Maintenance and Construction				
Conduct a special inspection before reopening a runway or taxiway following any construction or maintenance				
When an aircraft has left the pavement and entered a strip, check ruts or holes made during the recovery operation				
Check for construction and maintenance activities to ensure that no hazardous conditions created the likes of:				
Equipment and debris left in safety areas				
Unacceptable pavement edges created by ground alteration work				
Oil or hydraulic fluid spillage				
Ruts from mowing equipment or other vehicles				
After construction or maintenance, ensure that pavement markings are correct and unserviceable markers removed				

Legend: √ Satisfactory x Unsatisfactory

Day Inspector: _____ Time: _____
Night Inspector: _____ Time: _____

Noted by: **Eng'r. Manuel D. Lopez Sr.**
Manager, Airport Grounds Operations Division

Appendix 2

AIRPORT GROUNDS OPERATIONS DIVISION
Continuous Surveillance Inspection

TO : **Romeo D. Bersonda**
Manager, Airport Operations Department
Date : _____

FACILITIES	DAY	NIGHT	COMMENTS	RESOLVED BY (Date/Initials)
Ground Vehicle				
Determine if procedures and arrangements for the orderly operations of ground vehicles are being followed				
Report any deficiencies				
Construction				
Check for unauthorized use of runway, taxiways and apron by construction personnel and equipment				
Keep a sharp eye out for potential runway incursions and other irregularities				
Check all construction projects to ensure that the safety plan is being followed by the contractor				
Ensure that construction equipment is not operated in navigational aid critical areas				
Public Protection				
Be alert for unauthorized persons, vehicles and animals				
Ensure gates are secured, serviceable and clear for access by rescue and firefighting vehicles				
Bird and Animal Hazard				
Note any birds or animals on or adjacent to the runway, taxiways and apron				
Report any potential hazard created by birds on or adjacent to the aerodrome				
Potential Problems				
Control of pedestrian access to the movement areas				
Passenger loading and off-loading areas				
Debris on movement areas				

Legend:
✓ Satisfactory x Unsatisfactory

Day Inspector: _____ Time: _____
Night Inspector: _____ Time: _____

Noted by: **Eng'r. Manuel D. Lopez Sr.**
Manager, Airport Grounds Operations Division

Appendix 3

AIRPORT GROUNDS OPERATIONS DIVISION
BIRD-STRIKE REPORT FORM

To: Romeo D. Bersonda
Manager, Airport Operations Department

Date: _____ **Time**: _____

Aircraft Type: _____ **Aircraft Registry**: _____

Runway in use: _____ **Call Sign**: _____

Damage to Aircraft

Weather Conditions:
- ☐ Sunny
- ☐ Overcast
- ☐ Raining
- ☐ Fog

Bird Species (e.g. Egrets, vulture) _____
Not Known

Bird Concentration:
- ☐ Single
- ☐ Small Flock
- ☐ Large Flock

Number of Birds:
Seen _____
Struck _____

Size of Birds:
- ☐ Small
- ☐ Medium
- ☐ Large

Direction of Birds: _____
Altitude of Birds: _____

Action taken by the Operations Center:

_____
Name and Signature

Noted by:

Eng'r. Manuel D. Lopez Sr.
Manager, Airport Grounds Operations Division

Appendix 4

AIRPORT GROUNDS OPERATIONS DIVISION
RUNWAY INCURSION REPORT

TO: **Romeo D. Bersonda**
Manager, Airport Operations Department

Date: _____

Time: _____

Area compromised	
Type of incursion	☐ Aircraft ☐ Vehicle ☐ Pedestrian ☐ Animal
Agency informed	
Action taken	
Risk to Air Traffic	☐ No Risk ☐ Minimal ☐ Safety not assured
Description of incident	
Weather information	

Reported by: _____
Name and Signature

Noted by:

Eng'r. Manuel D. Lopez Sr.
Manager, Airport Grounds Operations Division

Appendix 5

AIRPORT GROUNDS OPERATIONS DIVISION
QUARTERLY INSPECTION – MOBILE FUELERS

Inspected by: _____ Fueling Agent: _____ Date: _____

S – Satisfactory U – Unsatisfactory R – Remark Below	Jet A Fuelers			100LL Fuelers			Other Fueler		
	S	U	R	S	U	R	S	U	R
No Smoking sign in cab									
Flammability Signs / Hazard Material Placards all sides									
Bonding Cables and Clips functional									
Deadman control for all nozzles									
2 Fire Extinguishers – Proper type / Inspected									
Emergency Shutoffs operable and marked									
No Fuel Leaks – Hoses / Gaskets / Valves									
Vehicle Exhaust System – Shielded / Leak Free									
No Evidence of Smoking – No ashtray in cab									
Vehicle parking – 10’ apart / 50’ from buildings									
Explosion proof electrical equipment / light lens intact									
Ignition sources (Clothing, Shoes, Matches)									
							No. of Mobile Fuelers		
Proper Fueling Procedures Observed							Jet A		
Fueling Personnel Meet Training Requirements							100LL		
Fueling Personnel Training Records Maintained							Other		
Remarks:									

Noted by:

Eng’r. Manuel D. Lopez Sr.
Manager, Airport Grounds Operations Division

Appendix 6

AIRPORT GROUNDS OPERATIONS DIVISION
QUARTERLY INSPECTION – FUEL STORAGE AREAS

Inspected by: _____ Fueling Agent: _____ Date: _____

S – Satisfactory U – Unsatisfactory R – Remark Below	Jet A Fuelers			100LL Fuelers			Other Fueler		
	S	U	R	S	U	R	S	U	R
Fencing / Locks / Signs									
Piping protected from vehicles									
No Smoking signs posted									
Deadman Controls for loading stations									
2 Fire Extinguishers – Inspected / Accessible									
Boldly Marked Emergency Cutoffs – Location									
No Fuel Leaks									
Bonding wire / clips at loading stations operable									
Piping / pumps bonded and grounded									
No vegetation or materials to spread fire									
No evidence of smoking									
Hoses in good condition									
Explosion proof electrical equipment									
Remarks:									

Noted by:

Eng'r. Manuel D. Lopez Sr.
Manager, Airport Grounds Operations Division

Appendix 7

MCIAA ELECTRICAL DIVISION
AIRFIELD LIGHTING SECTION

AIRFIELD GROUND LIGHTING SYSTEM
DAILY INSPECTION REPORT

Date: _____

Description of Lightings	No. of Lights (Existing)	No. of Lights (Operational)	No. of Lights (Busted)	Remarks
Runway Edge Lights	98			
Runway Edge Inset Lights	10			
Runway Centerline Lights	109			
Runway End Lights 04	8			
Runway End lights 22	8			
PAPI Lights 04	16			
PAPI Lights 22	16			
Threshold Lights 04	20			
Threshold Lights 22	20			
Threshold Elevated Lights 22	10			
Approach Elevated Lights 04	46			
Approach Inset Lights 04	5			
Approach Elevated Lights 22	146			
Approach Inset Lights 22	20			
Rapid Exit Edge Lights (Echo)	43			
Rapid Exit Edge Lights (Hotel)	43			
Rapid Exit Centerline Light (Echo)	79			
Rapid Exit Centerline Lights (Hotel)	70			
Taxiway edge Lights (Bravo)	122			
Taxiway Edge Lights (Charlie)	37			
Taxiway Edge Lights (Delta)	59			
Taxiway Edge Lights (Foxtrot)	17			
Taxiway Edge Lights (Golf)	38			
Taxiway Edge Lights (Juliet)	35			
Taxiway Edge Light (Kilo)	35			
Taxiway Edge Lights (Lima)	35			
Aerodrome beacon Lights	4			
Runway Guard Lights	4			
Wind Indicator Lights	24			
Obstruction Lights	12			
Runway / Taxiway Guidance Signages	50			

Inspected by:

_____
Name and Signature

Confirmed by:

_____
Shift Supervisor / Foreman

Noted by:

Eng'r. Camilo C. Castro
OIC, Electrical Engineering Division

Appendix 8

MCIAA ELECTRICAL DIVISION
AIRFIELD LIGHTING SECTION

AIRFIELD LIGHTING SYSTEM
INSULATION RESISTANCE TEST

Date of Testing: _____
Instrument Used: _____
Rating: _____
Minimum Insulation Resistance Allowable: 5.0 Mega Ohms

Load Description	Insulation Resistance (Mega Ohms)	Remarks
Approach Lights 04 – Circuit No. 1		
Approach Lights 22 – Circuit No. 2		
Approach Lights 22 – Circuit No. 3		
Runway Edge Lights – Circuit No.1		
Runway Edge Lights - Circuit No. 2		
PAPI Lights – Circuit No, 1 – 3		
PAPI Lights – Circuit No. 2 - 4		
Threshold Lights – Circuit No. 1 – 3		
Threshold Lights – Circuit No. 2 - 4		
Taxiway Edge Lights (Bravo 4 – Kilo)		
Taxiway Edge Lights (Bravo 2 – Foxtrot)		
Taxiway Edge Lights (Bravo 3)		
Taxiway Guidance Signs - Circuit No. 1		
Taxiway Edge Lights (Juliet – Lima)		
Taxiway Edge Lights (Golf)		
Taxiway Edge Lights (Bravo 1 – Charlie)		
Runway Centerline Lights – Circuit No. 1		
Runway Centerline Lights – Circuit No. 2		
Runway Centerline Lights (Echo)		
Taxiway Centerline Lights (Hotel)		
Taxiway Edge Lights (Delta – Echo)		
Taxiway Edge Lights (Hotel)		

Prepared by:

Eng'r. Rodelito R. Muana, REE
Supervising Engineer

Eng'r. Robert A. Juablar, REE
Sr. Engineer A

Submitted by:

Eng'r. Camilo C. Castro, PEE
OIC, Electrical Division

Noted by:

Eng'r. Achilles S. Ponce, PEE
OIC, Engineering Department

Appendix 9

MCIAA ELECTRICAL DIVISION
AIRFIELD LIGHTING SECTION

DAILY MAINTENANCE CHECKLIST

Date: _____
Time: _____
Weather: _____

APPROACH, RUNWAY, PAPI, THRESHOLD AND TAXIWAY LIGHTING SYSTEMS

DESCRIPTION	ACTIVITIES	REMARKS
Approach Lights 22 (Elevated)	• Inspection, system check for burnt-out lamps and breakage • Replacing burnt-out lamps • Replacing broken parts	
Approach Lights 04 (Elevated)	• Inspection, system check for burnt-out lamps and breakage • Replacing burnt-out lamps • Replacing broken parts	
Precision Approach Path Indicator (PAPI) Lights	• Inspection, system check for burnt-out lamps • Replacing burnt-out lamps	
Runway Edge Lights (Elevated)	• Inspection, system check for burnt-out lamps and breakage • Replacing burnt-out lamps • Replacing broken parts	
Taxiway Edge Lights - Bravo (Elevated)	• Inspection, system check for burnt-out lamps and breakage • Replacing burnt-out lamps • Replacing broken parts	
Taxiway Edge Lights - Charlie (Elevated)	• Inspection, system check for burnt-out lamps and breakage • Replacing burnt-out lamps • Replacing broken parts	
Taxiway Edge Lights - Delta (Elevated)	• Inspection, system check for burnt-out lamps and breakage • Replacing burnt-out lamps • Replacing broken parts	
Taxiway Edge Lights - Echo (Elevated)	• Inspection, system check for burnt-out lamps and breakage • Replacing burnt-out lamps • Replacing broken parts	
Taxiway Edge Lights - Foxtrot	• Inspection, system check for burnt-out lamps and breakage • Replacing burnt-out lamps • Replacing broken parts	
Taxiway Edge Lights – Golf (Elevated)	• Inspection, system check for burnt-out lamps and breakage • Replacing burnt-out lamps • Replacing broken parts	

Appendix 9 (continuation)

APPROACH, RUNWAY, PAPI, THRESHOLD AND TAXIWAY LIGHTING SYSTEMS

DESCRIPTION	ACTIVITIES	REMARKS
Taxiway Edge Lights – Hotel (Elevated)	• Inspection, system check for burnt-out lamps and breakage • Replacing burnt-out lamps • Replacing broken parts	
Taxiway Edge Lights – Juliet (Elevated)	• Inspection, system check for burnt-out lamps and breakage • Replacing burnt-out lamps • Replacing broken parts	
Taxiway Edge Lights – Kilo (Elevated)	• Inspection, system check for burnt-out lamps and breakage • Replacing burnt-out lamps • Replacing broken parts	
Taxiway Edge Lights – Lima (Elevated)	• Inspection, system check for burnt-out lamps and breakage • Replacing burnt-out lamps • Replacing broken parts	
Threshold Elevated Lights 22 (Wingbar)	• Inspection, system check for burnt-out lamps and breakage • Replacing burnt-out lamps • Replacing broken parts	

Inspected by:

_____
Name and Signature

Confirmed by:

_____
Shift Supervisor / Section Head

Noted:

Eng'r. Camilo C. Castro
OIC, Electrical Engineering Division

Appendix 10

MCIAA ELECTRICAL DIVISION
AIRFIELD LIGHTING SECTION

TWICE WEEKLY / UNSCHEDULED MAINTENANCE CHECKLIST

Date: _____
Time: _____
Weather: _____

APPROACH, RUNWAY AND TAXIWAY, ELEVATED AND INSET LIGHTS, CENTERLINE LIGHTS AND AIRPORT NAVIGATIONAL AIDS

DESCRIPTION	ACTIVITIES	REMARKS
Approach Elevated Lights	• Checking / Cleaning of outer lens and reflectors • Checking of secondary cables and plug connections • Checking of elevation setting, alignment and focus	
Approach Inset Lights	• Overhaul, cleaning and repair • Checking of secondary cable connections and sockets • Replacing burnt-out lamps	
Runway Edge Elevated Lights	• Checking / cleaning of outer lens • Checking of secondary cable connections and sockets • Checking of elevation setting, alignment and focus	
Runway Edge Inset Lights	• Overhaul, cleaning and repair • Checking of secondary cable connections • Replacing burnt-out lamps	
Runway Centerline Lights	• Overhaul, cleaning and repair • Checking of secondary cable and plug connections • Replacing burnt-out lamps	
Threshold Inset Lights and Runway End Lights	• Overhaul, cleaning and repair • Checking of secondary cable sockets • Replacing burnt-out lamps	
Taxiway Edge Elevated Lights	• Checking of elevation alignment and focus • Replacing broken fixtures • Checking of secondary connections and sockets	

Appendix 10 (continuation)

DESCRIPTION	ACTIVITIES	REMARKS
Taxiway Edge Inset Lights	• Overhaul, cleaning and repair • Checking of secondary cable connections • Replacing burnt-out lamps	
Taxiway Centerline Lights	• Overhaul, cleaning and repair • Checking of secondary cable and plug connections • Replacing burnt-out lamps	
Taxiway Guidance Signs	• Replacing burnt-out lamps • Replacing defective parts • Removing obstructions	
Holding Position Lights	• Replacing burnt-out lamps • Cleaning of outer lens and reflectors • Removing Obstructions	
Wind Direction Indicators	• Replacing burnt-out lamps • Checking of lamp socket and connections	
Aerodrome Beacon Lights	• Replacing burnt-out lamps • Checking of power supply and connections	
Apron Flood Lighting and Obstacle Lights	• Replacing burnt-out lamps • Checking of control boxes and connections	
Airfield Security Lightings	• Replacing burnt-out lamps • Checking of switches and controls	

Inspected by:

_____
Name and Signature

Confirmed by:

_____
Shift Supervisor / Section Head

Noted:

Eng'r. Camilo C. Castro
OIC, Electrical Engineering Division

Appendix 11

MCIAA ELECTRICAL DIVISION
AIRFIELD LIGHTING SECTION

SEMI-ANNUAL MAINTENANCE CHECKLIST

Date: _____
Time: _____
Weather: _____

APPROACH, RUNWAY AND TAXIWAY, ELEVATED AND INSET LIGHTS, CENTERLINE LIGHTS AND AIRPORT NAVIGATIONAL AIDS

DESCRIPTION	ACTIVITIES	REMARKS
Approach Elevated Lights	• Cleaning and replacing rusted parts • Checking of primary cables and connections • Checking / replacing of defective isolating transformers and plug connectors	
Approach Inset Lights	• Checking primary cables and connections • Checking / replacing of defective isolating transformers and plug connectors	
Threshold Wingbar Elevated Lights	• Checking / removing obstacle of tall grasses • Cleaning / replacing rusted parts • Checking / replacing defective isolating transformers and plug connectors	
Runway Threshold Inset Lights and End Lights	• Checking primary cables and connections • Checking / replacing defective isolating transformers and plug connectors	
Runway Edge Elevated and Inset Lights	• Cleaning / replacing rusted parts • Checking primary cables and connections • Checking / replacing defective isolating transformers and plug connectors	
Runway Centerline Lights	• Cleaning / replacing prisms and filters • Checking / replacing defective isolating transformers and plug connectors • Checking primary cables and connections • Resealing and tightening	
Taxiway Edge Elevated and Inset Lights	• Cleaning / replacing rusted parts • Checking primary cables and connections • Checking / replacing defective isolating transformers and plug connectors	
Taxiway Centerline Lights	• Checking / replacing prisms and filters • Checking / replacing defective isolating transformers and plug connectors • Checking primary cables and connections • Resealing and tightening	
Precision Approach Path Indicator (PAPI) Lights	• Servicing / cleaning of lenses and reflectors • Checking / removing obstacles of tall grasses • Checking / replacing defective isolating transformers and plug connectors • Checking of elevation setting (vertical angle) and adjustment	

Appendix 11 (continuation)

DESCRIPTION	ACTIVITIES	REMARKS
Runway Guard Lights	• Servicing / cleaning of lenses and reflectors • Checking power supply and transformers	
Taxiway guidance Signs	• Checking primary and secondary cables • Replacing defective parts • Cleaning / painting of structures • Removing obstacle of tall grasses	
Wind Direction Indicator	• Checking power supply and lightings • Replacing wind cone fabric	
Aerodrome Beacon Light	• Cleaning lens and reflectors • Checking electrical connections • Checking rotating parts and motor	
Apron Flood lightings and Obstruction Lights	• Checking power supply and lightings • Cleaning / checking controls and ballast boxes	

Inspected by:

_____
Name and Signature

Confirmed by:

_____
Shift Supervisor / Section Head

Noted by:

Eng'r. Camilo C. Castro
OIC, Electrical Engineering Division

Appendix 12

MCIAA ELECTRICAL DIVISION
AIRFIELD LIGHTING SECTION

MONTHLY / UNSCHEDULED INSPECTION

Date: _____
Time: _____
Weather: _____

REGULATORS AND CONTROL FACILITIES

DESCRIPTION	ACTIVITIES	REMARKS
Constant Current Regulator – 25kw **Approach Lighrs 04 CKT 1**	• Serviceability check • Lights intensity check • Repair / replacing defective parts	
Constant Current Regulator – 25kw **Approach Lights 22 CKT 2** **Approach Lights 22 CKT 3**	• Serviceability check • Lights intensity check • Repair / replacing defective parts	
Constant Current Regulator – 15kw **Runway Edge Lights CKT 1** **Runway Edge Lights CKT 2**	• Serviceability check • Lights intensity check • Repair / replacing defective parts	
Constant Current Regulator – 10kw **Runway Centerline Lights CKT 1** **Runway Centerline Lights CKT 2**	• Serviceability check • Lights intensity check • Repair / replacing defective parts	
Constant Current Regulator – 10kw **Taxiway Guidance Signs CKT 1** **Taxiway Guidance Signs CKT 2**	• Serviceability check • Lights intensity check • Repair / replacing defective parts	
Constant Current Regulator – 7.5kw **Threshold Lights CKT 1** **Threshold Lights CKT 2**	• Serviceability check • Lights intensity check • Repair / replacing defective parts	
Constant Current Regulator – 4.0kw **PAPI Lights CKT 1** **PAPI Lights CKT 2**	• Serviceability check • Lights intensity check • Repair / replacing defective parts	
Constant Current Regulator – 7.5kw **Taxiway Edge Lights Bravo/Charlie**	• Serviceability check • Lights intensity check • Repair / replacing defective parts	
Constant Current Regulator – 7.5kw **Taxiway Edge Lights Delta / Echo**	• Serviceability check • Lights intensity check • Repair / replacing defective parts	

Appendix 12 (continuation)

DESCRIPTION	ACTIVITIES	REMARKS
Constant Current Regulator – 7.5kw Rapid Exit Centerline Lights Echo	• Serviceability check • Lights intensity check • Repair / replacing defective parts	
Constant Current Regulator – 7.5kw Taxiway Edge Lights Bravo / Kilo	• Serviceability check • Lights intensity check • Repair / replacing defective parts	
Constant Current Regulator – 7.5kw Rapid Exit Centerline Lights Hotel	• Serviceability check • Lights intensity check • Repair / replacing defective parts	
Constant Current Regulator – 4.0kw Taxiway Edge Lights Bravo/Foxtrot	• Serviceability check • Lights intensity check • Repair / replacing defective parts	
Constant Current Regulator – 4.0kw Taxiway Edge Lights Golf	• Serviceability check • Lights intensity check • Repair / replacing defective parts	
Constant Current Regulator – 4.0kw Taxiway Edge Lights Juliet / Lima	• Serviceability check • Lights intensity check • Repair / replacing defective parts	
Constant Current Regulator – 4.0kw Taxiway Edge Lights Bravo 3	• Serviceability check • Lights intensity check • Repair / replacing defective parts	
Constant Current Regulator – 4.0kw Taxiway Edge Lights Hotel	• Serviceability check • Lights intensity check • Repair / replacing defective parts	

Inspected by:

_____
Name and Signature

Confirmed by:

_____
Shift Supervisor / Section Head

Noted by:

Eng'r. Camilo C. Castro
OIC, Electrical Engineering Division

Appendix 13

MCIAA ELECTRICAL DIVISION
AIRFIELD LIGHTING SECTION

SEMI-ANNUAL INSPECTION

Date: _____
Time: _____
Weather: _____

REGULATORS AND CONTROL FACILITIES

DESCRIPTION	ACTIVITIES	REMARKS
Constant Current Regulator – 25kw **Approach Lights 04 CKT 1**	• Servicing / cleaning • Checking power supply / connections • Checking output current	
Constant Current Regulator – 25kw **Approach Lights 22 CKT 2** **Approach Lights 22 CKT 3**	• Servicing / cleaning • Checking power supply / connections • Checking output current	
Constant Current Regulator – 15kw **Runway Edge Lights CKT 1** **Runway Edge Lights CKT 2**	• Servicing / cleaning • Checking power supply / connections • Checking output current	
Constant Current Regulator – 10kw **Runway Centerline Lights CKT 1** **Runway Centerline Lights CKT 2**	• Servicing / cleaning • Checking power supply / connections • Checking output current	
Constant Current Regulator – 10kw **Taxiway Guidance Signs CKT 1** **Taxiway Guidance Signs CKT 2**	• Servicing / cleaning • Checking power supply / connections • Checking output current	
Constant Current Regulator – 7.5kw **Threshold Lights CKT 1** **Threshold Lights CKT 2**	• Servicing / cleaning • Checking power supply / connections • Checking output current	
Constant Current Regulator – 4.0kw **PAPI Lights CKT 1** **PAPI Lights CKT 2**	• Servicing / cleaning • Checking power supply / connections • Checking output current	
Constant Current Regulator – 7.5kw **Taxiway Edge Lights Bravo/Charlie**	• Servicing / cleaning • Checking power supply / connections • Checking output current	
Constant Current Regulator – 7.5kw **Taxiway Edge Lights Delta / Echo**	• Servicing / cleaning • Checking power supply / connections • Checking output current	

Appendix 13 (continuation)

DESCRIPTION	ACTIVITIES	REMARKS
Constant Current Regulator – 7.5kw Rapid Exit Centerline Lights Echo	• Servicing / cleaning • Checking power supply / connections • Checking output current	
Constant Current Regulator – 7.5kw Taxiway Edge Lights Bravo / Kilo	• Servicing / cleaning • Checking power supply / connections • Checking output current	
Constant Current Regulator – 7.5kw Rapid Exit Centerline Lights Hotel	• Servicing / cleaning • Checking power supply / connections • Checking output current	
Constant Current Regulator – 4.0kw Taxiway Edge Lights Bravo/Foxtrot	• Servicing / cleaning • Checking power supply / connections • Checking output current	
Constant Current Regulator – 4.0kw Taxiway Edge Lights Golf	• Servicing / cleaning • Checking power supply / connections • Checking output current	
Constant Current Regulator – 4.0kw Taxiway Edge Lights Juliet / Lima	• Servicing / cleaning • Checking power supply / connections • Checking output current	
Constant Current Regulator – 4.0kw Taxiway Edge Lights Bravo 3	• Servicing / cleaning • Checking power supply / connections • Checking output current	
Constant Current Regulator – 4.0kw Taxiway Edge Lights Hotel	• Servicing / cleaning • Checking power supply / connections • Checking output current	

Inspected by:

_____
Name and Signature

Confirmed by:

_____
Shift Supervisor / Section Head

Noted by:

Eng'r. Camilo C. Castro
OIC, Electrical Engineering Division

Appendix 14

MCIAA ELECTRICAL DIVISION
AIRFIELD LIGHTING SECTION

SEMI-ANNUAL / UNSCHEDULED INSPECTION

Date: _____
Time: _____
Weather: _____

POWER CABLES AND FIELD DISTRIBUTIONS

DESCRIPTION	ACTIVITIES	REMARKS
Approach Lights 04 **Circuit No. 1**	• Cleaning, tightening and spraying of electrical connectors in manholes • Insulation Resistance Test	
Approach Lights 22 **Circuit No.2** **Circuit No.3**	• Cleaning, tightening and spraying of electrical connectors in manholes • Insulation Resistance Test	
Runway Edge Lights **Circuit No. 1** **Circuit No. 2**	• Cleaning, tightening and spraying of electrical connectors in manholes • Insulation Resistance Test	
Runway Centerline Lights **Circuit No. 1** **Circuit No. 2**	• Cleaning, tightening and spraying of electrical connectors in manholes • Insulation Resistance Test	
PAPI Lights **Circuit No. 1** **Circuit No. 2**	• Cleaning, tightening and spraying of electrical connectors in manholes • Insulation Resistance Test	
Threshold Lights **Circuit No. 1** **Circuit No. 2**	• Cleaning, tightening and spraying of electrical connectors in manholes • Insulation Resistance Test	
Taxiway Edge Lights **Bravo - Kilo**	• Cleaning, tightening and spraying of electrical connectors in manholes • Insulation Resistance Test	
Taxiway Edge Lights **Juliet - Lima**	• Cleaning, tightening and spraying of electrical connectors in manholes • Insulation Resistance Test	
Taxiway Edge Lights **Bravo 2**	• Cleaning, tightening and spraying of electrical connectors in manholes • Insulation Resistance Test	

Appendix 14 (continuation)

DESCRIPTION	ACTIVITIES	REMARKS
Taxiway Edge Lights Bravo 3	• Cleaning, tightening and spraying of electrical connectors in manholes • Insulation Resistance Test	
Taxiway Edge Lights Golf	• Cleaning, tightening and spraying of electrical connectors in manholes • Insulation Resistance Test	
Taxiway Edge Lights Hotel	• Cleaning, tightening and spraying of electrical connectors in manholes • Insulation Resistance Test	
Taxiway Edge Lights Delta - Echo	• Cleaning, tightening and spraying of electrical connectors in manholes • Insulation Resistance Test	
Taxiway Edge Lights Bravo - Charlie	• Cleaning, tightening and spraying of electrical connectors in manholes • Insulation Resistance Test	
Taxiway Centerline Lights Echo	• Cleaning, tightening and spraying of electrical connectors in manholes • Insulation Resistance Test	
Taxiway Centerline Lights Hotel	• Cleaning, tightening and spraying of electrical connectors in manholes • Insulation Resistance Test	
Taxiway Guidance Signage Circuit No. 1 Circuit No. 2	• Cleaning, tightening and spraying of electrical connectors in manholes • Insulation Resistance Test	

Inspected by:

_____
Name and Signature

Confirmed by:

_____
Shift Supervisor / Section Head

Noted by:

Eng'r. Camilo C. Castro
OIC, Electrical Engineering Division

Appendix 15

MCIAA ELECTRICAL DIVISION
AIRFIELD LIGHTING SECTION

MONTHLY / UNSCHEDULED INSPECTION

Date: _____
Time: _____
Weather: _____

PRIMARY POWER SUPPLY AND SECONDARY POWER SUPPLY (GENERATOR)

DESCRIPTION	ACTIVITIES	REMARKS
Transformer Station **3-167 KVA, 60 HZ** **13,800 Volts Primary** **230 Volts Secondary**	• Checking and cleaning of station surroundings • Checking, cleaning or replacing of the warning and safety signs	
Standby Generator Set **KVA – 438 Phase – 3** **KW – 350.4 P.F. _ 0.8** **Volts – 230 AMPS _ 1,149** **RPM – 1800** **Continuous Rating**	• Test run and recording of meter reading • Servicing and cleaning • Engine oil check • Fuel level check • Battery water level check • Switch – over time from primary to secondary power supply for conformation to the requirement	

Inspected by:

_____
Name and Signature

Confirmed by:

_____
Shift Supervisor / Section Head

Noted by:

Eng'r. Camilo C. Castro
OIC, Electrical Engineering Division

Appendix 16

MCIAA ELECTRICAL DIVISION
AIRFIELD LIGHTING SECTION

MONTHLY / UNSCHEDULED INSPECTION

Date: _____
Time: _____
Weather: _____

PANEL BOARD AND SWITCHES

DESCRIPTION	ACTIVITIES	REMARKS
Automatic Transfer Switch (ATS) **AMP – 1,250 A** **Volts – 250 VAC** **Phase 3**	• Servicing and cleaning • Check wiring connections • Tightening for possible loose connections • Switch – over to standby unit	
Main Distribution Panel (MDP) **AMP – 1,200 A** **Volts – 240 VAC** **Phase 3**	• Servicing and cleaning • Check wiring connections of branches • Tightening for possible loose connections	
Emergency Main Distribution Panel 1 (EMDP 1) **AMP – 600 A** **Volts – 240 VAC** **Phase 3**	• Servicing and cleaning • Check wiring connections of branches • Tightening for possible loose connections	
Emergency Main Distribution Panel 2 (EMDP 2) **AMP – 225 A** **Volts – 240 VAC** **Phase 3**	• Servicing and cleaning • Check wiring connections of branches • Tightening for possible loose connections	
Marshalling Panel	• Servicing and cleaning • Check wiring connections of branches • Check PLC and relays	
Selection Panel PAPI Lights	• Servicing and cleaning • Check wiring connections of branches • Tightening for possible loose connections	
Selection Panel Threshold Lights	• Servicing and cleaning • Check wiring connections of branches • Tightening for possible loose connections	

Inspected by:

_____
Name and Signature

Confirmed by:

_____
Shift Supervisor / Section Head

Noted by:

Eng'r. Camilo C. Castro
OIC, Electrical Engineering Division

Appendix 17

ACCIDENT INVESTIGATION REPORT

Report No. _____

Name of Company: _____
Address: _____
Date: _____

1. Name of Injured: _____ I.D. # _____

2. Sex: ( ) M ( ) F Age: _____ Date of Accident: _____

3. Time of Accident: _____ Day of Accident: _____

4. Employee's Job Title: _____

5. Length of experience on job: _____ years _____ months

6. Address or location where the accident occurred: _____

7. Nature of injury, injury type, and part of the body affected: _____

8. Describe the accident and how it occurred: _____

9. Cause of the accident: _____

10. Was personal protective equipment required? ( ) Yes ( ) No

    Was it being used? ( ) Yes ( ) No . If "NO", explain.
    _____
    _____

    Was it being used as trained by supervisor or designated trainer? ( ) Yes ( ) No
    If "NO", explain.
    _____
    _____

11. Witnesses: _____ _____

12. Safety training provided to the injured? ( ) Yes ( ) No . If "NO", explain.
    _____
    _____

13. Interim corrective actions taken to prevent recurrence:
    _____

14. Permanent corrective action recommended to prevent recurrence:
    _____

15. Status and follow-up action taken by safety coordinator:
    _____

Prepared by:

_____
Name and Signature

Noted by:

Eng'r. Manuel D. Lopez Sr.
Manager, Airport Grounds Operations Division

Appendix 17 (continuation)

Instructions for Completing the Accident Investigation Report

An accident investigation is not designed to find fault or place blame but it is an analysis of the accident to determine causes that can be controlled or eliminated.

(Item 1 – 6) Identification: This section is self-explanatory

(Item 7) Nature of Injury: Describe the injury, e.g. strain, sprain, cut, burn, fracture

Injury Type:

First Aid: Injury resulted in minor injury / treated on premises
Medical: Injury treated off premises by physician
Lost Time: Injured missed more than one day of work
No Injury: No injury, near miss type of accident
Part of the body: part of the body directly affected, e.g., foot, arm, hand, head

(Item 8) Describe the accident: Describe the accident, including exactly what happened, and where and how it happened. Describe the equipment or materials involved.

(Item 9) Cause of the accident: describe all conditions or acts which contributed to the accident, i.e.:

(a) Unsafe condition: spills, grease on the floor, poor housekeeping or other physical conditions;

(b) Unsafe acts: unsafe work practices such as failure to warn, failure to use required personal protective equipment.

(Item 10) Personal protective equipment: Self-explanatory

(Item 11) Witnesses: List names, address and phone numbers

(Item 12) Safety training provided: Was any safety training provided to the injured related to the work activity being performed?

(Item 13) Interim corrective action: Measures taken by supervisor to prevent recurrence of incident, i.e., barricading accident area, posting warning signs, shutting down operations

(Item 14) Self-explanatory

(Item 15) Follow-up: Once the investigation is complete, the safety coordinator shall review and follow-up the investigation to ensure that corrective actions recommended by the safety committee and approved by the employer are taken, and control measures have been implemented.

Appendix 18

Republic of the Philippines
Department of Transportation and Communication
MACTAN-CEBU INTERNATIONAL AIRPORT AUTHORITY
Lapu-Lapu City

CIVIL WORKS DIVISION – ENGINEERING DEPARTMENT
INSPECTION CHECKLIST OF AIRPORT CIVIL ENGINEERING FACILITIES

PATROL INSPECTION

Place subject to inspection	Inspection Item	Inspection Frequency	Inspection Date/ Inspector	Findings		Comments & Recommendations	Remarks
				YES	NO		
Runway	Damage of pavement	Twice/month					
	Existence of trash, etc. on pavement surface	Twice/month					
	Condition of marks	Twice/month					
	Accumulation of adhesive rubber	Twice/month					
Taxiway	Damage of pavement	Twice/month					
	Existence of trash, etc. on pavement surface	Twice/month					
	Condition of marks	Twice/month					
Apron	Damage of pavement	Once/month					
	Existence of trash, etc. on pavement surface	Once/month					
	Condition of marks	Once/month					
	Oil stains of pavement surface	Once/month					
Landing Zone	Condition of plants and trees	Twice/year					
	Condition of drainage facilities	Twice/year					
	Condition of rainwater drainage	Twice/year					
Road Parking Space	Damage of pavement	Once/month					
	Existence of trash, etc. on pavement surface	Once/month					
	Condition of marks	Once/month					
	Condition of rainwater drainage	Once/month					
	Condition of plants and trees	Once/month					
Others	Condition of a fence around airport	Once/year					
	Condition of plants and trees	Four times/yr					
	Condition of bank protection	Four times/yr					
	Condition of breast walls	Four times/yr					

Inspected by:

IGNACIO B. TAGHAP, JR.
Supervising Engineer – B

DENNIS A. BONDOC
Principal Engineer - D

Noted:

EDUARDO G. GINETE
OIC, Civil Works Division

Cc: gm, agm, sms-sso, eng'g dept., records, file

Appendix 19

CIVIL WORKS DIVISION – ENGINEERING DEPARTMENT
INSPECTION CHECKLIST OF AIRPORT CIVIL ENGINEERING FACILITIES

PERIODICAL INSPECTION

Place subject to inspection	Inspection Item	Inspection Frequency	Inspection Date/ Inspector	Findings		Comments & Recommendations	Remarks
				YES	NO		
Runway	Longitudinal and traverse pitch	Once/three yrs.					
	Sliding resistance when wet	Four times/yr					
	Surface roughness	Four times/yr					
	Pavement unit strength	Once/three yrs					
	Crack	Once/three yrs					
	Rutting	Once/three yrs					
	Evenness	Once/three yrs					
Taxiway	Longitudinal and traverse pitch	Once/three yrs					
	Pavement unit strength	Once/three yrs					
	Crack	Once/three yrs					
	Rutting	Once/three yrs					
Apron	Evenness	Once/three yrs					
	Pavement unit strength	Once/three yrs					
	Crack	Once/three yrs					
Landing Zone	Faulting	Once/three yrs					
Road Parking Space	Traverse pitch	Once/three yrs					
	Height of						

Inspected by:

IGNACIO B. TAGHAP, JR.
Supervising Engineer – B

DENNIS A. BONDOC
Principal Engineer - D

Noted:

EDUARDO GINETE
OIC, Civil Works Division

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ANNEX 5:

SAFETY MANAGEMENT SYSMTEM MANUAL OF GMR-MEGAWIDE CEBU AIRPORT CORPORATION

MACTAN-CEBU INTERNATIONAL AIRPORT

GMR MEGAWIDE- CEBU AIRPORT CORPORATION

Conforming to

R.A.9497, Civil Aviation Act of 2007
CIVIL AVIATION AUTHORITY OF THE PHILIPPINES
&
Doc.9859 AN/474 Safety Management Manual (SMM), Third Edition – 2013

INTERNATIONAL CIVIL AVIATION ORGANIZATION

SAFETY MANAGEMENT SYSTEM MANUAL

MAKTAN CEBU INTERNATIONAL AIRPORT

GMR MEGAWIDE CEBU AIRPORT CORPORATION

Lapu-Lapu City

Tel: TBA FAX: TBA

E-mail: safety.gmcac@gmcac.ph

Version: 1.0
Issue Date: 18 July, 2014
Effective Date: 1 November, 2014

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TABLE OF CONTENTS

II. AMENDMENTS:

Amendment & Corrigenda Number	Affected part/ content	Page number	Name & Signature	Date

III. REVISON HISTORY:

This Safety Management System Manual has been revised as indicated by the change listed in the following table.

Version	Date	Part/Section	Details

IV. INTRODUCTION

This is the Safety Management System (SMS) Manual for Mactan-Cebu International Airport operated by GMR MEGAWIDE CEBU AIRPORT CORPORATION (GMCAC) as per requirement of the Republic Act No.9497, The Civil Aviation Authority of the Philippines, the act dated 23rd July, 2007 and the Safety Management Manual (SMM), Third Edition – 2013 of International Civil Aviation Organization. This manual applies to all personnel employed by, or contracted to by GMCAC in any capacity (full time, part time or casual). All personnel shall abide by the procedures contained in this manual besides their own SMS or SOP at their respective domains.

A functioning Safety Management System became a mandatory requirement for certified Aerodromes since 24 November 2005. The essence of the SMS in this document is a *hazard reporting process and a process for the risk assessment and treatment of the hazards identified by staff, or through investigation and analysis of incidents or accidents.*

Sections of the manual provide the context within which the SMS can function at this airport. This context is composed of elements as per ICAO Doc 9859 AN/474 Safety Management Manual (SMM), third Edition – 2013 with 4 components and 12 elements.

The Mactan –Cebu International Airport safety management system is an integrated set of work practices, beliefs and procedures for monitoring and improving the safety and wellbeing of all aspects of the organization. It recognizes the potential for errors and establishes robust defenses to ensure that errors do not result in incidents or accidents. It will incorporate the underlying principles of Quality Management and Risk Management with Safety Management principles and practices. These concepts build on and reinforce each other.

As with all management systems, Mactan-Cebu International Airport SMS involves goal setting, planning, documentation, and the measuring of performance against goals. This safety management system is a comprehensive integrated tool for managing safety in apron/Passengers' Terminal Building /Landside operations. It sets out:

- The safety objectives;

- The systems and procedures by which these are to be achieved;
- The performance standards which are to be met; and
- The means by which adherence to these standards is to be maintained.

Written directions and instructions are made clear and concise, and readily available to everyone who may need them.

V. DOCUMENT AMENDMENT PROCEDURES:

CAAP regulation applies to procedures for amending an SMS Manual. The philosophy and process applicable to SMS Manuals, including amendment requirements, are applied equally to this manual unless or until specific instructions are provided for SMS Manuals.

VI. AMENDMENT AWARENESS RECORDS:

All personnel associated with any aspect of the airport Safety Management System must sign the Amendment Awareness Record as evidence of having read, understood and agreed to apply the procedures and data contained in the SMS Manual.

All personnel who are required to sign must do so, on initial issue of the manual, and additionally whenever an amendment has been made. It is the Airport Manual Controller's responsibility to ensure that each amendment is brought to the attention of all relevant persons.

REFERENCES:

a) ICAO Doc.9859 AN/474 Safety Management Manual, Third Edition – 2013.

b) ICAO Document 9774 Manual on Certification of Aerodromes.

c) Annex 14 Aerodromes Volume 1 Fourth Edition, amendment 7.

d) AO 139

VIII. DEFINITION & ABBREVIATIONS

1. ***Acceptable level of safety performance (ALoSP).*** The minimum level of safety performance of civil aviation in a State, as defined in its State safety programme, or of a service provider, as defined in its safety management system, expressed in terms of safety performance targets and safety performance indicators.
2. ***Accountable executive.*** A single, identifiable person having responsibility for the effective and efficient performance of the State's SSP or of the service provider's SMS.
3. ***Change management.*** A formal process to manage changes within an organization in a systematic manner, so that changes which may impact identified hazards and risk mitigation strategies are accounted for, before the implementation of such changes.
4. ***Defences.*** Specific mitigating actions, preventive controls or recovery measures put in place to prevent the realization of a hazard or its escalation into an undesirable consequence.
5. ***Errors.*** An action or inaction by an operational person that leads to deviations from organizational or the operational person's intentions or expectations.
6. ***High-consequence indicators.*** Safety performance indicators pertaining to the monitoring and measurement of high-consequence occurrences, such as accidents or serious incidents. High-consequence indicators are sometimes referred to as reactive indicators.
7. ***Lower-consequence indicators.*** Safety performance indicators pertaining to the monitoring and measurement of lower-consequence occurrences, events or activities such as incidents, non-conformance findings or deviations. Lower-consequence indicators are sometimes referred to as proactive/predictive indicators.
8. ***Risk mitigation.*** The process of incorporating defences or preventive controls to lower the severity and/or likelihood of a hazard's projected consequence.

9. ***Safety management system.*** A systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures.
10. ***Safety performance.*** A State's or service provider´s safety achievement as defined by its safety performance targets and safety performance indicators.
11. ***Safety performance indicator.*** A data-based safety parameter used for monitoring and assessing safety performance.
12. ***Safety risk.*** The predicted probability and severity of the consequences or outcomes of a hazard.
13. ***State safety Programme.*** An integrated set of regulations and activities aimed at improving safety.
14. **Audit :**Systematic, independent and documented process for obtaining "audit evidence" and evaluating it objectively to determine the extent to which "audit criteria" are fulfilled
15. **Consequence:** A consequence is defined as the potential outcome (or outcomes) of a hazard.
16. **Continual improvement:** Recurring process of enhancing the Safety Management System in order to achieve improvements in overall safety performance consistent with the DIAL's safety policy.
17. **Corrective action:** Action to eliminate the cause of a detected nonconformity or other undesirable situation.
18. **Document:** Information and its supporting medium.
19. **Hazard:** Source, situation, or act with a potential for harm in terms of human injury or damage to property, or a combination of these.
20. **Hazard identification:** Process of recognizing that a **hazard** exists and defining its characteristics.
21. **Ill Health:** Identifiable, adverse physical or mental condition arising from and/or made worse by a work activity and/or work-related situation.
22. **Incident:** Airside operations related event(s) in which an injury or fatality or damage (regardless of severity) could have occurred NOTE 1 An accident is an incident which has given rise

to injury, fatality or damage to aircraft. These are further categorized into following two categories:

23. Accidents involving aircrafts, in the maneuvering area and on aprons
24. Accidents involving vehicles, equipment and people other than aircraft, in the airside operation area
    a) NOTE 2: An incident may also be referred to as a "near-miss", "near-hit", "close call" or "dangerous occurrence".
    b) NOTE 3 An emergency situation is a particular type of incident.
25. N**onconformity:** Non-fulfilment of a requirement.
26. P**reventive action:** Action to eliminate the cause of a potential **nonconformity** or other undesirable potential situation.
    A. NOTE 1 There can be more than one cause for a potential nonconformity.
    B. NOTE 2 Preventive action is taken to prevent occurrence whereas **corrective action** is taken to prevent recurrence.
27. **Procedure:** Specified way to carry out an activity or a process.
28. **Record: Document** stating results achieved or providing evidence of activities performed.
29. **Risk:** Combination of the likelihood of an occurrence of a hazardous event or exposure(s)and the severity of injury or **damage** that can be caused by the event or exposure(s).
30. **Risk assessment:** Process of evaluating the **risk(s)** arising from a hazard(s), taking into account the adequacy of any existing controls, and deciding whether or not the risk(s) is acceptable.
31. **Safety policy:** Overall intentions and direction of an **organization** related to its safety initiatives.
32. **Acceptable level of safety (ALoS):** It is the minimum degree of safety that must be assured by a system in actual practice.
33. **Accountable Executive:** Accountable Executive is the single, identifiable person having final responsibility for the effective and efficient performance of the organization's SMS.

34. **Aerodrome:** A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.
35. **Aerodrome licence:** A licence issued by the Director General of Civil Aviation under applicable regulations for the operation of an aerodrome.
36. **Aerodrome reference point (ARP):** The designated geographical location of an aerodrome.
37. **Declared distances:**
38. **Take-off run available (TORA):** The length of runway declared available and suitable for the ground run of an aeroplane taking off.
39. **Take-off distance available (TODA):** The length of the take-off run available plus the length of the clearway, if provided.
40. **Accelerate-stop distance available (ASDA):** The length of the take-off run available plus the length of the stop way, if provided.
41. **Landing distance available (LDA):** The length of runway, which is declared available and suitable for, the ground run of an aeroplane landing.
42. **Gap analysis:** A gap analysis is an analysis of the safety arrangements already existing within the organization as compared to those necessary for the SMS to function.
43. **Human Factors principles:** Principles which apply to aeronautical design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration to human performance.
44. **Human performance:** Human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.
45. I**nstrument runway:** One of the following types of runways intended for the operation of aircraft using instrument approach procedures:

46. N**on-precision approach runway:** An instrument runway served by visual aids and a non-visual aid providing at least directional guidance adequate for a straight-in approach.
47. P**recision approach runway, category I:** An instrument runway served by ILS and/or MLS and visual aids intended for operations with a decision height not lower than 60 m (200 ft) and either a visibility not less than 800 m or a runway visual range not less than 550 m.
48. P**recision approach runway, category II:** An instrument runway served by ILS and/or MLS and visual aids intended for operations with a decision height lower than 60 m (200 ft) but not lower than 30 m (100 ft) and a runway visual range not less than 350 m.
49. P**recision approach runway, category III:** An instrument runway served by ILS and/or MLS to and along the surface of the runway and:
50. A — intended for operations with a decision height lower than 30 m (100 ft), or no decision height and a runway visual range not less than 200 m.
51. B — intended for operations with a decision height lower than 15 m (50 ft), or no decision height and a runway visual range less than 200m but not less than 50 m
52. C — intended for operations with no decision height and no runway visual range limitations.

53. **Licensed aerodrome:** An aerodrome whose operator has been granted an aerodrome licence.
54. **Maneuvering area:** That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.
55. M**ovement area:** That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the maneuvering area and the apron(s).
56. **Non-instrument runway:** A runway intended for the operation of aircraft using visual approach procedures.
57. **Runway:** A defined rectangular area on a land aerodrome prepared for the landing and takeoff of aircraft.

58. **Runway Incursion:** Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft.
59. **Runway Visual Range (RVR):** The range over which the pilot of an aircraft on the centre line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centre line.
60. **Safety Programme:** An integrated set of regulations and activities aimed at improving safety.
61. **Safety management system:** It is a management tool for the management of safety by an organization, reflecting an organized and orderly approach.
62. **Service provider:** Service provider refers to any organization providing aviation services. The term includes approved training organizations that are exposed to operational safety risks during the provision of their services, aircraft operators, approved maintenance organizations, organizations responsible for type design and/or manufacture of aircraft, air traffic service providers and certified aerodromes, as applicable.
63. **Taxiway:** A defined path on a land aerodrome established for the taxiing of aircraft and intended to provide a link between one part of the aerodrome and another, including:
64. Aircraft stand taxi lane: A portion of an apron designated as a taxiway and intended to provide access to aircraft stands only.
65. Apron taxiway: A portion of a taxiway system located on an apron and intended to provide a through taxi route across the apron.
66. Rapid exit taxiway: A taxiway connected to a runway at an acute angle and designed to allow landing aeroplanes to turn off at higher speeds than are achieved on other exit taxiways thereby minimizing runway occupancy times.
67. **Threshold:** The beginning of that portion of the runway usable for landing.

68. **Touchdown Zone:** The portion of runway, beyond the threshold, where it is intended first contact of aeroplanes on the runway.

ABBREVIATIONS

AD: Airworthiness directive

ADREP: Accident/incident data reporting (ICAO)

AIB: Accident investigation board

AIR: Airworthiness

ALoSP: Acceptable level of safety performance

AMAN: Abrupt maneuvering

AME: Aircraft maintenance engineer

AMO: Approved maintenance organization`

AMS: Aircraft maintenance schedule

ANS: Air navigation service

AOC: Air operator certificate

AOG: Aircraft on ground

ASB: Alert service bulletin

ATC: Air traffic control

ATM: Air traffic management

ATS: Air traffic service(s)

CAA: Civil aviation authority

CAN: Corrective action notice

CBA Cost-benefit analysis

CEA: Chief Executive Advisor

CEO: Chief executive officer

CFIT: Controlled flight into terrain

Cir: Circular

CM: Condition monitoring

CMA: Continuous monitoring approach

CMC: Crisis management centre

CNS: Communications, navigation and surveillance

CP: Command post

CRM: Crew resource management

CVR: Cockpit voice recorder

DGR: Dangerous goods regulation

D&M: Design and manufacturing

DMS: Document management system

DOA: Design organization approval

Doc: Document

EAD: Emergency airworthiness directive

EC: Escalation control

ECCAIRS: European Coordination Centre for Accident and Incident Reporting Systems

EDTO: Extended diversion time operation

EF: Escalation factor

EMC: Emergency management centre *(x) Safety Management Manual (SMM)*

EMS: Environmental management system

ERP: Emergency response plan

FDR: Flight data recorder

FH: Flying hours

FIR: Flight information region

FL: Flight level

FMS: Financial management system

FRMS: Fatigue risk management systems

FTL: Flight time limitation

FTM: Fleet technical management

GAQ: Gap analysis questionnaire

H: Hazard

HF: Human factors

HIRA: Hazard identification and risk assessment

HIRM: Hazard identification and risk mitigation

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

IFSD: In-flight shutdown

ILS: Instrument landing system

IMC: Instrument meteorological conditions

ISO: International Organization for Standardization

iSTARS: Integrated Safety Trend and Reporting System

ITM: Inventory technical management

Kg: Kilogram(s)

LEI: Lack of effective implementation

LOC-I Loss of control in flight

LOFT Line-oriented flight training

LOS Loss of separation

LOSA Line operations safety audit

LRU Line replaceable unit

LSI Line station inspection

MCM Maintenance control manual

MDR Mandatory defect report

MEDA Maintenance error decision aid

MEL Minimum equipment list

MFF Mixed fleet flying

MOR Mandatory occurrence report

MPD Maintenance planning document

MRM Maintenance resource management

MRO Maintenance repair organization

MSL Mean sea level

N/A Not applicable

OEM Original equipment manufacturer

OPS Operations

ORP Organization risk profile

OSC Organization safety culture

OSHE Occupational safety, health and environment

OHSMS Occupational health and safety management system

PC Preventive control

PMI Principal Maintenance inspector

POA Production organization approval

POI Principal Operation's inspector

QA Quality assurance

QC Quality control

QM Quality management

QMS Quality management system

RAIO Regional accident and incident investigation organization

RM Recovery measure

RSOO Regional safety oversight organization

SA Safety assurance

SAG Safety action group

SARPs Standards and Recommended Practices (ICAO)

SB Service bulletin

SCF-NP System component failure — non-power plant

SD Standard deviation

SDCPS Safety data collection and processing system

SeMS Security management system

SHEL Software/hardware/environment/livewire

SM Safety management

SMM Safety management manual

SMP Safety Management Panel

SMS Safety management system(s)

SOPs Standard operating procedures

SPI Safety performance indicator

SQE Safety Quality Environment

SRB Safety review board

SRC Safety review committee

SRM Safety risk management

SSO Safety services office

SSP State safety programme

STDEVP Population standard deviation

TBD To be determined

TOPS Terminal Operations

TOR Terms of reference

UC Ultimate consequence

UE Unsafe event

UFIS Universal Flight Information System

USOAP Universal Safety Oversight Audit Programme (ICAO)

WIP Work in progress

Section-1

SAFETY POLICY AND OBJECTIVE

1.1

MANAGEMENT COMMINTMENT AND RESPONSIBILITY

1.1.01 SAFETY POLICY

GMR MEGAWIDE

MEGAWIDE

SAFETY POLICY

safety

GMR MEGAWIDE CEBU AIRPORT CORPORATION (GMCAC) will proactively act for prevention of accidents/ incidents, injuries and ill health to all airport employees and stakeholders through compliance of legal and regulatory requirements, non-punitive hazard reporting, safety risk management and allocating appropriate resources for continual improvement in safety performance at Mactan Cebu International Airport.

ANDREW ACQUAAH HARRISON
Chief Executive Advisor, GMCAC

1.1.02 SAFETY POLICY STATEMENT

Safety is one of GMCAC's core business functions. We are committed to developing, implementing, maintaining and constantly improving strategies and processes to ensure that all our aviation activities take place under an appropriate allocation of organizational resources, aimed at achieving the highest level of safety performance and meeting regulatory requirements, while delivering our services.

All levels of management and all employees are accountable for the delivery of this highest level of safety performance, starting with the President, Chief Executive Advisor and covering all level of organizations.

GMCAC's commitment is to:

- ***support*** the management of safety through the provision of all appropriate resources that will result in an organizational culture that fosters safe practices, encourages effective safety reporting and communication at Mactan Cebu International Airport and actively manages safety with the same attention to the results of the other management systems at this airport.
- ***ensure*** that the management of safety at MCIA is a primary responsibility of all managers and employees;
- *clearly define,* for all staff, managers and employees alike, their accountabilities and responsibilities for the delivery of the organization's safety performance and the performance of our safety management system (SMS);
- ***establish and operate*** hazard identification and risk management processes, including a hazard reporting system, in order to eliminate or mitigate the safety risks of the consequences of hazards resulting from our operations or activities, to achieve continuous improvement in our safety performance;

- ***ensure*** that no action will be taken against any employee who discloses a safety concern through the hazard reporting system, unless such disclosure indicates, beyond any reasonable doubt, gross negligence or a deliberate or wilful disregard of regulations or procedures;
- ***comply*** with and, wherever possible, exceed, legislative and regulatory requirements and standards;
- ***ensure*** that sufficient skilled and trained human resources are available to implement safety strategies and processes;
- ***ensure*** that all staff are provided with adequate and appropriate aviation safety information and training, are competent in safety matters, and are allocated only tasks commensurate with their skills;
- ***establish*** *and measure* our safety performance against realistic safety performance indicators and safety performance targets;
- ***Continually*** *improve* our safety performance through continuous monitoring and measurement, regular review and adjustment of safety objectives and targets, and diligent achievement of these; and
- ***ensure*** that externally supplied systems and services to support our operations are delivered meeting our safety performance standards.
- **support** other organizations to develop safety standards and Procedures (SOPs) in their domains to ensure safety at Mactan-Cebu International airport.

(Signed) _____

Andrew Harrison , Chief Executive Advisor,

GMR MEGAWIDE CEBU AIRPORT CORPORATION

MACTAN-CEBU INTERNATIONAL AIRPORT

1.1.03 SAFETY OBJECTIVES

The objectives of Safety Management System Manual are:

a. To provide a structured management system to eliminate or control risk in operations into an acceptable level.
b. To set up Safety Management System Unit to oversee the development and implementation of the Aerodrome Safety Management Unit and to ensure that the application of effective Safety Management System is integral to all our activities.
c. Develop and embed a safety culture in all our activities that recognize the importance and value of effective Safety Management and acknowledge at all times that safety is paramount.
d. Clearly define for all staff their accountabilities and responsibilities for the development and delivery of safety strategy and performance. Ensure that all staff is provided with adequate and appropriate safety information and training, are competent in safety matters and are only allocated tasks commensurate with their skills;
e. To ensure that all staff is provided with adequate and appropriate safety information
f. To provide the necessary training to build and maintain a meaningful Aerodrome operational safety leadership skills.
g. To ensure that the measurement of the organizational safety performance and safety targets are in place.

1.1.04 SENIOR MANAGEMENT COMMITMENT

Senior management team members are committed to the following:

a. Demonstrating commitment to safety and the Safety Management System;
b. Setting the safety standards and policies for the operation;
c. Encouraging participation in safety management by as many staff as possible;
d. Allocating sufficient resources to the Safety Management System; and
e. Facilitating the flow of safety information.
f. Ensuring that safety is never allowed to became subservient to financial and commercial interest.

1.1.05 GMCAC COMMITMENT

Within GMCAC, visible commitment by senior management is demonstrated by the following:

a. Appointment of SQE manager who delivers the responsibility of GMCAC Safety Manager.
b. Open communication about safety issues; and
c. Provision of adequate resources to address safety concerns.

The company provides the following:

a. Managers getting personally involved in safety activities;
b. Safety induction for all employees; and,
c. A commitment to safety that is evident in terms of finance, time, formal documentation and adequate qualified and experienced personnel.

1.2
SAFETY ACCOUNTABILITY

1.2.01 GENERAL ACCOUNTABILITY

In Aviation Safety, Responsibility and accountability are interlinked. While individual staff member is responsible for their actions, they are also accountable to their supervisor or manager for the safe performance of their functions and may be called on to justify their actions. Although individuals must be accountable for their own actions, managers and supervisors are accountable for the overall performance of the group that reports to them. Accountability is bilateral. Managers are also accountable for ensuring that their subordinates have the resources, training, experience, etc. needed for the safe completion of their assigned duties.

The senior management team members are committed to the following:

a. Demonstrating commitment to safety and the Safety Management System;
b. Setting the safety standards and policies for the operation;
c. Encouraging participation in safety management by as many staff as possible;
d. Allocating sufficient resources to the Safety Management System; and
e. Facilitating the flow of safety information

1.2.02 MANAGEMENT SAFETY COMMITMENT

A visible commitment and accountability of GMCAC Senior Management is demonstrated by the following:

a. The appointment of a safety officer/manager;
b. Open communication about safety issues; and
c. Provision of adequate resources to address safety concerns.

The company provides the following:

a. Managers getting personally involved in safety activities;
b. Safety induction for all employees; and,
c. A commitment to safety that is evident in terms of finance, time, formal documentation and adequate qualified and experienced personnel.

1.2.03 SAFETY MANAGER'S ACCOUNTABILITY

CEA, GMCAC appoints a permanent safety manager (SQE) or designate any competent officer with this responsibility for a period not exceeding one (1) year until a permanent safety officer is hired. The SQE Manager has the authority to make decisions and recommends budget cost to the CEA/GMCAC for approval of resources on safety matters as:

a. budget cost for each safety investigation/treatment
b. budget per annum
c. appointment of members or staff involved in investigation/treatment of hazards at any one time
d. other limits as stated by COO/CEA

The SQE Manager reports directly to the CEA.

The SQE Manager is responsible for:

a. The review and revision of the safety management program
b. Providing timely advice and assistance on safety matters to managers and staff at all levels
c. Maintaining an appropriate reporting system to identify hazards
d. Monitoring the progress of safety reports and ensuring that hazards are addressed in a timely manner
e. Maintaining a list of personnel who are qualified to participate in a safety investigation
f. Providing feedback about ongoing safety issues
g. Reporting incidents and accidents as required by legislation
h. Distributing relevant and up-to-date safety information to staff and management and
i. Identifying safety training requirements

The SQE Manager is also required to:

a. Comply with all procedures and practices relating to the prevention and control of hazards;
b. Comply with all emergency procedures as defined in the Aerodrome Manual
c. Report any matters of which he is aware to the COO/CEA that may affect the company's compliance with the provisions of current legislation

d. Take corrective action and, if necessary, interrupt operations if they believe that there is an imminent danger of a major accident
e. Notify the COO/CEA or raise the alarm, as appropriate, before or as soon as possible after, taking such action
f. Discuss with senior management any potential hazards that they consider are capable of generating a major accident

1.2.04 CHIEF EXECUTIVE ADVISOR

The Chief Executive Advisor is accountable for performance relating to:

I. Development of the strategic business planning process, i.e. mission, strategies, goals, and initiatives;
II. Planning of the annual business and operating process;
III. Safety Policy is defined and/or clarified;
IV. Establishment/approval of specific safety performance measurements by each operating division (part of the Risk Assessment);
V. Inclusion of safety responsibilities in each managers job description and performance review;
VI. Appointment of specific individuals responsible to achieve divisional/departmental safety initiatives (the Safety Officer/ Safety Manager);
VII. Providing an environment in which the Safety Manager is able to report safety concerns without fear or favor;
VIII. Sufficient resource reallocation or requirements for safety management;
IX. Ensuring that each location within an operational division develops, maintains and implements a written Safety Plan including the emergency procedures;
X. Ensuring procedures that address the contractor risk exposures as part of the risk assessment are established;
XI. Signing the safety policy for the organization;

XII. Settlement of disagreements which create an impasse among the department heads; and

XIII. Reviewing and Evaluating the Safety Management System at regular intervals

1.2.05 CHIEF OPERATING OFFICER

Chief Operating Officer (COO) is accountable for the effective implementation of Safety Management System at airport to ensure strict adherence of Standard Operating Procedures that encompasses all operations activities. He is responsible for safe coordination of all activities and safe use of equipment, facilities necessary to ensure smooth flow of arriving departing and arriving passengers in the entire Passengers terminal, city side and apron side. He will coordinate with ATC for safety related issues and be responsible for timely information for Aeronautical Information Publication pertaining to permanent changes and NOTAM for timely promulgation. He will advise CAAP of any significant changes that might occur at airport under the purview of GMCAC jurisdiction.

1.2.06 CHIEF COMMRCIAL OFFICER

Chief Commercial Officer (CCO) is accountable for the effective implementation of Safety procedures at all the commercial outlets at airport that come under his jurisdiction. He is responsible for strict adherence of safety compliances by all stakeholders, engaged by commercial department at airport. Besides this he will ensure that stakeholders set up any installation at operational areas subject to prior

approval of Safety Officer. He will provide necessary information to Safety Officer for effective implementation of Safety procedures at airport.

1.2.07 CHIEF FINANCIAL ADVISOR

Chief Financial Advisor is accountable for the release of all necessary resources and funds for the implementation of all safety related activities and programs. He will provide his observation and information to Safety Manager to strengthen the Safety Management System at airport.

1.2.08 CHIEF CORPORATE AFFAIR OFFICER

Chief Corporate Affair Officer (CCFOA) is accountable for providing safety related information to Safety Officer that ensures safety in his domain of working. He will share feedbacks received from other sources with Safety Officer which will strengthen the existing SMS system at airport.

1.2.09 Head – Engineering

Head- Engineering is accountable for the safe operations, management, maintenance and repair of all GMCAC facilities and equipment, installation and buildings. He will ensure inspections of all electrical installation and facilities to ensure uninterrupted services and use, and also undertake all other activities that are relevant to the operation, maintenance and upgrading of said installation facilities. He will be accountable for electrical, mechanical and civil maintenance and

repair work at airport. He will ensure that while such activities are undertaken, safety norms are adhered to strictly. He will also be accountable for adherence of Safety procedures by the outsourced agencies, contractors and stakeholders who have been engaged and controlled by him.

1.2.10 Head – HUMAN RESOURCE & MANAGEMENT

Head- Human Resource & Management is accountable for the approval of all the necessary human resource requirements for the creation of a robust Safety Management System at airport.

1.2.11 HEAD – LEGAL

Head- Legal is accountable to ensure that all the safety related compliances, ICAO directive and State Safety requirements have been followed at airport strictly. He will advise Safety Officer to take up different actions time to time to ensure such compliances and also while amendments occurs.

1.3
APPOINTMENT OF KEY SAFETY PERSONNEL

1.3.01 APPOINTMENT OF KEY PERSONNEL

Key to the effective implementation and functioning of a Safety Management is the appointment of the person in charge of its daily operations. GMCAC shall appoint a Safety Manager who is responsible for the implementation and maintenance of an effective SMS at Mactan-Cebu International Airport.

1.3.02 AIRPORT SAFETY MANAGER (SQE)

The SQE Manager shall be identified and recruited based on the following criteria:

a) safety/quality management experience;

b) Operational experience;

c) Technical background to understand the systems that support operations;

d) People skills;

e) Analytical and problem-solving skills;

f) Project management skills; and

g) Oral and written communications skills.

1.3.03 ACCOUNTABILITY AND RESPONSIBILITY OF SQE MANAGER

In GMCAC, the Safety Manager is the individual responsible for the development and maintenance of an effective SMS. The safety manager also advises the accountable Executives and line managers on safety management matters and is responsible for coordinating and communicating safety issues within the organization, as well as with external stakeholders. The safety manager's functions include, but are not necessarily limited to:

a) Managing the SMS implementation plan on behalf of the accountable executive;
b) Performing/facilitating hazard identification and safety risk analysis;
c) Monitoring corrective actions and evaluating their results;
d) Providing periodic reports on the organization's safety performance;
e) Maintaining records and safety documentation;
f) Planning and facilitating staff safety training;
g) Providing independent advice on safety matters;
h) Monitoring safety concerns in the aviation industry and their perceived impact on the organization's operations aimed at service delivery;

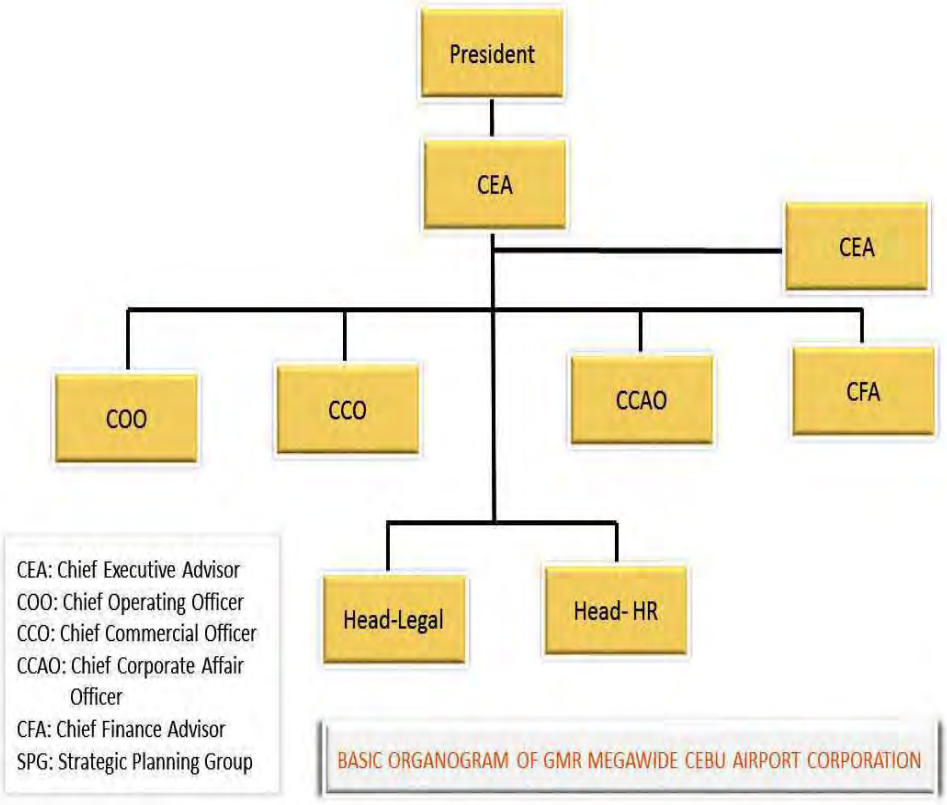
i) Coordinating and communicating (on behalf of the accountable executive) with the State's oversight authority and other State agencies as necessary on issues relating to safety; and

j) Coordinating and communicating (on behalf of the accountable executive) with international organizations on issues relating to safety.

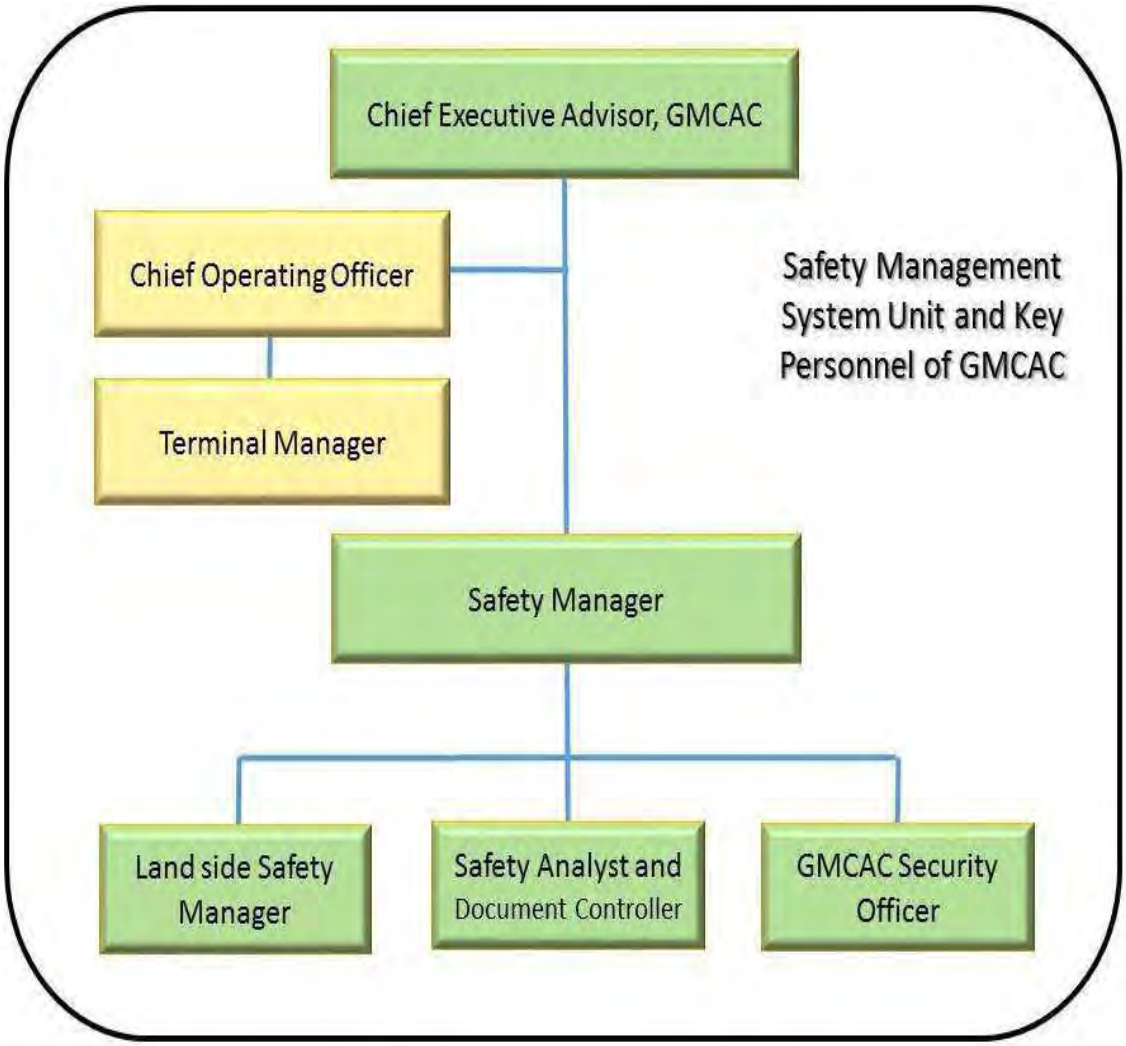
k) He will set up a formal process to assess the effectiveness and efficiency of any mitigation strategies to achieve the agreed safety performance targets of the organization. He will create a Safety Review Committee (SRC) to assess the effectiveness and efficiency of risk mitigation strategies.

l) Support MCIAA to develop safety procedures and standards in airside operations like – Special Serviceability Inspection at airside, Continuous Surveillance inspection, Bird strike reporting, Runway Incursion reporting, Inspection of Fueling services, Fuel Storage areas, Airport Ground Lighting Inspections, AGL Insulation Resistance test, Approach Lights, Runway lights, PAPI, Threshold and Taxiway lighting system and various maintenance activities related to these services.

1.3.04 GMCAC BASIC STRUCTURE



1.3.05 GMCAC SAFETY COMMITTEE AND KEY PERSONNEL



1.4
COORDINATION OF EMERGENCY RESPONSE PLANNING

1.4.01 COORDINATION OF EMERGENCY RESPONSE PLANNING

Refer to Mactan-Cebu International Airport Emergency Planning Manual (MAEP)

1.4.02 EMERGENCY PREPAREDNESS AND RESPONSE

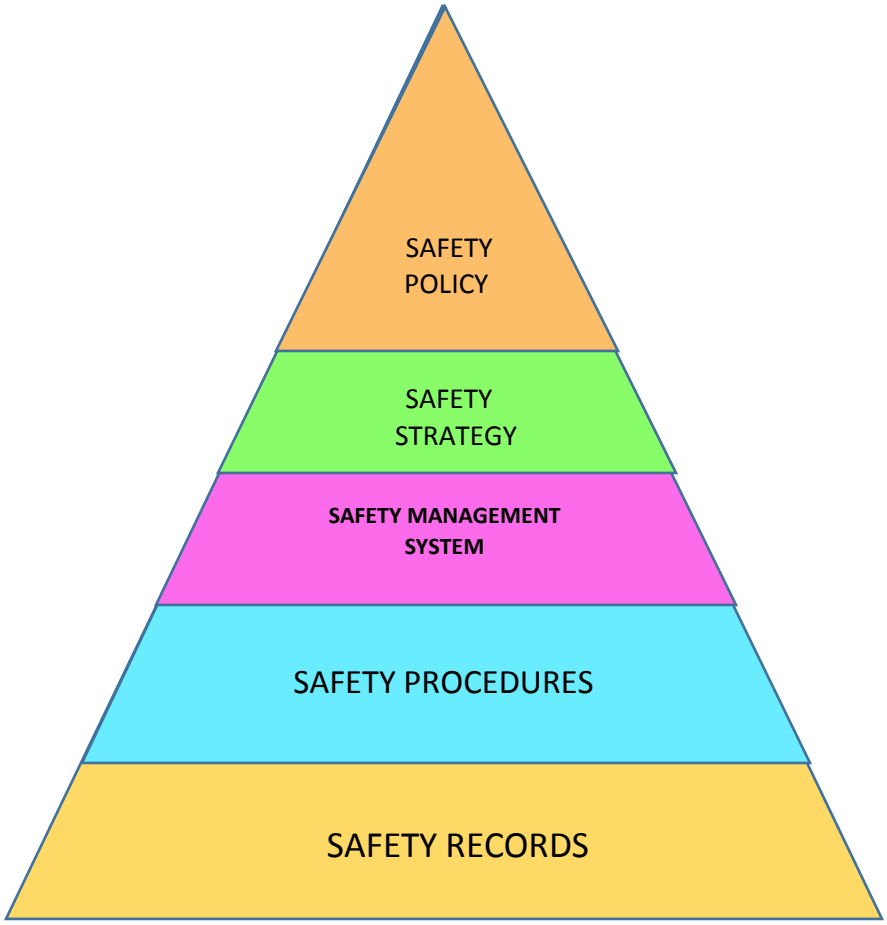
Emergency Preparedness and Responses Procedures are laid down properly in the Mactan-Cebu International Airport Emergency Planning Manual (MAEP)

1.5
SMS DOCUMENTATION

1.5.01 SAFETY DOCUMENTATION

Safety Documentation includes documentation of two categories of records:

1. SMS documentations
2. Safety records



1.5.02 PURPOSE

The purpose of the SMS documentation is to document the Safety Management System (SMS) of GMCAC and communicate it internally to the whole organization and externally to the stakeholders and to the regulator (MCIAA and CAAP) in order to establish a robust Safety Management System at MCIA. It enables the correct execution of safety procedures and thus the achievement of the organization's safety objectives.

1.5.03 SAFETY RECORDS

Safety records are maintained in order to provide documented safety assurance to all associated with, responsible for or dependent upon the services provided by GMCAC, and to the regulator. Safety records are needed to demonstrate that the SMS is operated according to the expectations.

1.5.04 SAFETY REPORTING SYSTEM

Any hazard which has the potential to cause damage or injury or which threatens business viability in GMCAC should be reported. Hazards, incidents or accidents are reported by staff, management, customers or passengers and external contractors. The forms may be paper or electronic. The report is considered and the need for a solution

will be decided in a timely manner. All information is accepted with the aim of fixing problems not punishing people.

All records produced shall be legible, identifiable, traceable to the activity, and where staff submits the information, it is recorded on the appropriate form.

Reported risks are those that have been identified and can be managed. Unreported hazards and risks are difficult to identify and to fix. The company supports and encourages the open reporting and communication of hazards, incidents and accidents by having:

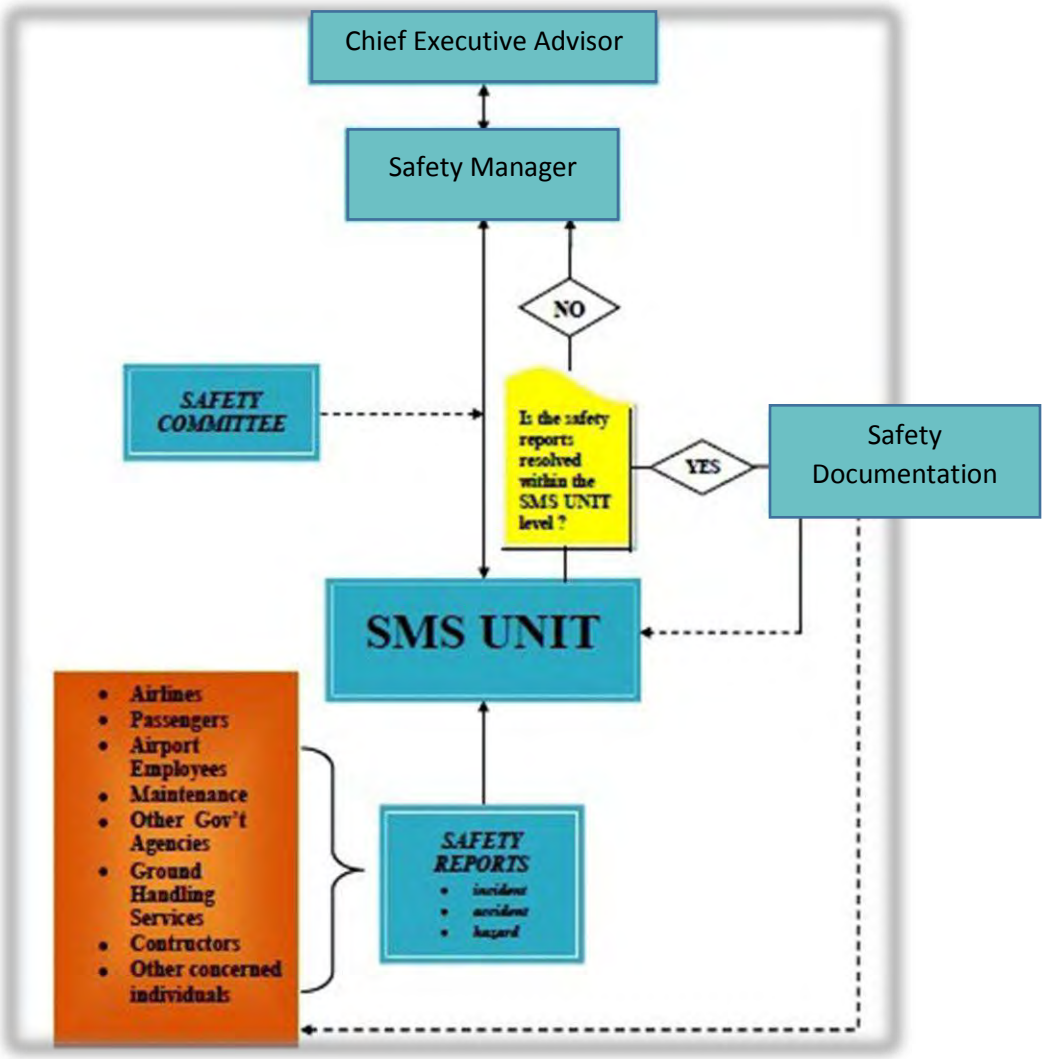
a. Non-punitive, confidential hazard reporting systems;
b. Formal and informal meetings to discuss safety concerns; and
c. Feedback from management about action taken as a result of hazard reports or safety meetings.

Both formal and informal processes are used to gather information from staff about hazards in our organization, including:

a. Hazard Report Forms
b. Safety Audits using Hazard Checklist
c. Confidential hazard reporting
d. Informal communication; and
e. Observations of work practices and work flow

Voluntary reporting of non-compliance is encouraged. GMCAC has a policy of not initiating disciplinary action against any employee who reports an incident affecting operational safety. However, blatant

disregard of safety standards and rules will incur disciplinary action. If a breach of legislation has occurred the CAAP may also take action.



Safety Reporting Flow Charts

1.5.05 REPORTING HAZARDS, INCIDENTS AND ACCIDENTS

HAZARDS: Any employee observing a hazardous situation that could affect safety is encouraged to report it to the GMCAC Safety Management System Unit or directly to the SQE Manager. The Safety Manager will provide hazard-reporting forms, which may be used, for this purpose. Anonymous reports will also be accepted.

INCIDENTS: Apart from aircraft incidents at GMCAC areas, other incidents other than an accident, associated with the operation of the aerodrome that results in injury or damage to vehicles, plant, people or equipment.

ACCIDENTS: Apart from aircraft accident, other accidental damages to vehicles, plant or equipment; death or serious injury to personnel or customers resulting from aerodrome operations; or damage to other property or injury to other personnel resulting from company operations qualify as accidents and must be immediately reported to the SQE Manager. The SQE Manager shall notify the relevant authorities, as required, and conduct investigations into the event.

1.5.06 MANDATORY REPORTING

At GMCAC, it is mandatory to report any incident involving an unsafe or potentially unsafe, occurrence or condition, irrespective of whether it involves injury or property damage or not. The report should be submitted to the Safety Management System Unit or directly to the

Safety Manager as soon as possible after the occurrence/incident but in any case not later than 24 hours after the incident. The accident/incident reports may be submitted in the desired format.

The person reporting, at his/her own discretion, may or may not disclose his/her identity. It is mandatory to report the following occurrences to GMCAC SQE Manager:

a. Failure of any facility and procedure used in airside operational area that belongs to GMCAC's jurisdiction; incorrect transmission, receipt or interception of radio telephone messages (ground to air, ground to ground) etc.
b. Operational area obstructed by foreign objects
c. Presence of any animals in the operational area and likely to affect safe operations
d. Major deterioration of services in aircraft maneuvering areas under GMCAC.
e. Collision between moving aircraft and vehicles or any other ground equipment at apron.
f. Collision between vehicles or vehicles and GSEs.
g. Fuel spillage.
h. Failure in the serviceability of barriers at GMCAC area
i. Failure of Fire-fighting apparatus and equipment capabilities at GMCAC areas.
j. Unsafe storage of construction equipment and materials
k. Unreported security breaches
l. Failure in the serviceability of security barriers

m. Failure to comply with GMCAC requirements on airport works standards.

n. Failure to conduct regular monitoring and inspection of GMCAC airside vegetation control

o. Deviation to existing airside security policies and regulations

p. Incorrect airside markings at GMCAC areas

q. Failure to provide safe storage for hazardous chemicals and materials

r. Absence of safety signage on operational areas in the terminal building and apron areas.

s. Lack of traffic signs, construction signs, warning signs, and caution signs in the airport GMCAC operational areas

t. Failure to perform immediate actions on reported hazard incidents.

1.5.07 SAFETY RECORDS MANAGEMENT

All safety reports are submitted to the Department concerned and the concerned HOD/ Manager will make appropriate actions/recommendations. The formal action report will be forwarded to the SMS Unit for review and finalization.

An official Daily Operations Report is prepared by Operations Center (AOCC) and is disseminated to the operational HODs and Managers with a copy furnished to SMS Unit. This report is a summary of all observations, reports, incidents and or accidents in relations to the GMCAC airside and landside operations and recorded at the airport AODB for purposes of recording.

1.5.08 SAFETY ACTIONS TAKEN

The SQE Management System Unit will review all the safety reports submitted according to its nature of concern. Reports concerning landside operations safety will be acted by the landside Manager and those reports concerning apron operations safety will be acted by the Apron Management Unit. Reports concerning security operations will be acted by the Security Manager. However, those reports which affect safety in the GMCAC airside operational activities and needs to be discussed with the safety committee will be acted by the SQE Manager. The SQE Manager calls for an Emergency meeting with the Safety Committee if deem necessary or if not may include the report in the agenda of the next Safety Committee regular meeting for discussion.

Recommendations made by the Safety Committee meeting and discussion will be reviewed by the Safety Standards for drafting of necessary safety regulation or policy to effectively addressed the hazard.

Informal safety reports are recorded/ logged in the AOCC as well as with SQE department.

In due course all safety reports are stored in a data base (AODB) and all safety report forms will be accessed thru the computer (LAN) system and shared to the different airport officials and to stakeholders.

1.5.09 DOCUMENT CONTROL PROCEDURE

Mactan-Cebu International Airport GMCAC Safety Management System Manual is a controlled document prepared by GMCAC. It ensures safety at GMCAC operational area like apron, terminal buildings, land side, establishes a robust safety reporting system and contributes enormously towards achieving safety standards at MCIA as a whole.

1.5.10 DOCUMENT IDENTIFICATION

The SMS Manual was prepared in accordance to the template provided in ICAO Doc.9859 AN/474 Security Management Manual, Third Edition, 2013 approved by the Secretary General, International Civil Aviation Organization, approved by the Secretary General and published under his authority. The template includes: The ICAO SMS framework comprises four components and twelve elements as follows:

1. Safety policy and objectives
    - 1.1 Management commitment and responsibility
    - 1.2 Safety accountabilities
    - 1.3 Appointment of key safety personnel
    - 1.4 Coordination of emergency response planning
    - 1.5 SMS documentation
2. Safety risk management
    - 2.1 Hazard identification
    - 2.2 Safety risk assessment and mitigation
3. Safety assurance
    - 3.1 Safety performance monitoring and measurement
    - 3.2 The management of change

3.3 Continuous improvement of the SMS

4. Safety promotion

4.1 Training and education

4.2 Safety communication.

1.5.11 VERIFICATION

The SMS Manual was prepared by GMCAC duly approved by Chief Executive Advisor and submitted to the Civil Aviation Authority of the Philippines (AANSOO-CAAP). It is based on International Civil Aviation Organization (ICAO) framework elaborated in 1.5.10.

1.5.12 AUTHORIZATION

The SMS Manual was prepared by GMCAC and duly approved by Chief Executive Advisors and submitted to the Civil Aviation Authority of the Philippines.

1.5.13 DISTRIBUTION LIST

Copy	Copy Holder	Location
Master Copy	Safety Management Safety Unit	GMCAC
Copy No. 1	Chief Executive Advisor	GMCAC
Copy No. 2	Chief Operating Officer	GMCAC
Copy No. 3	Chief Commercial Officer	GMCAC
Copy No. 4	Chief Finance Officer	GMCAC
Copy No. 5	Chief Corporate Affair Officer	GMCAC
Copy No. 6	Head- Engineering	GMCAC
Copy No. 7	Hear- Human Resource Management	GMCAC
Copy No. 8	Head- Legal	GMCAC
Copy No. 9	Terminal Manager	GMCAC
Copy No. 10	General Manager, MCIAA	MCIAA
Copy No. 11	Airport Assistant General Manager	MCIAA
Copy No. 12	Manager, Airport Grounds Operations Division	MCIAA
Copy No. 13	Aerodrome Auditor, AANSOO - CAAP	CAAP, Manila
Copy No. 14	Manager, Cargo and MRO Division	MCIAA
Copy No. 15	Manager, Rescue and Firefighting Services Division	MCIAA
Copy No. 16	Manager, Police Force Division	MCIAA
Copy No. 17	Manager, Medical Division	MCIAA
Copy No. 18	OIC, General Aviation and Industrial Division	MCIAA
Copy No. 19	Area Manager, CAAP Mactan	CAAP, LLC
Copy No. 20	Chief, Air Traffic Controller	ATC, Mactan
Copy No. 21	Chief, 7TH PCAS	MCIAA
Copy No. 22	Airlines	Mactan Station

Copy No. 23	Ground Handling Companies	Mactan Station
Copy No. 24	General Aviation Aircraft Operators	Mactan Station
Copy No. 25	Aircraft Catering Services	Mactan Station
Copy No. 27	Cargo Handling Companies	Mactan Station
Copy No. 28	Refueling Services Providers	Mactan Station
Copy No. 29	Aircraft Utility Services Providers	Mactan Station
Copy No. 30	Record Room	GMCAC

1.5.14 UPDATE AND FILING

The SMS Manual has been drafted in July, 2014 as a part of the Conditions Precedent in the Concession Agreement between GMCAC and MCIAA/DoTC. This V.1.0 will be submitted to MCIAA and CAAP for necessary action. This is a living document and after due approval of competent authority needs to be reviewed and updated as and when required.

1.5.15 AMENDMENTS

Procedures for Amendment /Revision of the SMS Manual:

a. The SQE Manager is responsible for the continuous improvement of the manual including processing, issuance and control of amendments. All copies of the SMS manual are numbered and issued in accordance with the distribution list. Individual holders of a copy of the manual as indicated in the distribution list are responsible for insertion of all amendments.
b. A copy of the amendment will be submitted to MCIAA and the Civil Aviation Authority of the Philippines.
c. Proposed amendment will be submitted to MCIAA and the Civil Aviation Authority of the Philippines.

d. Upon approval by the CAAP, copies of the approved amendment /revision will be made and distributed to the holders of the SMS manual.

e. The SMS manual amendment/revision page will be completed and submitted with the amendment/revision.

f. Minor amendments (e.g. telephone number, clerical error) can be accommodated by hand amendment with prior approval of the Chief Executive Advisor, GMCAC.

g. Each page of the amendment/revision, including the amendment/revision page will have the date of the amendment/revision and the original approval date of the manual.

h. If an amendment is to be undertaken in the SMS Manual it is reflected in the Amendment Table at page number 3 of this Manual.

Section-2

SAFETY RISK MANAGEMENT

2.1
HAZARD IDENTIFICATION

2.1.01 HAZARD IDENTIFICATION

Hazard identification is the process used to determine all possible situations, events and circumstances that may expose people to injury, illness, disease or death or may cause damage or loss of equipment and property, or damage to the environment.

2.1.02 INCIDENTS

Apart from aircraft incidents, other incidents are events other than an accident, associated with the operation of the aerodrome that results in personnel injury or damage to vehicles, plant or equipment.

2.1.03 ACCIDENTS

Apart from aircraft accident, other accidental damages to vehicles, plant or equipment; death or serious injury to personnel or customers resulting from aerodrome operations; or damage to property or injury to other personnel resulting from company operations qualify as accidents and must be immediately reported to the Safety Manager. The Safety Manager shall notify the relevant authorities, as required, and conduct investigations into the event.

Any employee observing a hazardous condition or object that could affect safety at airport is encouraged to report it to the Safety Manager or to the Safety Management System Unit. The Safety manager will provide hazard-reporting forms, which may be used for this purpose. Anonymous reports will also be accepted.

At GMCAC, it is mandatory to report any incident involving an unsafe or potentially unsafe, occurrence or condition, irrespective of whether it involves injury or property damage or not. The report should be submitted to the SQE Manager or to the Safety Management System Unit as soon as possible after the occurrence but in any case not later than 24 hours after the incident (see appendices for incident report forms). The accident/incident reports may be submitted in Standard format. The person reporting, at his/her own discretion, may or may not disclose his/her identity.

2.1.04 HAZARD IDENTIFICATION PROCESS

Hazard identification process is done through the following work systems applied in the day to day basis at the airside and landside operations of the airport as follows:

a. visual inspection
b. auditing
c. testing
d. technical or scientific evaluation
e. an analysis of injury or near miss data
f. discussions with designers, manufactures, suppliers, importers, employers, employees or relevant parties.

All GMCAC divisions involve in the maintenance of facilities and equipment and operations of the airport conducts regular and periodic inspection of facilities and equipment under their respective area of jurisdiction. The inspection is done through the guide of an inspection checklist/inspection form. Visual inspections are also conducted by duly authorized technical personnel or any competent personnel for that purpose assigned by the Division Manager.

2.1.05 APRON INSPECTION

GMCAC shall be responsible for inspections on Aprons, stands and taxiways up to the areas that come under purview of GMCAC as per the Concession Agreement signed on 22nd of April 2014 between DOTC-MCIAA and JV (GMCAC). Beyond this area, MCIAA shall be responsible for carrying out a daily airside inspection twice daily through a composite team. The first inspection is conducted in the morning between 6am to 7am to see to it that aircraft movement areas are free of hazard. The second inspection is conducted during night time between 9pm to 10pm to see to it that all pavement, taxiway and runway markings are visible for nighttime aircraft operations and to check that all airside lightings are operational including navigational facilities. Any observation during the inspection is reflected in the Airside inspection forms provided for the activity (Refer to Appendices of this manual for the inspection forms). Besides, these, runway inspection shall be carried out as and when ATC advises to do so.

The scope of the inspection for GMCAC covers only apron, stands and GSE areas. (the entire aircraft movement areas, navigational equipment and facilities, the airport security access road, airport security posts and the General Aviation Area fall under the jurisdiction of MCIAA).

The members of the Inspection team are the following:

a. SQE Manager
b. Manager, Apron Management Unit
b. GMCAC Security Manager
c. HOD Engineering, GMCAC
d. HOD Terminal Management, GMCAC
e. Fire Officer - GMCAC

Each member will complete the inspection form provided by SQE Manager for this purpose and submit to SQE Manager with a copy to AOCC. The inspection forms are checklists for each concerned personnel including facilities and equipment within their respective area of jurisdiction and the operations of ground support vehicles and equipment on the ramp.

The scope of the inspection covers the whole apron and aircraft movement areas under GMCAC.

2.1.06 REVIEW PROCESS

The SQE Manager is responsible for the review of all safety reports contained in the Safety files and library. Safety reports that can

be resolved within the SMS Unit level will be acted by the Safety Officers concerned. Safety reports that needs resolution and consultation with other stakeholders will be elevated to the Aerodrome Safety Committee for discussion.

2.2
SAFETY RISK ASSESSMENT AND MITIGATION

2.2.01 HAZARD ANALYSIS

Hazard Analysis is a three step process used to assess risks.

a. Identify the Generic hazard or the Top Level Hazard

b. Identify Specific hazards or Component Hazards

c. Link specific hazards to specific consequences

2.2.02 DOCUMENTATION OF HAZARDS

Appropriate documentation management regarding hazard identification is important as a formal procedure to translate raw operational safety information into hazard-related knowledge. Continuous compilation and formal management of this hazard-related knowledge becomes the "safety library" of an organization.

In order to develop knowledge on hazards and thus build the "safety library", it must be remembered that tracking and analysis of hazards are facilitated by standardizing:

a. definitions of terms used

b. understanding of terms used

c. validation of safety information collected

d. reporting

e. measurement of safety information collected

f. management of safety information collected

2.2.03 SAFETY RISKS MANAGEMENT

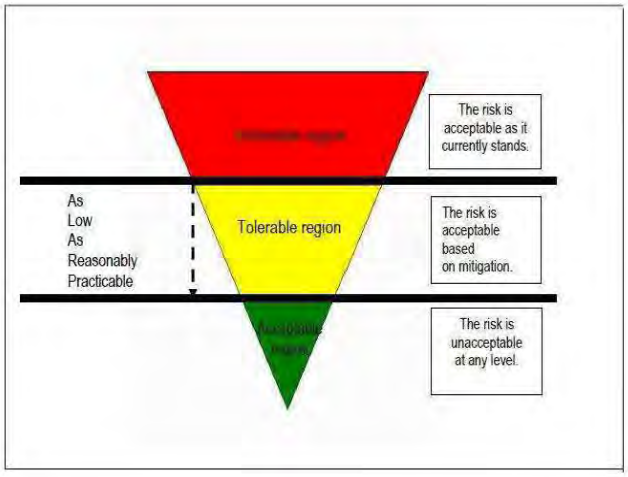
Safety Risks Management is the process of classifying the associated risks or consequences of hazards according to its severity or magnitude.

SMS Unit reviews all hazards identified and identify their risks consequences. Following the identification of the risks consequences, classify them according to its severity or magnitude clearly defined as follows:

a. **Intolerable Risks** – are those risks that are practically unacceptable in any level and needs immediate mitigation. The risk probability and magnitude are damaging and poses threat to the viability of the organization in its delivery of services (i.e. disruption of aircraft movements on apron due to vehicle movement of GSE operations).

b. **Tolerable Risks** – are those risks assessed as damaging but acceptable based on applied mitigation. In this case, aircraft operation or movement of passengers are not affected.

c. **Acceptable Risks** – the risk is acceptable and manageable. No immediate mitigation is needed. (i.e. fading away of apron marking, lights, fixtures etc.)



2.2.04 SAFETY RISKS PROBABILITY & SEVERITY

The process of bringing the safety risks of the consequences of hazards under organizational control starts by assessing the probability that the consequences of hazards materialize during operations aimed at delivery of services. This is known as assessing the safety risk probability.

Safety risk probability is defined as the likelihood that an unsafe event or condition might occur. The definition of the likelihood of a probability can be aided by questions such as:

a. Is there a history of similar occurrences to the one under consideration, or is this an isolated occurrence?

b. What other equipment or components of the same type might have similar defects?

c. How many personnel are following, or are subject to, the procedures in question?

d. What percentage of the time is the suspect equipment or the questionable procedure in use?

e. To what extent are there organizational, management or regulatory implications that might reflect larger threats to public safety?

Safety Risks Probability is conducted by the SMS Unit by reviewing and assessing all safety reports, documents and safety data contained in the Safety documentation library, apply answers to the sample questions above as an aide to determine the likelihood of the probability of an unsafe event as depicted in the table below:

Qualitative Definition	Meaning	Value
Frequent	Likely to occur many times (has occurred frequently)	1
Occasional	Likely to occur sometimes (has occurred infrequently)	2
Remote	Unlikely to occur, but possible (has occurred rarely)	3
Improbable	Very unlikely to occur (not known to have occurred)	4
Extremely Improbable	Almost inconceivable that the event will occur	5

Safety Risk Severity is defined as the possible consequences of an unsafe event or condition, taking as reference the worst foreseeable situation. The assessment of the severity of the consequences of the hazard if its damaging potential materializes during operations aimed at delivery of services can be assisted by questions such as:

a. How many lives may be lost (employees, passengers, bystanders and the general public)?

b. What is the likely extent of property or financial damage (direct property loss to the operator, damage to aviation infrastructure, third-party collateral damage, financial and economic impact for the State)?

c. What is the likelihood of environmental impact (spillage of fuel or other hazardous product, and physical disruption of the natural habitat)?

d. What are the likely political implications and/or media interest?

At GMCAC, the SMS Unit conducts assessment of the consequences of all identified hazards according to its magnitude in the worst foreseeable scenario. This is conducted by assessing all safety reports in the Safety library and assessed each report by applying severity analysis index below:

Severity of Occurrence	Meaning	Value
Catastrophic	- Equipment destroyed - Multiple deaths	A
Hazardous	- A large reduction in safety margins, physical distress or a workload such that the operators cannot be relied upon to perform their tasks accurately or completely - Serious injury - Major equipment damage	B
Major	- A significant reduction in safety margins, a reduction in the ability of the operators to cope with adverse operating conditions as a result of increase in work load, or as a result of conditions impairing their efficiency - Serious incident - Injury to persons	C
Minor	-Nuisance - Operating limitations - Use of emergency procedures - Minor incident	D
Negligible	Little consequences	E

2.2.05 SAFETY RISKS TOLERABILITY AND ASSESSMENT PROCESS

Once the safety risk of the consequences of an unsafe event or condition has been assessed in terms of probability and severity, the third step in the Risk Management is the process of bringing the safety risks of the consequences of the unsafe event or condition under organizational control. Assessment of the tolerability of the consequences of the hazard if its damaging potential materializes during operations aimed at delivery of services.

Safety Risk Tolerability Assessment Process follows the following steps.

(1) Obtaining an overall assessment of the safety risk is the primary step. This is achieved by combining the safety risk probability and safety risk severity tables into a safety risk assessment matrix as shown in Safety Risk severity Table. For example, a safety risk probability has been assessed as occasional (4). The safety risk severity has been assessed as hazardous (B). The composite of probability and severity (4B) is the safety risk of the consequences of the hazard under consideration.

(2) The safety risk index obtained from the safety risk assessment matrix must then be exported to a safety risk tolerability matrix that describes the tolerability criteria. The criterion for a safety risk assessed as 4B is, according to the tolerability table in Figure 2.2.4 "unacceptable under the existing circumstances". In this case, the safety risk falls in the intolerable region of the inverted triangle. The safety risk of the consequences of the hazard is unacceptable.

2.2.06 MITIGATION AND SAFETY RISK CONTROL

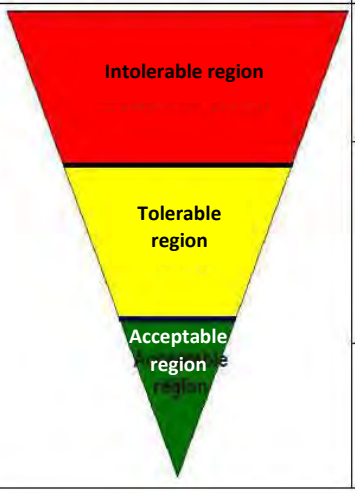
a. allocate resources to reduce the exposure to the consequences of the hazards;

b. allocate resources to reduce the magnitude or the damaging potential of the consequences of the hazards; or

c. cancel the operation if mitigation is not possible.

The SMS Unit determines the Safety Risks Tolerability by applying the Risk Tolerability Index as stated below:

Risk Probability	Risk Severity				
	Catastrophic A	Hazardous B	Major C	Minor D	Negligible E
Frequent 5	5A	5B	5C	5D	5E
Occasional 4	4A	4B	4C	4D	4E
Remote 3	3A	3B	3C	3D	3E
Improbable 2	2A	2B	2C	2D	2E
Extremely improbable 1	1A	1B	1C	1D	1E

Suggested Criteria	Assessment risk index	Suggested criteria
	5A, 5B, 5C, 4A, 4B, 3A	Unacceptable under the existing circumstances
	5D, 5E, 4C, 4D, 4E, 3B, 3C, 3D, 2A, 2B, 2C	Acceptable based on risk mitigation. It may require management decision.
	3E, 2D, 2E, 1A, 1B, 1C, 1D, 1E	Acceptable

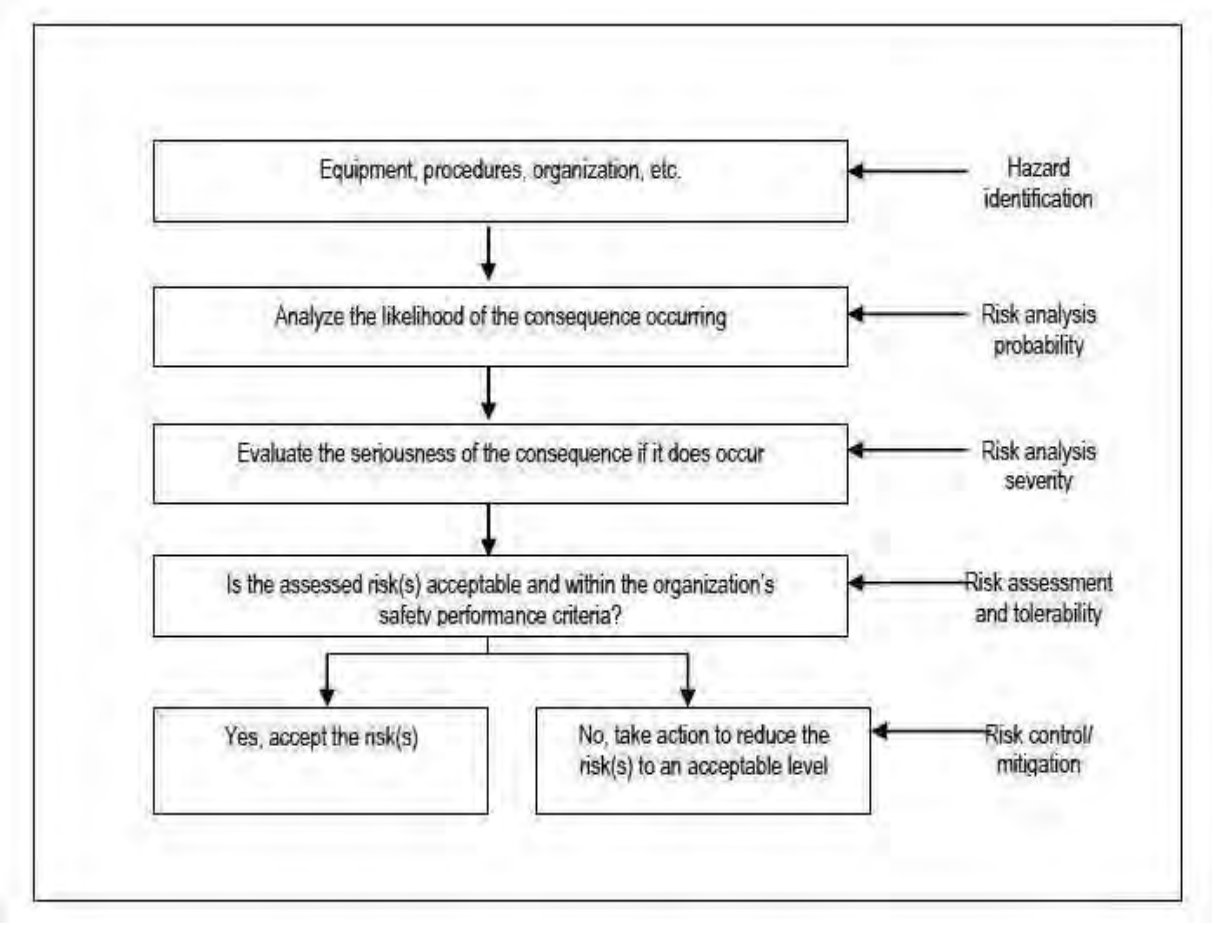
SAFETY RISK CONTROL:

The fourth and final step of the process of bringing the safety risks of the consequences of an unsafe event or condition under organizational control, control/mitigation strategies must be deployed to address the hazard and bring under organizational control the safety risk probability and severity of the consequences of the hazard.

Continuing with the example presented above, the safety risk of the consequences of the hazard under analysis has been assessed as 4B ("unacceptable under the existing circumstances"). Resources must then be allocated to slide it down the triangle, into the tolerable region, where safety risks are ALARP (As low as Reasonably Practicable). If this cannot be achieved, then the operation aimed at the delivery of services which exposes

the organization to the consequences of the hazards in question must be cancelled.

This flow chart presents the process of safety risk management in GMCAC.



After assessment of the hazards identified, or as a result of an investigation into an incident or accident, the Safety Manager assigns a priority to the risk associated with the hazard, incident or accident and identifies the best risk treatment option. The Safety Manager elevates

hazards that need involvement of other organizations/stakeholders to the Safety Committee for discussion of risk mitigation/treatment.

Safety information can help in the assessment and evaluation of these breakdowns with the goal of preventing its occurrence through an effective operational error management and to apply the three strategies to control operational errors namely:

a. Reduction

b. capturing and

c. tolerance strategies.

Corrective and preventive actions have to be discussed between the General Manager and the Safety Manager based on Safety information and Safety Reports.

The Safety Manager prioritizes the action/s required, to ensure remedial action is undertaken in a timely manner. When immediate response is required, the Safety Manager takes all necessary steps to resolve the situation and may revert to following emergency procedures as required.

Except where circumstances exist clearly preventing such an outcome, company policy is to treat risks in the following order of preference:

a. Eliminate the hazard/risk completely

b. Reduce the level of risk, or the consequences or likelihood of that risk occurring;

c. Avoid the risk by actions such as closing the aerodrome for a period

d. Transfer the risk to other risk stakeholders (such as insurers) or

e. Accept the risk

The Safety Manager reports the outcome of the assignment of each risk to the personnel making the report. The results of treatment options may be communicated generally using one of the means stated here.

The Safety Officer responsible for taking action to address and assessed risk will report to the Safety Manager on the results. If the risk has been categorized as a "Short Term Corrective Action", the responsible manager/supervisor shall report back to the Safety Manager within 2 months of the date of report.

The Safety manager makes periodic reviews of the Hazard Log/Reports for trends in risk. Unless there are reasons, this trend should be towards less risk over time, as hazards are identified and treated.

Depending on the severity and magnitude of the risks associated for a particular hazard identified at MCIA, the following proposed actions to treat the risks are recommended whichever is most appropriate considering its cost and effectiveness:

a. Reprimand

b. Recurrent training of personnel

c. Ongoing review of a particular activity or task

d. Improve personnel supervision

e. Targeted safety information or advice

f. Limit exposure to the risk

g. Availability of documented Procedures

h. Improve staff and management commitment to work safety.

i. Adequate resource allocation for safety related activities

j. Testing the procedures of the Airport Emergency Plan(drill exercises)

k. Close supervision of security personnel assigned at airside access gates

l. Make representations with identified nearby barangays regarding the need to pass an ordinance prohibiting the flying of kites within the vicinity of the airport's obstacle limitation surface area.

A formal report for each action taken on each particular risk will be submitted to the CEA by the Safety Manager for his information, review and approval for implementation.

Section-3

SAFETY ASSURANCE

3.1

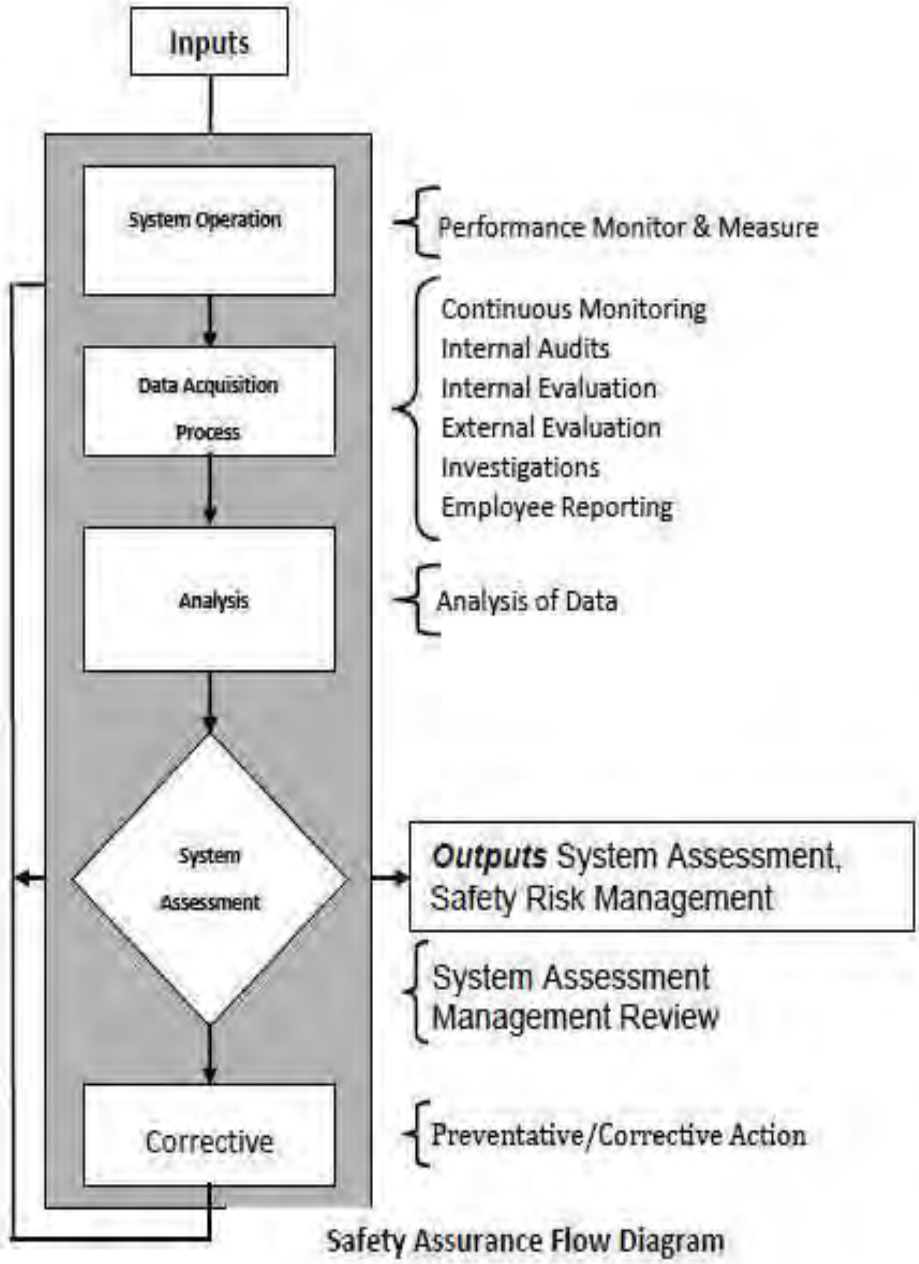
SAFETY PERFORMANCE MONITORING AND MEASUREMENT

3.1.01 SAFETY PERFORMANCE MONITORING MEASUREMENT

Safety risk management requires feedback on safety performance to complete the safety management cycle. The safety risk management process culminates in development and implementation of appropriate safety risk controls. Once controls for the safety risks of the consequences of hazards are designed, deemed to be capable of controlling safety risks, and put into operation, safety assurance takes over safety risk management.

Safety assurance consists of processes and activities undertaken by the organization to provide confidence as to the performance and effectiveness of the controls. Deterioration in operational procedures, facilities and human performance would signal the need to return to the safety risk management process to review and revise existing safety risk controls or develop new ones

The primary task of safety assurance is control. This is achieved through safety performance monitoring and measurement, the process by which the safety performance of the organization is verified in comparison with the safety policy and approved safety objectives. Safety assurance control is conducted by monitoring and measuring the outcomes of activities that operational personnel must engage in for the delivery of services by the organization.



Safety Assurance Flow Diagram

3.1.02 DATA MONITORING PLAN

Data will be collected quarterly using paper surveys and theoretical data collection sheets as well as electronic data storage. Paper data records will be stored in a locked location in the Safety office. Electronic files containing confidential participant information will be stored on the local area network at the SMS office, using a password protected folder through which Safety staff may access and update records.

3.1.03 SAFETY MONITORING PLAN

In line with GMCAC Accident / Incident reporting procedure or theoretical data which Risk Rating higher than Tolerable level, the elements will be reactively monitored. Based on the issued GMCAC safety procedures, a range of active safety performance indicators is established and will be used to assess compliance with the requirements of the procedures. Active monitoring performance indicators will be reviewed (and may be changed) as procedures are issued or modified.

On a quarterly basis, a report will be sent from each department to the SMS Unit. The report will be used to update the Safety Action Plan with

a. Accidents and Incidents,

b. Compliance with performance indicators,

c. Summary of activities within the quarter.

3.2

THE MANAGEMENT OF CHANGE

3.2.01. THE MANAGEMENT OF CHANGE

Changes in organizations occur constantly due to many factors: expansion, contraction, changes and upgrades of equipment, programs, products and services. With these changes, hazards are introduced. Safety management practices require that hazards that are a by-product of change be systematically and proactively identified and those strategies to manage the safety risks of the consequences of hazards be developed, implemented and subsequently evaluated.

The key activities are:

a. Monitoring,

b. Informing and communicating,

c. Control activities (reviews and reports).

d. Risk Assessments

In order to demonstrate that we have adequate control over our safety systems we must also be able to demonstrate control over the wider operational environment.

3.2.02 RISK

If not properly controlled changes could be made which negatively impact on the business and prevent people from fulfilling their roles. Changes could be made by individuals who are not fully aware of the impact on other

areas of the business. If change is not controlled the organization could be exposed to fraudulent activities.

Risk Assessment: The SMS Controller will check all the Risk Assessment and processes affected by the proposed change and list recommendation of change. A copy of the Risk Assessment, including the change recommendation, will be sent to the Safety Committee.

a. Check the Risk Assessment and Recommendation carefully to make sure that nothing has been missed.

b. Notify the Safety Manager, of any missing risks or if there are problems with the recommendation.

c. Authorize the Risk Assessment and Recommendation.

Implementation Plan: The Implementation Plan details all the stages that are required in order to successfully manage the change and include a Test Plan and Roll Back Strategy. In more complicated changes this may also include a project schedule and timeline.

a. Review the Implementation Plan.

b. Make the SMS Controller aware of any amendments or changes.

c. Make note of the timeline and any training or testing and how this will affect department staff.

d. Make note of any dependent tasks (i.e. if one department is unable to make a change until another has completed theirs).

e. Authorize the Implementation plan.

Pre-Change: Once the Implementation Plan has been approved it is vital that the staff in each department is made aware of what needs to happen, when and by whom.

The SQE Manager:

a. Notifies affected Staff of the change and assigns actions and makes them aware of the Strategy.

b. Ensures that Staff who have been allocated Test Actions have copies of the Test Plan and are aware that all test documentation is to be retained.

c. Safety Manger and the Change Management Controller shall ensure that all aspects of the change are progressing as planned.

3.2.03 RESPONSIBILITY

The SQE Manager ensures that changes follow the change management procedure. The change management schedule is reviewed quarterly to ensure all changes follow the procedure by both Management and Safety Committee.

3.2.04 CHANGE PROCEDURES

All communications need to be in writing, i.e. by email, meetings need to have minutes taken etc. This documentation will be retained by the SMS Controller and filed with the Change Documentation relating to the change. For this reason verbal requests and authorization are not acceptable.

1. Submit the Change Request

a. Enter as much detail as possible in the Request Details section. If this change will affect other departments please enter the names of the Department Managers in the Other Departments Affected section.

b. Once the request has been completed send them to the safety officer. They will log the request and pass it to the SMS Controller so that the change can be scheduled.

Change: To minimize unnecessary disruption ensure that the plan is followed as closely as possible and any issues are highlighted to the SMS Controller as soon as possible. The SMS Coordinator will co-ordinate communications between all the Safety Committee Board.

Ensure all the staff follows the Implementation Plan.

Post Implementation Review: Once a change has been implemented it is important that the situation is reviewed to identify any problems that could be prevented in future or improvements that could be made.

The Safety Committee will carry out a Post Implementation Review one month after the change has been promoted to Live (unless problems or issues present themselves more immediately).

Two months after the change has been implemented the Safety Committee will conduct a further review.

The SMS Safety Manager will review Change Documentation and follow up material quarterly. The minutes and action points of these reviews are held on file with the SMS Controller.

The Safety Officers will examine the Change Management Documentation on a half yearly and End of Year basis and their comments and recommendations will be acted upon.

3.3

CONTINUOUS IMPROVEMENT OF THE SMS

3.3.01. CONTINUOUS IMPROVEMENT ACTIVITIES

The planning, coordination and control of activities for continual improvement is the responsibility of the Safety Manager and the Safety Officers. Continual improvement activities include - but are not be limited to - the following:

a. activities of the Safety Officers under the responsibility of the SQE Manager

b. actions on results from analysis of data

c. evaluation of Safety

d. achievement of departmental Safety objectives

e. results from internal Safety audits

f. corrective actions and preventive actions (CAR)

g. periodic review of controlled documents

The objectives of the corporate Safety Policy are taken into consideration for planning of improvement. During SMS Reviews, the effectiveness of continual improvement is reviewed and opportunities for improvement are identified.

3.3.02 INFORMAL INSPECTION

Informal inspections are carried out by employees and work site supervisors in their own work areas on a daily, weekly, monthly or annual basis. Work sites that are not used on a daily or weekly basis are visually inspected upon entry. Supervisors and employees should develop an informal inspection checklist that is specific to their work area.

Only those inspections that result in a problem being identified will be reported. Identified problems will be reported by the work site supervisor to the Manager responsible for the work site and will state what the problem is, what action was taken and outline any recommendations for change. It is recommended that all informal inspections be recorded to show due diligence.

3.3.03 FORMAL INSPECTION

SMS Unit is responsible to ensure a safe and healthy workplace and is responsible to inspect the workplace to ensure its safety. The formal inspection shall be conducted by the Safety Manager at least annually and must include any forms used during the inspection along with any written recommendations.. The Safety manager will send the workplace Formal Inspection Form to the concerned Manger with a copy to the Safety Committee.

3.3.04 ACCIDENT/INCIDENT INVESTIGATION PROCEDURE

Accident/Incident investigation procedure has been stated below:

No.	Steps	Notes
1	Check work site where accident incident occurred.	When first notified, ensure host employer does not move or change anything at the accident / incident work site (if possible).
2	Interview Co-workers, supervisor, host employers representative and workers (if possible).	Use accident investigation control document to ensure full history of accident / incident is documented.
3	Sketch diagram of work site where accident / incident occurred.	Include at least the following:- • layout of immediate work site • work operation at time of accident / incident • materials/stock/equipment involved how the accident / incident occurred (if possible)
4	If possible, and can be completed in a safe manner, observe others undertaking the same task.	Observe for system failures or contributing factors ie: distractions, complacency, repetitive task, environmental factors etc.
5	Discuss accident / incident with host employers OHS representative (if applicable) and the workers direct supervisor.	Determine whether accident / incident occurred through failure of the following systems, policies or procedures:- • employee training/induction • work practice • supervisory control (direct/indirect) • machinery/tools work site layout
6	Determine how future accidents / incidents could be avoided / controlled	Liaise with host employer and make suggestions, recommendations.

Accident/Incident Investigation check-list and Report are to be used as per the format enclosed in Appendix.

Section-4

SAFETY PROMOTION

4.1

TRAINING AND EDUCATION

4.1.01 SAFETY TRAINING AND EDUCATION

Safety promotions are processes and procedures that ensure that personnel are trained and competent to perform their safety management duties and allow for communication of safety issues among operational personnel and with the organization's management.

Through safety promotion an organization adopts a culture that goes beyond merely avoiding accidents or reducing the number of incidents, although these are likely to be the most apparent measures of success. It is more to do the right thing at the right time in response to normal and emergency situations.

4.1.02 TRAINING GENERAL

An organization's safety culture is adhered to the success of its safety management training program. All personnel must understand the organization's safety philosophy, policies, procedures and practices, and must be aware of their roles and responsibilities within that safety management framework. Safety training begins with the initial familiarization of employees and continues throughout their employment. Specific safety management training is provided for staffs who occupy positions with particular safety responsibilities. The training program ensures that the safety policy and principles of the organization are understood and adhered to by all staff, and that all staff concerned is aware of the safety responsibilities of their positions.

The Safety Management System Unit through its Airport Safety Manager develops a training program relating to the functioning of the safety program for the induction/refresher training of all relevant personnel. The details of the safety responsibilities would then be added to the job

descriptions and records reflecting dates, names, subjects covered and course presenters will be maintained.

4.1.03 TRAINING PROGRAMS

The Safety Management System Unit through its SQE Manager would, in conjunction with the personnel department, review the job descriptions of all staff and identify those positions that have safety responsibilities. The details of the safety responsibilities would then be added to the job descriptions. Once the job descriptions have been updated, the Safety Manager should conduct a training need analysis to identify the training that will be required for each position.

Depending on the nature of the task, the level for safety management system training required will vary from general safety familiarization to expert level for safety officer (safety specialists), for example:

c. Corporate safety training for all staff according to training needs evaluation.
d. Training designed at management's safety responsibilities.
e. Training for operational personnel.

During the initial implementation of an SMS, specific training will be provided for existing staff. Once the SMS is fully implemented, the safety training needs of those other than the safety officer (safety specialist) should be met by incorporating the appropriate safety content into the general training program for their positions.

One of the functions of safety management training is to create awareness of the objectives of the SMS of the organization and the importance of developing a safety culture. All staff would receive a basic introductory course covering:

a. Basic principles of safety management;

b. Organizational safety philosophy, safety policies and safety standards (including organizational approach to disciplinary action versus safety issue, integrated natures of safety management, risk management decision-making, safety culture, etc.)

c. Importance of complying with the safety policy and with the procedures that form part of the SMS.

d. Organization, roles and responsibilities of staff in relation to safety.

e. Corporate safety record, including areas of general weakness.

f. Corporate safety goals and objectives

g. Corporate safety management programs (e.g. incident reporting systems, voluntary reporting scheme and incident recall meetings)

h. Requirement for ongoing internal assessment of organizational safety performance (e.g. employees surveys, safety audits and assessments)

i. Reporting accidents, incidents and identified hazards

j. Lines of communication methods for safety matters

k. Feedback and communication methods for the dissemination of safety information

l. Safety awards programs (if applicable)

m. Safety audits

n. Safety promotion and information dissemination

4.1.04 SAFETY TRAINING FOR MANAGEMENT

It is necessary that the management team must be fully aware and knows the safety standards on which SMS is supported. Training guarantees managers and supervisors to be well versed of the viewpoint of the Safety Management System and their accountabilities and responsibilities with regards to safety. In short, proper training is a must.

4.1.05 SAFETY OFFICER'S (SAFETY SPECIALIST) TRAINING

Various safety associated task needs well verse and trained personnel, it comprises training to:

a. Investigate safety occurrences

b. Monitor safety performance

c. Perform safety assessments

d. Administer safety data bases

e. Conduct safety audit

4.1.06 SAFETY TRAINING FOR OPERATIONAL PERSONNEL

In addition to the corporate introduction outlined above, personnel engaged directly in airport operations will require more specific safety training with respect to:

a. Procedures for reporting accidents and incidents;

b. Unique hazards facing operational personnel

c. Procedures for hazard reporting;

d. Specific safety initiatives, such as safety committee(s), seasonal safety hazards and emergency procedures.

e. Managing safety databases

f. Performing safety audits

It is mandatory that staff performing these tasks receive proper training in the special methods and technique involved, on how important the training requires and the level of existing expertise in safety management within the organization, acquiring assistance from external specialist is also necessary to get hold of that expertise

Operational Personnel		**Managers and Supervisors**		**Senior Managers**
1. Organizations Safety Policy 2. SMS Fundamentals and overview	+	3) The Safety Process 4) Hazard Identification and risk management 5) The management of change	+	6) Organizational safety standards and national regulations 7) Safety Assurance

SAFETY TRAININGS

4.1.07 GMCAC TRAINING STANDARDS PROGRAM

The GMR MEGAWIDE CEBU AIRPORT CORPORATION (GMCAC) has adopted the GMCAC Training Standards Program to enhance safety, security and customer service within the airport area of responsibility. In line with these, the program is required by GMCAC to generate and provide well – trained workforce as maintaining airport safety and security as well as customer services being one of its primary objectives which is significant for the successful operation of the aerodrome.

4.1.08 GENERAL STANDARDS

The GMCAC Training Standards Program provides basic standards and requirements for training of all employees, requirements for training records, and annual training updates and certifications. The training standards are focused in four general areas:

Area	**General Standards**
Safety	General Safety standards and evacuation procedures for emergency situations.
Security	Compliance with Security regulations and knowledge of the Security concerns specific to an airport.
Customer Service	Appropriate positive interaction with passengers in representation of the airport and the employer.
Assisting persons with Disabilities (PRM- Passengers with Reduced Mobility)	Proper etiquette in assisting persons with disabilities and compliance with persons with Reduced Mobility regulations.

4.1.09 TRAINING DELIVERY METHODS

The GMCAC General Training Modules will be provided by the Safety Management System Unit in the following formats:

a. PowerPoint presentation

b. Train-the-Trainer for employers to provide the training to their employees

c. Orientation Sessions or Orientation Packets for employers to present to their new employees.

New employees should receive orientation ***within the first month*** of their appointment. The responsibility to get such new incumbent trained lies with the employer. This includes employees transferring from other locations/airports.

4.1.10 GMCAC/MCIAA BADGING SYSTEM

The GMCAC Airport Badging System will be administered by the MCIAA ESSD (Emergency, Security Services Department) through the ID/ Intel Pass Division.

The Role Specific Training Modules will be provided in consultation with MCIAA either through the badging process or provided to the employer to present to their employees, dependent upon the type of training. Employers must ensure that required training modules are provided to applicable employees.

4.1.11. REQUIREMENTS

The individual training standards and requirements for each employee are determined by several factors:

1. MCIAA Pass Section
2. AOCC feedback
3. Role and function of the job
4. Passengers/Customer contacts
5. Work locations
6. Outcome of Incident/Accidents

4.1.12. EMPLOYEES IMPACTING SAFETY AND SECURITY

Employees in this category include those directly engaged in activities which may impact safety within the Aircraft Movement Area (AMA) at apron or in and around the Passengers Terminal Building. These employees include but are not limited to the following:

a. Employees providing ramp handling functions including aircraft cleaning, fueling, and baggage / cargo handling

b. Employees operating catering vehicles regularly on the AMA for servicing aircraft

c. Other employees issued a Restricted Area Badge (RAB) with AMA access working in and around the AMA in the performance of their duties

d. Employees stationed within the airport, including concessionaires.

Employees in the category of Security include those directly engaged in performing checkpoint security screening, passenger check-in activities; catering services and baggage check-in and handling services, Aircraft Movement Area (AMA) perimeter control, and other employees issued an airport Restricted Area Badge (RAB) with AMA access working in and around the AMA in the performance of their duties.

Employees in this category contact with Passengers and Customers including those directly engaged in activities bringing them in contact with passengers and other customers including employees of other organizations. These employees include but are not limited to the following:

Employees interacting directly with passengers including passenger check-in activities, and baggage check-in and handling services, gate assistance and loading, food and beverage service, retail service, car rental, wheelchair escorts, parking attendants, and airport parking and car bus drivers.

Customer service training includes a basic overview in the Orientation Module for all employees and a comprehensive training session for those listed above.

Employees in this category contact with Persons with Disabilities including those directly engaged in activities assisting persons with disabilities or those who may come into contact with persons with disabilities. These employees include but are not limited to the following:

a. Employees assisting persons utilizing wheelchairs or escorting persons with disabilities

b. Employees assisting passengers, including those directly engaged in passenger check-in activities, baggage check-in and handling services, gate assistance and loading, food and beverage service, retail service, car rental, airport parking, and shuttle bus drivers.

4.1.13 REGULATORY COMPLIANCE

Compliance monitoring for the GMCAC Training Standards Program is governed by GMCAC and MCIAA based on AO 139 and Aerodrome Manual of the airport.

The requirements of the GMCAC Training Standards Program are subject to change upon notice to the Employers/Employees.

4.1.14 RECORD KEEPING, REPORTING AND AUDITING

Employers must submit training records (Attachment F) to provide evidence their employees, contractors and vendors are in compliance with training requirements. The Training records are subject to audit by the Safety Management System Unit (SMSU). Training records must include the employee's name, job function, date the employee began working at the Mactan-Cebu International Airport (MCIA), and the date of each training class required by the GMCAC Training Standards Program (See Attachment F).

Each employer must submit at least by June 30 of each year a statement certifying that it is in compliance with the GMCAC Training Standards Program.

4.1.15 MEASUREMENTS OF PROGRAM VALUE

Each year the employer will be asked to include a statement of the success of the GMCAC Training Standards Program, as measured through improvements in productivity, safety, and customer service and employee turnover.

The GMCAC Training Standards Program is developed in support of the Mactan-Cebu International Airport's Mission and Vision in reference to the Aerodrome Manual.

4.1.16. RECURRENT TRAINING

The Safety Officer is responsible to ensure all staff to receive relevant recurrent training. This training shall consist of:

a. The Safety Management System

b. Compiling and submitting Hazard Reports, and reporting incidents and accidents

c. The responsibilities of all employees to participate in the Safety Management System

d. When new technology or equipment is introduced, or changes made to aerodrome operations (with an impact on safety), training will be provided.

In addition to formal training, the Safety Officer will keep staff informed and educate about current safety issues through providing relevant, safety related literature, sending them to safety related courses and seminars, thereby improving the safety health of the company.

4.1.17 TRAINING EVALUATION

The Safety Manager shall evaluate the effectiveness of the company training programs by the use of training feedback sheets that are designed to measure:

a. How well staff understands the operation of the Safety Management System;

b. How well staff are aware of the role they play in the Safety Management System; and

c. How much do staffs understand that the aim of the Safety Management System is to improve safety, and not to attribute blame.

Actual application of the effectiveness of the training result is easily observed and evaluated by the supervisors and managers in the knowledge and practices used in the workplace, and in any specific competencies that are required in the disposition of a certain work or field of assignment of the employee.

The Safety Manager shall monitor training records for any required personnel who have not attended induction or ongoing safety training, and invite them to the next relevant course.

4.1.18 TRAINING EXEMPTION PROCESS

All Restricted Area Badge required training is mandatory. Airport Stakeholders may request that their internal company training be accepted in lieu of the following two Role Specific training modules:

a. Customer Service – Working at Mactan-Cebu International Airport

b. Assisting Persons with Disabilities – Providing Exemplary Service

Exemption Process:

a. Review Airport Training Standards module and compare to your internal training to ensure all training topics are amply covered.

b. Fill out Training Exemption Request Form and submit to Airport Safety Manager, Safety Management System Unit-GMCAC, Mactan-Cebu International Airport.

c. Attach a copy of your training program materials or the course description and outline of topics covered in the relevant company training to be substituted in place of the training module.

d. The Airport will notify the company if the exemption for the training module has been granted or if follow up information is needed.

e. If request is denied, may appeal to Manager, Airport Operations Department.

f. The Covered Employer must secure any such approval from the Airport in advance of the time period the training covers.

Appendix-1 : **Role Based Training – Training Requirements per Function**

		Badge Requirements			Role Specific Training Modules				
	Orientation	Security Badge	Basic Security	Customer Service Overview	Authority to Drive Airside	Ramp Area Safety	Vehicle Inspection	Customer Service	AMA Awareness
Gate/Ticket Agents	x	x		x				x	
Ground Handling Services	x	x		x	x	x		x	x
Baggage Handlers	x	x		x					
Concessionaires	x	x		x				x	
Security Guards	x	x	x				x	x	
Aircraft Interior Cleaning	x	x				x			
General Aircraft Maintenance	x	x			x	x			
Aircraft Mechanics	x	x			x	x			
Aircraft Fueling	x	x			x	x			
Water/Lavatory Servicing	x	x			x	x			
Aircraft Catering Services	x	x			x	x			
Cargo Carriers	x	x			x	x			
Car Rental Agencies	x	x		x				x	
Parking Lot Attendant	x	x		x			x	x	
Facility Maintenance	x	x			x	x			x
Fixed Base Operators	x	x			x	x			

Legend : x typically

Appendix-2

Security Badge Definitions, Training Requirements

Badge Type	Ramp	Gen Av	Sterile	
Location	**Airside**	**General Aviation**	**Terminal Landside Terminal Airside**	**Landside**
Area Definition	Consists of areas designated for aircraft parking and maneuvering, enplaning/deplaning of passengers, and loading of cargo	Consists of ramp areas designated for fixed base operations (FBO), general aviation. Access is limited to these areas only.	Terminal Landside – transition point between the Landside and the Airside areas which includes carrier ticket counters, baggage claim, rental car counters, restrooms, applicable concessions, and security screening. Terminal Airside – transition point between landside and airside which includes retail food concessions, restrooms, passenger waiting areas, and aircraft gate access.	Consists of roadways, parking lots, rental car facilities and curbside.
Employees	Includes airlines and cargo personnel, ground support, and fixed base operations (when applicable). Access maybe limited for cargo employees.	Includes employees of Fixed Base Operators (FBO) and General Aviation tenants.	Includes employees working within the terminal beyond the check point.	May include car rental employees, hotel and tour operator representatives and porters. Access is limited to public areas only.
Training Requirement	1. AMA Awareness 2. Basic Security Awareness 3. Service Overview	1. Basic Security Awareness 2. Customer Service	1. Sterile Area Rules and Regulations 2. Basic Security Awareness 3. Customer Service	1. Basic Security Awareness 2. Customer Service
Additional Endorsement	1. Authority to Drive Airside (ADA) 2. Movement Area Driving	1. Authority to Drive Airside (ADA)		
Airport Security Guards	1. Vehicle Inspection 2. Basic Security Awareness			

Appendix-3A

General Training Modules Required for everyone

Module	Orientation	Basic Security Awareness	Service Overview
Topic 1	Introduction:	Area Definitions: Describes security areas: Landside, Terminal and Airside	Importance of Customer Service : Identifies reasons providing excellent customer service
Topic 2	Airlines, Destinations, Car Rentals; Business activity at MCIA	Access Control: Requirements for individuals and vehicles on ramp.	Attitude: Details importance of maintaining a positive attitude while serving customers.
Topic 3	MCIA Facilities: Runways, Terminals, Businesses	Security Agencies: Identifies the key players in airport security including the OTS and local law enforcement.	Consistency: Details importance of offering consistent service.
Topic 4	Working at an Airport: Different than any other organization	Security Measures: Basic vigilance measures to ensure security, reporting unattended bags and suspicious individuals.	Teamwork: Stresses the importance of teamwork to enhance the customer's perception of work group.
Topic 5	Customer Service: Representing MCIA, importance of good service, characteristics, measurement	Reporting Procedure: Procedures to report security issues to local law enforcement	Problem Solving: Encourages employees to be proactive in problem solving
Topic 6	ADA Awareness: Assisting persons with disabilities, mobility devices, hard of hearing/deaf, speech impediments, blind, developmental disabilities	Recognizing Security Issues: Ensure integrity of access control system, importance of monitoring doors and gates for security breach.	
Topic 7	Security Awareness: Unique environment, your responsibilities		
Topic 8	Safety: Basic principles, prevention and vigilance		
Topic 9	Airport Emergency Devices: What are they, where are they, who can use the defibrillators		
Topic 10	Evacuation Plan: Overview of process and rules, possible emergency situations		
Topic 11	MCIAA Mission and Vision		

Appendix-3B

Training – MCIA Airport ID System Modules

Module	AMA Training	Non – Movement Area Training	Sterile Area Training
Topic 1	Security Team Members: Describes the key players involved in airport security	Non-Movement Area Rules: Describes basic rules associated with the Non-movement area badge.	Security Definitions : Identifies definitions applicable to sterile area security and acronyms
Topic 2	Security Areas: Defines the different security areas located within the airport.	Security Areas: Defines the different security areas located within the airport	Security Areas: Defines the different security areas located within the airport
Topic 3	General AMA Rules: Describes in brief detail rules associated with an AMA badge	Escort Procedures: Details the requirements necessary to escort inside the Non-Movement Area.	General Security Rules: Describes requirements for receiving a sterile area badge
Topic 4	Individual/Group Access: Describes the difference between single and group access and associated rules	Administrative Cites: Describes security violations and associated monetary penalties	Responsibilities: Identifies responsibilities of sterile badge holders to challenge individuals unauthorized to be in sterile areas, including summoning of law enforcement
Topic 5	Vehicle media and Access: Describes type of vehicle media required to drive within AMA and associated procedures for entering the AMA with vehicle, including escort of other vehicles	Transient Aircraft Operations: Identifies which areas transient aircraft may park at when at the airport	Challenge Procedures: Describes the responsibility of sterile badge holders to challenge individuals unauthorized to be in sterile areas, including summoning law enforcement
Topic 6	Escort Procedures: Details the requirements necessary to escort an individual, who does not possess a badge, inside the AMA		Escorting Procedures: Identifies restrictions on escorting non-badged individuals inside sterile areas
Topic 7	Challenge Procedures: When and how to challenge individuals within AMA and procedures for summoning law enforcement personnel		Airport Security Program: Discusses the program in place to ensure airport security by employees working at the airport
Topic 8	Administrative Cites: Discusses the penalties associated with violations of the security rules and regulations		

Appendix-3C

Training – Role Specific Mandatory (Additional Endorsements to Badge for Certain Jobs)

Module	Authority To Drive Airside (ADA)	Movement Area Driving	Physical Vehicle Inspection
Topic 1	Air Operations Area (AOA): Defines areas within the AOA as either a movement or non-movement	Minimum Requirements: Discusses the minimum requirements to drive on the movement area	Safety Zone: Defines purpose and parameters associated with safety zones by airport terminal
Topic 2	Marking and Lighting: Describes types of marking and lighting used to help drivers navigate on the AOA	Obstacle free Zone: Describes OFZ and importance of keeping vehicles out of this area	Explosive Detection: Identifies methods of detecting potential explosives devices in vehicles
Topic 3	Perimeter Access Roads: Discusses when these roads may by used and by whom	Definition of Movement Area: Defines the location and purpose of the movement area	Reporting: Identifies measures to be taken in the event that a potential explosive device is found
Topic 4	Tug Use: Stipulates restrictions on tug use including the amount of carts a tug may pull and the number of individuals who may ride on a tug	Escorting Procedures: Identifies procedures for escorting vehicles and drivers which do not possess movement area privileges	Inspections: Provides basic instructions necessary to visually inspect a vehicle for explosive devices
Topic 5	Driving Safety Procedures: Discusses key elements in operating safely while on the AOA. Includes airport signage, key elements when operating in the close vicinity of aircraft, and driving at night	Safety Measures: Details basic safety measures to be taken to ensure safety when driving on the movement area including monitoring for aircraft and emergency vehicles	
Topic 6	Aircraft Refueling/HAZMAT Spills: Conveys basic procedures for refueling aircraft and steps to take when responding to HAZMAT spills	Runways and Taxiways: Details characteristics associated with runways and taxiways including lighting, markings and signage	
Topic 7	Lavatory Waste Operations: Describes basic procedures and safety measures for servicing aircraft lavatories, which includes proper response to lavatory (HAZMAT)	Tower Communications: Describes procedures when communicating with the air traffic control tower including procedures to follow during a radio communication failure	
Topic 8	Ramp Safety Program: Discusses the program in place to ensure ramp safety by employees working at the airport		

Appendix-3D

Training – Role Specific Customer Service, Disabilities, Ramp Area Safety

Module	Customer Service	Disability Awareness	Ramp Area Safety
Topic 1	You are an ambassador	Objective: Sensitivity training to best assist guests with disabilities	Definitions: Individuals, equipment and areas in the ramp and service areas
Topic 2	Creating Customer Service Excellence	General Practices: Etiquette, assistance and terminology	License and Permit Requirements: Training and employer responsibility
Topic 3	How customers are different at MCIA and how to help them	Disability Law	Authority to Drive Airside (ADA): Requirements for driving in restricted areas
Topic 4	Greeting Customers	Mobility Disabilities: Assisting individuals utilizing wheelchairs	Airport Citation Procedures: Responsibilities of enforcement
Topic 5	Giving directions, providing assistance	Individuals who are deaf: Methods and etiquette	Aircraft Gate Arrival/Push Back Procedures: Right of way and ground handling
Topic 6	Thank you and proper send off	Individuals with speech difficulties: Assistance	General Operating Rules: Restricted areas, proper vehicle
Topic 7	Calming down upset customers	Blind or low vision: Human guide, communications	Aircraft Fuel Servicing Rules: Maintenance and safety rules
Topic 8	Retail and Food Service	Developmental Disability: Providing assistance, respect	Fuel Spill Safety Procedures: Handling fuel spills
Topic 9	How MCIA measures good customer service	Quiz and Summary	Lavatory/Waste Material: Collection and Disposal Procedures

Appendix-4

MCIA Annual In-house Training Program

Name of Training	Operations	Security	RFFS	Engineering	Administration/ Medical Services	Airlines/Ground Handlers
Back to Basics – Airport Self Inspection	x	x	x	x		
Airside Safety and Security Awareness	x	x	x	x		x
Airside Safety Driving	x	x	x	x		x
Basic Occupational and Health Training	x			x	x	
Wildlife Assessment and Management Training	x	x		x		
Full Scale Emergency Exercise	x	x	x	x	x	x
Runway Incursion Seminar	x	x	x	x	x	x
Basic Life Support Seminar	x		x	x	x	
Security Refresher Course		x				
Defensive Driving Course	x	x	x	x		x
Fire Drill	x	x	x	x	x	x
Marksmanship Training		x				
Intel/Investigation Training		x				

Appendix-5: GMCAC Annual Training Program by Invitation (ICAO, COSCAP, APEC, CAAP, IATA, ACI, IFALPA sponsored programs)

a. Aviation Security Related Trainings and Seminars

b. Aerodrome Safety Management System

c. Airport Operations (Ramp, Cargo and Terminal Operations)

d. Rescue and Fire Fighting Services Related Trainings and Seminars

e. Engineering Accredited Seminar

Appendix-6 **Training Records**

It is a requirement of the program that each covered employer maintain training records to cover the period of time each employee is working at MCIA. It is preferable the records be maintained in a spreadsheet, but not required, they may be kept in your usual format (individual records, database, log, spreadsheet, etc.) and must be available for audit.

The records shall include the following data:

(a) Employee Name
(b) Role/Function
(c) Employee's Date of Hire
(d) Employee's First Date at MCIA
(e) Employee's Last Date at MCIA
(f) Date Badge Issued
(g) Type of Badge
(h) Date of Orientation Training
(i) Specific Modules: Date of training for each module
(j) Specific Modules: Signature of Trainer

Name of Company: _____

Employee Name	Date Start at MCIA	Last Date at MCIA	Role/ Function	Date Badge Issued	Type of Badge	Date of MCIA Orientation	Date of Customer Service	Date of ADA	Signature of Employee	Trainer/ Verification

4.2

SAFETY COMMUNICATION

4.2.01 SAFETY COMMUNICATION

Safety communication is an important enabler for improved safety performance. Safety lesson dissemination is a vital element of safety communication because lessons learned from past experiences, implemented within the organization reduce the chances of accident and incident recurrence and thus improve safety.

4.2.02. DISSEMINATION OF SAFETY INFORMATION

The Airport Safety Manager – Safety Management System Unit is the focal point for safety related information, hazard reports, risk assessments, safety analysis, investigation reports, audit reports, minutes of meeting, conference proceedings, and others. From all this information, the most relevant safety messages for dissemination will be identified. Messages will be classified as urgent (before the next flight), directive, for background understanding, or seasonal. Most staff does not have enough time to read all this information, and the salient points will be incorporated into easily understood safety messages. Several considerations would dictate the message classification and dissemination for example:

a. criticality of the information

b. the target audience

c. best means for disseminating the information (e.g. briefings, directed letters, newsletters, organizations intranet, videos and posters)

d. timing strategy to minimize the impact of the message (ex. Rainy season briefings generate little interest during summer

e. contents (e.g. how much background information should be given versus the core message)

f. wording (e.g. most appropriate vocabulary, style and tone)

4.2.03 SAFETY CRITICAL INFORMATION

Urgent safety information is disseminated using the following means:

a. direct message (oral or written) to responsible managers

b. direct briefings (e.g. for controllers in a specific unit)

c. shift change over briefings

d. direct mail (posts, facsimile or e-mail)

4.2.04. NICE – TO – KNOW INFORMATION

This material includes accident/incident reports, safety studies, aviation journals, proceedings of conferences and symposia, manufacturers reports, training videos, etc. Increasingly, this information is available electronically. Regardless of the format of the information, it will be made available to staff and management through.

a. an internal circulation system for critical/important information

b. a safety library

c. summaries notifying staff of the receipt of each information

d. directed distribution to selected managers

4.2.05. REPORTING TO MANAGEMENT

All reports to the management should conform to the points below unless unavoidable.

a. what is the problem?

b. how could I affect the organization?

c. how likely is it to happen?

d. what is the cost if it does happen?

e. how can the hazard be eliminated?

f. how can the risk be reduced?

g. how much will it cost to fix?

h. what are the downsides of such action?

4.2.06. OBJECTIVE OF SAFETY PROMOTIONS

a. An ongoing program of safety promotion will ensure that employees benefit from safety lessons learned and continue to understand the organizations SMS. Safety promotion is link closely with safety training and the dissemination of safety information. It refers to those activities which the organization carries out in order to ensure that the staff understand why safety management procedures are being introduced, what safety management means, why particular safety actions are being taken, etc. Safety promotion provides the mechanism through which lessons learned from safety occurrence investigation and other related activities are made available to all affected personnel. It also provides a means of encouraging the development of a positive safety culture and ensuring that, once established, the safety culture will remain.

b. It is important that personnel see evidence of the commitment of management to safety. The attitudes and actions of management must be a significant factor in the promotion of safe work practices and the development of a positive safety culture.

c. c. Safety promotion plays an important role for the safety awareness, and it is the channel by which safety issues are communicated within the organization. These issues will be addressed through staff training programs or less formal mechanisms.

d. d. In order to propose solutions to identified hazards, personnel must be aware of the hazards identifications that have already been implemented. The safety promotion activities and training program address the rationale behind the introduction of new procedures. With the lessons learned, consideration would be given to wider dissemination of the information.

4.2.07. PROMOTION METHOD

a. If a safety message is to be learned and retained, the recipient has to be positively motivated.

b. Safety topic would be selected for promotional campaigns based on their potential to prevent and reduce losses. Selection would therefore be based on the experience of past accidents or near misses, matter identified by hazard analysis and observations from routine safety audits. In addition, employees would be encouraged to submit suggestions for promotional campaigns.

c. The safety promotion program will be based on several modern communication methods

APPENDIX-7

ACCIDENT INVESTIGATION REPORT

Report No. ____

Name of Company: _____
Address: _____
Date: _____

1. Name of Injured: _____ I.D. # _____
2. Sex: ( ) M ( ) F Age: _____ Date of Accident: _____
3. Time of Accident: _____ Day of Accident: _____
4. Employee's Job Title: _____
5. Length of experience on job: _____ years _____ months
6. Address or location where the accident occurred: _____
7. Nature of injury, injury type, and part of the body affected: _____
8. Describe the accident and how it occurred: _____
9. Cause of the accident: _____
10. Was personal protective equipment required? ( ) Yes ( ) No

    Was it being used? ( ) Yes ( ) No . If "NO", explain.
    _____
    _____

    Was it being used as trained by supervisor or designated trainer? ( ) Yes ( ) No
    If "NO", explain.
    _____
    _____
11. Witnesses: _____ _____
12. Safety training provided to the injured? ( ) Yes ( ) No . If "NO", explain.
    _____
    _____
13. Interim corrective actions taken to prevent recurrence:
    _____
14. Permanent corrective action recommended to prevent recurrence:
    _____
15. Status and follow-up action taken by safety coordinator:
    _____

Prepared by: Noted by:

APPENDIX-8 **Instructions for Completing the Accident Investigation Report**

An accident investigation is not designed to find fault or place blame but it is an analysis of the accident to determine causes that can be controlled or eliminated.

(Item 1 – 6) Identification: This section is self-explanatory

(Item 7) Nature of Injury: Describe the injury, e.g. strain, sprain, cut, burn, fracture

Injury Type:

First Aid: Injury resulted in minor injury / treated on premises
Medical: Injury treated off premises by physician
Lost Time: Injured missed more than one day of work
No Injury: No injury, near miss type of accident
Part of the body: part of the body directly affected, e.g., foot, arm, hand, head

(Item 8) Describe the accident: Describe the accident, including exactly what happened, and where and how it happened. Describe the equipment or materials involved.

(Item 9) Cause of the accident: describe all conditions or acts which contributed to the accident, i.e.:

(a) Unsafe condition: spills, grease on the floor, poor housekeeping or other physical conditions;

(b) Unsafe acts: unsafe work practices such as failure to warn, failure to use required personal protective equipment.

(Item 10) Personal protective equipment: Self-explanatory

(Item 11) Witnesses: List names, address and phone numbers

(Item 12) Safety training provided: Was any safety training provided to the injured related to the work activity being performed?

(Item 13) Interim corrective action: Measures taken by supervisor to prevent recurrence of incident, i.e., barricading accident area, posting warning signs, shutting down operations

(Item 14) Self-explanatory

(Item 15) Follow-up: Once the investigation is complete, the safety coordinator shall review and follow-up the investigation to ensure that corrective actions recommended by the safety committee and approved by the employer are taken, and control measures have been implemented.

THE END

ANNEX 6.1:

MACTAN CEBU EMERGENCY PLAN

MACTAN-CEBU INTERNATIONAL AIRPORT AUTHORITY

M A E P

MACTAN AIRPORT EMERGENCY PLAN

FIRST EDITION – AUGUST 2010

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FOREWORD

The Mactan Airport Emergency Plan (MAEP) is established in accordance with the provisions of the International Civil Aviation Organization as specified in Annex 14, Volume 1, wherein States are required to establish at every airport an emergency plan commensurate with the aircraft operations and other activities conducted at the airport. Related to this is the national requirement as referenced in the Manual of Standards for Aerodromes (MOS) based on Administrative Order No. 139, Civil Aviation Regulations governing aerodromes (AO 139).

The manual principally contains procedures to be carried out by the different emergency response units within the airport and those in the surrounding community during an emergency that will affect Mactan-Cebu International Airport. The main objective of this is to ensure a coordinated and controlled emergency response actions among the various emergency response units involved in the plan, to save lives and minimize the effects of an emergency.

Detailed procedures may be specified in an emergency response unit's own manual of operation or action plan. This is particularly applicable in certain types of emergencies wherein a particular agency or specialized unit will be called upon to exercise over-all command and control of an emergency situation. In this regard, and to ensure coordination between responding agencies/units, these specialized action plans may also be used as a cross-reference manual with respect to the procedures in the MAEP.

This manual traces its roots to the Mactan Airport Crash and Rescue Organization (MACRO) manual formulated in the early days of the Mactan International Airport which was then under the Bureau of Air Transportation (BAT). This edition serves as the initial issue for this year, and is the result of the comments and suggestions received by the MCIAA from the Aerodrome and Air Navigation Safety Oversight Office (AANSOO) of the Civil Aviation Authority of the Philippines (CAAP) and other sectors.

The Mactan Airport Emergency Plan (MAEP) shall, from time to time, be kept up to date. Its future editions will most likely be improved based on experiences gained from exercises and trainings, and on comments and suggestions from users of this manual. Towards this end, the Authority fervently hopes that the manual will continue to contribute in the standardization and a well-coordinated delivery of the basic airport emergency services.

B/Gen Danilo Augusto B. Francia AFP (Ret.)
General Manager, MCIAA

Amendment Record

The amendments listed below have been incorporated into this copy of the Mactan Airport Emergency Plan (MAEP) Manual.

Amendment Number	Details	Signature	Date Entered
Initial Issue	Complete manual -- initial draft	ARDerramas	May 2010
Initial Issue	Complete manual – initial draft	ARDerramas	August 2010

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SECTION 3 – EMERGENCY ACTIONS BY EMPLAN NUMBER

SECTION 4 – APPENDICES:

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SECTION 1 – GENERAL

1.1 USE OF THE MACTAN AIRPORT EMERGENCY PLAN

1.1.1 PURPOSE

The purpose of the Mactan Airport Emergency Plan (MAEP) is to identify, in manual form, the responsibilities and required actions of all agencies and personnel involved in dealing with aircraft emergencies and/or other emergencies affecting Mactan-Cebu International Airport.

1.1.2 AUTHORITY

The Mactan Airport Emergency Plan is published and promulgated by the Mactan-Cebu International Airport Authority (MCIAA) in accordance with the International Civil Aviation Organization (ICAO) Annex 14 - Aerodromes, under standard requirement 9.1.1 which states as follows:

> An aerodrome emergency plan shall be established at an aerodrome, commensurate with the aircraft operations and other activities conducted at the aerodrome.

The MAEP is also established in accordance with Civil Aviation Authority Act of 2008 (Republic Act No. 9497) of the Republic of the Philippines, as amended) for the regulation of civil aviation in the Philippines, and the Administrative Order No. 139, Series of 2008, Civil Air Regulation Governing Aerodromes (AO 139) as specified in the Manual of Standards for Aerodromes (MOS) which prescribes the detailed technical requirements (aerodrome safety standards) that have been determined to be necessary for promoting and supporting aviation safety in general and aerodrome safety in particular.

1.1.3 APPLICABILITY OF THE AIRPORT EMERGENCY PLAN

This Emergency Plan is applicable for all emergency situations involving an aircraft as well as for other non-aircraft accident related airport emergencies, natural or man-made, that warrants action to save lives and protects property and public health.

1.1.4 AREA OF RESPONSIBILITY

The Mactan Airport Emergency Plan shall address those emergencies that occur on, or directly impact, Mactan-Cebu International Airport or

adjacent property that: 1) is within the authority and responsibility of MCIA to respond; or 2) may present a threat to MCIA because of the proximity of the emergency to the airport.

For aircraft related emergencies, the area of responsibility of the MAEP is the land and water area within the radius of eight (8) kilometers from the Airport Reference Point. This, however, does not preclude coordinated response actions with other emergency response units outside the eight (8) kilometer limit indicated.

Note: The Airport Reference Point (ARP) is the intersection /middle point of the runway having the coordinates: 10° 18' 27.16" North (Lat.) and 123° 58' 45.91" East (Long.). (See Appendix 3, page 4-4.)

1.1.5 ACTIVATION OF THE EMERGENCY PLAN

The Mactan Airport Emergency Plan will be activated for the following emergency situations:

1.1.5.1 EMERGENCIES INVOLVING AIRCRAFT

- AIRCRAFT ACCIDENT
- FULL EMERGENCY (AIRBORNE AIRCRAFT)
- UNLAWFUL INTERFERENCE
- BOMB THREAT (TO AIRCRAFT)
- GROUND INCIDENT
- LOCAL STANDBY

1.1.5.2 EMERGENCIES NOT INVOLVING AIRCRAFT

- BOMB THREAT to airport buildings and facilities
- STRUCTURAL FIRE in airport buildings and facilities
- WEATHER STANDBY
- EARTHQUAKE
- HAZARDOUS MATERIALS INCIDENT
- AVIATION PANDEMIC INCIDENT
- CROWD CONTROL

1.1.6 AIRPORT EMERGENCY EXERCISES

In accordance with the requirements in Annex 14, MCIAA shall conduct emergency exercises to periodically test the adequacy of the MAEP and to review the results in order to improve its effectiveness.

The plan shall be tested by conducting:

a) a full-scale aerodrome emergency exercise at intervals not exceeding two years; and

b) partial emergency exercises in the intervening year to ensure that any deficiencies found during the full-scale aerodrome emergency exercise have been corrected; and reviewed thereafter, or after an actual emergency, so as to correct any deficiency found during such exercises or actual emergency.

Note.— The purpose of a full-scale exercise is to ensure the adequacy of the plan to cope with different types of emergencies. The purpose of a partial exercise is to ensure the adequacy of the response to individual participating agencies and components of the plan, such as the communications system.

1.1.7 DISTRIBUTION OF THE MAEP

Copies of the MAEP will be provided to all airline operators serving Mactan-Cebu International Airport, government and civil agencies and/or units which agreed to respond to an emergency situation at Mactan-Cebu International Airport, or which are expected to provide assistance or follow-up for such situations.

1.1.8 CONTROL OF THE MAEP

The MAEP is a controlled document and remains the property of the Mactan-Cebu International Airport Authority (MCIAA) through the Emergency and Security Services Department (ESSD), MCIAA. Each copy of the MAEP is assigned to a specific person, by name or position title, or to the senior officer of a designated organizational unit, who shall be referred to as the "CUSTODIAN" of that copy.

The custodian is held responsible for ensuring that the MAEP has been read and understood by him/herself and all appropriate members of his/her organization or unit. Whenever a Custodian is relieved or transferred, the organization/unit shall be responsible in notifying the ESSD Manager, MCIAA of this change as early as possible.

Each Custodian is requested to ensure that only persons with a continuing need to know the details of the MAEP are permitted free access to its contents. Each copy should, however, be readily accessible for those who will need to respond to an emergency situation.

1.1.9 AMENDMENTS TO THE MAEP

Amendments to this plan will be published and distributed by the ESSD Manager in the form of replacement pages. Each page will be numbered and dated. The Custodian of each copy shall ensure that the amended pages are properly inserted, and the old pages destroyed.

1.1.10 REQUIREMENTS FOR CHANGES TO THE MAEP

Each Custodian is responsible for ensuring that any part of the plan affecting his unit or organization is kept current. When any changes to information in the plan becomes necessary – especially emergency telephone numbers and/or internal procedures – the Custodian shall indicate those changes immediately in writing to:

Manager, Mactan-Cebu International Airport Authority
Lapu-Lapu City
Tel. 3402-486 **FAX NO.: 3400228**

1.1.11 ADDITIONAL COPIES

Additional copies of the MAEP may be issued to other agencies as may be authorized by the ESSD Manager. Corresponding record in the Distribution List shall be made accordingly.

1.2 GLOSSARY OF TERMS

The following are definitions (and abbreviations) for terms used in the MAEP:

Aerodrome. A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

Aircraft accident. An occurrence during the operation of an aircraft in which any person involved suffers death or serious injury or in which the aircraft receives substantial damage.

Aircraft incident. Any occurrence, other than an aircraft accident, associated with the operation of an aircraft, which affects or could affect continued safe operation if not corrected. An incident does not result in serious injury to persons or substantial damage to aircraft.

Aircraft operator. A person, organization or enterprise engaged in or offering to engage in aircraft operations.

Airline coordinator. A representative authority delegated by an airline to represent its responsibilities during an emergency involving its aircraft or property.

Airport emergency plan. Procedures for co-ordinating the response of airport services with other agencies in the surrounding community which could assist in responding to an emergency occurring on, or in the vicinity of, the airport.

Airport emergency exercise. A test of the emergency plan and review of the results in order to improve the effectiveness of the plan.

Airside. The movement area of an aerodrome, adjacent terrain and buildings or portions thereof, access to which is controlled.

Air traffic service. A generic term meaning, variously, flight information service, alerting service, air traffic advisory service, air traffic control, area control, approach control, or aerodrome control services.

Airport control tower. A facility established to provide air traffic control service for airport traffic. Also called tower or control tower, and as used in this manual, refers to the Mactan Control Tower operated and managed by the Civil Aviation Authority of the Philippines (CAAP).

Airport reference point (ARP). The designated geographical location of an aerodrome.

Apron. A defined area on an airport intended to accommodate aircraft for purposes of loading, unloading, refueling, parking or maintenance.

Biological agent. A microorganism which causes disease in man, plants, or animals or causes the deterioration of material.

Care area. Location where first medical care is given to injured.

Collection area. Location where seriously injured are collected initially.

Command post (CP). The location at the scene of an emergency where the on-scene commander is located and where command, co-ordination, control, and communications are centralized.

Contamination. The undesirable deposition of a chemical, biological, or radiological material on the surface of structures, areas, objects, or people.

Crash alarm. A system by which relevant emergency services are notified simultaneously of a pending or actual emergency.

Dangerous goods. (Synonymous with 'hazardous materials' and 'restricted articles'). The term includes explosives, compressed or liquefied gases (which may be flammable or toxic), flammable liquids or solids, oxidizers, poisonous substances, infectious substances, radioactive material or corrosives.

Decontamination. The reduction or removal of a chemical, biological, or radiological material from the surface of a structure, area, object, or person.

Designated passenger holding area. Location to which the apparently uninjured aircraft occupants are transported.

Disaster. An occurrence of a natural catastrophe, technological accident, or human-caused event that has resulted in severe property damage, deaths and/or multiple injuries

Emergency. Any occasion or instance - such as a hurricane, tornado, storm, flood, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, fire, or any other natural or man-made catastrophe - that warrants action to save lives and to protect property, public health, and safety.

Emergency operations center. Also referred to as Emergency Command Center (ECC). A designated area on the airport used in supporting and co-ordinating operations at airport emergencies. As used in this manual, it shall refer to the MCIAA Operations Center. Such reference is used to signify the increased level of activity in the Operations Center as a result of the emergency situation.

EMPLAN. As particularly used in this manual, means Emergency Plan. It is the series of response actions for every type of emergency in the airport.

Exercise. Testing of the airport emergency plan and review of the results in order to improve the effectiveness of the plan.

Full-scale emergency exercise. Assembling and utilization of all the resources that would be available and used in a real emergency.

Grid map. A map of an area overlaid with a grid system of rectangular coordinates that are used to identify ground locations where no other landmarks exist.

Hazardous material. Any substance or material that when involved in an accident and released in sufficient quantities, poses a risk to people's health,

safety and/or property. These substances and materials include explosives, radioactive materials, flammable liquids or solids, combustible liquids or solids, poisons, oxidizers, toxins, and corrosive materials.

Incident command system (ICS). A standardized organizational structure used to command, control and coordinate the use of resources and personnel that have responded to the scene of an emergency. The concept and principles for ICS include common terminology, modular organization, integrated communication, unified command structure, consolidated action plan, manageable span of control, designated incident facilities, and comprehensive resource management.

Inner perimeter. That area which is secured to allow effective command, communication, and coordination control, and to allow for safe operations while dealing with an emergency, including the immediate ingress and egress needs of emergency response personnel and vehicles.

Investigation. A process conducted for the purpose of accident prevention, which includes gathering and analysis of information, the drawing of the conclusions, including the determination of cause(s) and, where appropriate, the making of safety recommendations.

MAERO. The acronym for Mactan Airport Emergency Response Organization which is the main operating unit of the MAEP. The organization is headed by the MAERO Commander and generally includes the Primary Response Group, Secondary Response Group, and the Service Support Group.

Medical transportation area. That portion of the triage area where injured persons are staged for transportation to medical facilities under the direct supervision of a designated medical officer.

Mobile command post. A designated vehicle or vessel used as an Incident Command Post.

Mobile emergency hospital. A specialized self-contained vehicle that can provide a clinical environment in which a physician may provide a definitive treatment for serious injuries at the accident scene.

Mobile quarters. Shelters which are designed to be rapidly conveyed to the accident site and quickly activated to protect casualties from exposure to the elements. Their accessories would include provisions for light and heat. Means of transportation must be considered as an integral element of these shelters.

Movement area. That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the maneuvering areas and the apron(s).

Mutual aid emergency agreements / Memorandum of Agreement. Agreements established with appropriate agencies in the surrounding community, defining initial notification and response assignments.

On-scene commander. Person designated to take charge of the over-all emergency operation at the site of accident/incident.

Outer perimeter. That area outside of the inner perimeter which is secured for support operational requirements, free from unauthorized or uncontrolled interference.

Partial exercise. An exercise of one or more participants of the airport emergency plan as required to improve efficiency.

Rendezvouz point (RVP). A prearranged reference point, i.e., road junction, cross-road, or other specified place, to which personnel/vehicles responding to an emergency situation initially proceed to receive directions to staging areas and/or the accident/incident site.

Significant body of water. A body of water or marsh land is significant if the area exceeds one-quarter mile and cannot be traversed by conventional land rescue vehicles.

Stabilization. Use of medical measures to restore basic physiologic equilibrium to a patient to ensure survival and facilitate future definitive care.

Staging area. A prearranged, strategically placed area where support response personnel, vehicles and other equipment can be held in readiness for use during an emergency.

Tabletop exercise. The simplest and least expensive type of drill to stage. Used to test the integration and capability of emergency response resources, it is a simple tool for planning, critiquing, and updating various responses before trying them in the field.

Tagging. Method used to identify casualties as requiring immediate care (Priority I), delayed care (Priority II), minor care (Priority III), or as deceased.

Triage. The sorting of casualties at an emergency according to the nature and severity of their injuries.

Triage area. Location where triage operations are performed.

Triage tag. A tag used in the classification of casualties according to the nature and severity of their injuries.

1.3 CLASSIFICATION AND DESCRIPTION OF AIRPORT EMERGENCIES

Emergencies affecting the Airport are classified as Emergency Plans ("EMPLANs"), and are briefly described as follows:

1.3.1 EMPLAN 1 - AIRCRAFT ACCIDENT ON-AIRPORT

When an aircraft accident has occurred within the movement area or within the area bounded by the airport perimeter fence and its connecting adjacent buildings and areas.

1.3.2 EMPLAN 2 - AIRCRAFT ACCIDENT OFF-AIRPORT

When an aircraft accident has occurred beyond or outside of the airport perimeter fence and its connecting adjacent buildings and areas up to the 8 kilometer radius from the Airport Reference Point.

1.3.3 EMPLAN 3 - FULL EMERGENCY (Airborne Aircraft)

When an aircraft approaching the Airport has declared an emergency or is known to have a problem or defect which will cause, or is likely to cause an aircraft accident.

1.3.4 EMPLAN 4 - UNLAWFUL INTERFERENCE

When it is known or suspected that an aircraft has been subjected to a threat of sabotage or unlawful seizure (hijacking) or any act has been committed which would affect the normal operation of that aircraft or safety of its occupants.

1.3.5 EMPLAN 5 - BOMB THREAT – TO AIRCRAFT

When information is received that an explosive device has been located or suspected to be on an aircraft either in the air or on the ground.

1.3.6 EMPLAN 6 - BOMB THREAT – TO BUILDING

When information is received that an explosive device has been located or suspected to be in or around airport buildings, facilities or equipment.

1.3.7 EMPLAN 7 - GROUND INCIDENT

When an incident occurs involving an aircraft on the ground which will affect the safety of that aircraft and persons on board that aircraft.

1.3.8 EMPLAN 8 - STRUCTURAL FIRE

When a fire occurs on the airport in buildings, facilities, equipment or vehicles, and which does not directly involve an aircraft.

1.3.9 EMPLAN 9 - LOCAL STANDBY

When an aircraft approaching the airport has developed or is suspected to have developed some defect, but this defect should not create any difficulty in affecting a safe landing. Crash vehicles may standby in the station, or at positions on the movement area, as the situations warrants.

1.3.10 EMPLAN 10 - WEATHER STANDBY

When severe storms or expected weather conditions can affect the safety of aircraft, or adversely affect the safety of persons, buildings, facilities or equipment at the Airport.

1.3.11 EMPLAN 11 - EARTHQUAKE

When a sudden, violent shaking or movement of part of the earth's surface can affect the safety of aircraft, or adversely affect the safety of persons, buildings, facilities or equipment at the Airport.

1.3.12 EMPLAN 12 - HAZARDOUS MATERIALS INCIDENT

When any substance or material that, when involved in an accident and released in sufficient quantities, poses a risk to people's health, safety and/or property at the Airport. These substances and materials include explosives, radioactive materials, flammable liquids or solids, combustible liquids or solids, poisons, oxidizers, toxins, and corrosive materials.

1.3.13 EMPLAN 13 – AVIATION PANDEMIC INCIDENT

When there is a suspected or actual case of communicable disease on board an aircraft such that further exposure and/or contact of the infected person, whether direct or indirect, with other persons in the Airport will result in pandemic contamination.

1.3.14 EMPLAN 14 - CROWD CONTROL

When crowds of people assemble at the Airport for many reasons, including civil unrest, peaceful assembly or the result of an accident or natural disaster. In either event, a crowd could inadvertently or deliberately disrupt airport operations.

NOTE: The above classifications – by "EMPLAN" numbers – shall be used for initial notification of emergency situations. If the emergency condition changes, complete additional notifications must be made for the new condition – Example: an EMPLAN 9 (Local Standby) may escalate to an EMPLAN 3 (Full Emergency) condition.

1.4 ORGANIZATION AND COMPONENT PARTS

The Mactan Airport Emergency Rescue Organization (MAERO) is composed of the following: (See Appendix 1, page 4-2 for the Organizational Chart.)

1.4.1 **MAERO Commander.** Assumed by the General Manager, MCIAA as the head of the entire organization. In his absence the Assistant General Manager shall take over.

1.4.2 **Mactan Control Tower.** The Air Traffic Control Tower operated by the Civil Aviation Authority of the Philippines (CAAP) - Mactan which provides the initial alarm concerning an imminent or actual aircraft emergency.

1.4.3 **Emergency Operations Center (EOC).** Serves as the communication center of the organization. It monitors activities and alert authorities concerned in the event of imminent or actual emergency. This is presently co-located at the MCIAA Operation Center.

1.4.4 **On-scene Commander (OSC).** Normally assumed by the Manager/Head of the Emergency and Security Services Department (ESSD), MCIAA. The On-scene Commander shall exercise over-all command responsibility at the site of an emergency situation for all types of emergencies except emergencies involving aviation pandemic incidents which will be handled by the Bureau of Quarantine, and security matters (i.e.: bomb threats or unlawful interference), wherein it is the Chief, 7th PCAS who will serve as the On-scene Commander.

For off-airport incidents/accidents, the most-senior ranking Bureau of Fire Protection (BFP) Officer under the mutual aid emergency agreement to arrive at the scene shall automatically assume the position of the OSC until the arrival of the Airport Fire Chief or the ESSD Manager/Head. In the special case of a sea water crash, the NAVFORCEN, Philippine Navy or the Philippine Coast Guard will assume the position of the OSC.

1.4.5 **Fire Coordinator.** Refers to the Airport Fire Chief or the most senior-ranking Fire Officer at the site who is responsible for the over-all coordination of the fire fighting activities of the different fire response units at the emergency site.

1.4.6 **Medical Coordinator.** The Manager, Medical Division, MCIAA is designated as the over-all coordinator of the medical services and rescue activities at the emergency site.

1.4.7 **Security Coordinator.** The Manager/Head of the Airport Police Division, MCIAA is designated as the over-all coordinator of security-related activities at the emergency site.

1.4.8 **Staging Officer.** The assigned Airport Police Officer at the Staging Area who is responsible for controlling the entry of personnel and vehicles into the incident site in coordination with the On-scene Commander.

1.4.9 **Transport Officer.** The assigned MCIAA Engineering Department official tasked to be responsible for the provision and coordination of the airport's transportation equipments during an emergency.

1.4.10 **Communications Officer.** The assigned MCIAA Electronics and Communications personnel/official tasked to be responsible for the preparation and provision of radio and other types of communications equipment to be available during the emergency.

1.4.11 **Primary Response Group.** These are the units within and outside the Airport that are available and capable to respond to the initial alarm for On-Airport incidents/accidents.

a) MCIAA Rescue and Firefighting Division (RFD)
b) MCIAA Airport Police Division (APD)
c) MCIAA Medical Division
d) Airline Concerned
e) 7th PCAS AVSEGROUP

f) Philippine Air Force - 5052nd Search and Rescue Squadron 5052nd SARS), 2nd Air Division (2AD) and 560th Air Base Wing (560ABW)
g) Bureau of Quarantine (in case of pandemic incidents)

1.4.12 **Secondary Response Group.** These are the units outside the Airport that will be coordinated with to respond to the subsequent alarm. (See Appendix 11, page 4-13 for the MAEP & Responding/Support Units Telephone Directory).

a) Armed Forces of the Phil. (AFP) Fire Auxiliary Unit
b) Cebu, Lapu-Lapu, Mandaue City Fire stations
c) Filipino-Chinese Fire Brigade Units
d) AFP/PNP Medical Units
e) Regional Disaster Coordinating Council (RDCC)
f) City Disaster Coordinating Council (CDCC), Lapu-Lapu City
g) Airline Operator Medical Units
h) Emergency Rescue Unit Foundation (ERUF) / Accident Control and Emergency Response Team (ACERT)
i) Philippine National Red Cross (PNRC)
j) Cebu, Lapu-Lapu, Mandaue City Police stations
k) Philippine Navy (for sea crash)
l) Philippine Coast Guard (for sea crash)
m) Airline Operator Security Units
n) Airline Operator Maintenance Units
o) Office of the Civil Defense
p) Local Government Units, Lapu-Lapu City (Barangays adjacent or surrounding the Airport)
q) Other Mutual Aid Responding Units

1.4.13 **Support Group.** These are units within and outside the Airport that will be tapped to provide additional assistance/support to emergency response activities as needed. (See Appendix 11, p. 4-13 for the MAEP & Responding/Support Units Telephone Directory).

a) Engineering Department, MCIAA - provides additional support equipments, tools, vehicles, maintenance and manpower. A designated official of the Engineering Department serves as the Officer-in-Charge/head of the Airport Support Group.
b) Administrative Department, MCIAA - provides support personnel, and other assistance in administrative matters.
c) Operations Department, MCIAA - provides additional manpower, communication equipment and facilities.
d) Finance Department, MCIAA - handles the financial requirements as the need arises.

e) ID and Pass Control Division (IDPCD), MCIAA - handles the issuance and control of access passes.
f) Public Affairs Division, MCIAA - handles media and other public relations activities.
g) General Services Division (GSD), MCIAA - provides additional manpower during an emergency situation.
h) Procurement Division – handles the procurement of supplies, equipment, etc. needed for the emergency response operations.
i) Local Government Units (LGUs) - provide additional assistance as requested.

1.5 MACTAN AIRPORT EMERGENCY COMMITTEE

To ensure proper coordination of all agencies responding to an emergency, the MAERO shall establish the Mactan Airport Emergency Committee (MAEC).

1.5.1 Terms of Reference.

a. The MAEC acts as an advisory and consultative body for the Airport General Manager/Chair on matters relative to airport emergency.

b. The Committee shall act as a coordinating body for all departments, agencies and airport entities concerned for airport emergencies.

c. The members are from the different government agencies, airline companies, and others whose concerns are important to airport emergency. Members of the MAEC shall be represented by the office/agency heads or their duly designated representatives.

d. Co-opted members may be called upon collectively or individually as needed in the meeting.

e. The Committee shall meet for the plenary sessions at least once a year to review the emergency plan and make any changes to the plan to ensure that it operates properly. Special meetings may also be called by the Chair as the need arises. Majority of the members of the Council shall constitute a quorum to transact business.

1.5.2 Membership.

The Mactan Airport Emergency Committee shall be composed of the following:

Chairman:

- General Manager, MCIAA

Vice-Chairman:

- Assistant General Manager, MCIAA

Members:

- Manager, Emergency and Security Services Department (ESSD)
- Manager, Operations Department, MCIAA
- Manager, MCIAA Rescue and Firefighting Division (RFD)
- Manager, MCIAA Medical Division
- Manager, Airport Police Division (APD)
- Manager, Airport Ground operations Division (AGOD), MCIAA
- Manager, International Terminal Operations Division (ITOD), MCIAA
- Manager, Domestic Terminal operations Division (DTOD), MCIAA
- Manager, General Aviation and Industrial Division (GAID), MCIAA
- Manager, Public Affairs Division, MCIAA
- Manager, Engineering Department, MCIAA
- Area Manager, Civil Aviation Authority of the Philippines (CAAP) - Mactan
- Head, Bureau of Quarantine – Mactan Station
- Chief, 7th PCAS AVSEGROUP - PNP
- Commander/Representative, Naval Forces Central (NAVFORCEN)
- Commander/Representative, Philippine Coast Guard
- Representative, 5052nd Search and Rescue Squadron, Philippine Air Force
- Representative, 2nd Air Division (2AD), PAF
- Representative, 560th Air Base Wing (560ABW), PAF
- Chief, Lapu-Lapu City Police
- Chief, Lapu-Lapu City Fire Department
- Chairman, Mactan Airline Operators Council (MAOC)
- Representative(s), Ground Handlers
- Team Leader, 10SPOW, PAF
- Representative, Lapu-Lapu City Disaster Coordinating Council
- Representative, Office of the Civil Defense
- Representative, Regional Disaster Coordinating Council
- Representative, Emergency Rescue Unit Foundation (ERUF) / ACERT

Co-opted members:

- Lapu-Lapu City Barangay Captains of the barangays adjacent to the airport.
- Representatives of mutual support hospitals (Mactan Community Hospital, Mandaue City Hospital, North General Hospital, etc.)
- Representatives, AFP Fire Departments (Cebu City, Mandaue City, Consolacion and Cordova Municiplities)
- Head/Representative, Philippine National Red Cross (PNRC)
- Representatives, AFP/PNP Medical units

- Head/Representative, Airport Tenants/Concessionaire Group
- Director/Representative, National Bureau of Investigation – 7 (NBI-7)
- Representative, Philippine Drug Enforcement Agency (PDEA) K-9, MCIA Station
- Representative(s), Airport Cargo Handlers

1.6 AIRPORT EMERGENCY ACCESS

1.6.1 IDENTIFICATION OF ASSEMBLY AREAS

There are 4 primary locations of the Rendezvous Points (RVPs) designated for assembly of emergency response personnel and vehicles responding to emergencies within and outside Mactan-Cebu International Airport. Airport Police Officers will be stationed at these RVPs to provide necessary directions and assistance to responding personnel and vehicles. (See RVP Locations on Appendix 2, p. 4-3).

1.6.1.1 RENDEZVOUS POINT 1 (RVP-1)

RVP-1 is at the North East Ramp. It can be accessed from the North East Ramp Control Gate located approximately 100 meters east of the airport main road or approximately 100 meters north of the Airport Terminal Building. This RVP shall be established when the accident site is somewhere near the RWY 22 area.

Off-Airport emergency response agencies and personnel will be directed through the Gate to RVP-2 when requested by the On-scene Commander.

1.6.1.2 RENDEZVOUS POINT 2 (RVP-2)

RVP-2 is the area fronting the Rescue and Firefighting (RFD) Station. It can be accessed through the North East Ramp Gate passing through the perimeter road or through Taxiways Delta and Echo. Another access is at the General Aviation Gate passing through the perimeter road.

1.6.1.3 RENDEZVOUS POINT 3 (RVP-3)

RVP-3 is the southern portion of the General Aviation Ramp. It is accessed through the General Aviation Gate. This RVP shall be established when the accident site is somewhere near the RWY 04 area.

1.6.1.4 RENDEZVOUS POINT 4 (RVP-4)

RVP-4 is the MIP Parking Area. It is accessed through the main airport road. It will be used primarily for off-airport accident from which the Police will provide necessary directions and/or escort to the accident/incident site for emergency response vehicles and personnel.

NO VEHICLE MAY PROCEED BEYOND RVP-1 AND RVP-2 WITHOUT RADIO CLEARANCE FROM THE TOWER, OR WITHOUT AUTHORIZED ESCORT

THERE WILL BE NO SMOKING ALLOWED UPON ENTERING THE AIRSIDE AREAS

1.6.2 EMERGENCY RESPONSE ROUTES FOR ON-AIRPORT EMERGENCIES

For on-airport emergency situations within the Aircraft Movement Area (AMA), primary response vehicles shall coordinate with the Emergency Operations Center before traversing along the runway or taxiways in taking the most expeditious route towards the site.

Secondary response vehicles from outside the Airport shall coordinate with the Airport Police personnel at the perimeter gates/entrances for further guidance to the Staging Area before finally being admitted into the site as needed.

1.6.3 MAEP AREA OF RESPONSIBILITY MAP AND THE AIRPORT GRID MAP

Provided in this manual are two maps; one map depicts the 8-kilometer area of responsibility of the MAEP, and the other map depicts the confines of the airport aerodrome and its adjacent landside areas.

Presented on Appendix 3, p. 4-4 is the map showing the Mactan-Cebu International Airport and surrounding communities up to approximately 8 kilometers (5 miles) from the Airport Reference Point (ARP). This map shall be used to give the approximate location of an accident site especially for accidents that occur off airport. Also shown in the map are the locations of the different mutual aid hospitals and rescue units within the neighboring cities of Lapu-Lapu, Mandaue and Cebu. Appendix 3A, p. 4-5 indicates the facilities of these mutual aid hospitals.

Appendix 4, p. 4-6 is the grid map of MCIAA aerodrome and its adjacent barangays, military base, industrial, sea side areas and other areas. The square grids on this map represent approximately the 300 x 300 meter distance (the approximate distance between the distance-to-go markers) and are identified by letter and number combination as the coordinates. This map shall be used to pinpoint the specific location of an accident within the airport compound (example: "C-3" – would identify a location on the approach end of Runway 22). Other location references such as taxiway designations should also be used to clearly identify the location of the incident/accident site.

Copies of the current grid map shall be provided to the fire station, Control Tower, Operations Center and other agencies/offices to facilitate for a coordinated initial emergency response actions. Emergency response vehicles shall also be provided with a copy of the current grid map on board and available to the vehicle driver.

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SECTION 2 – EMERGENCY COMMUNICATIONS PLAN

2.1 NOTIFICATION RESPONSIBILITIES

Notification procedures for primary response units and personnel are included in the detailed emergency response procedures in SECTION 3 of the MAEP. This section outlines the general communications and notification responsibilities, methods and capabilities.

2.1.1 INITIAL RECEIPT OF INFORMATION

2.1.1.1 Aircraft Emergencies:

A request to respond to an aircraft accident on the airport will normally be issued by the air traffic services. However, when a call is received from any other person, or an accident is observed, or there is reason to consider that an accident is imminent, the information must be immediately relayed to Tower to alarm or signal the needed actions.

2.1.1.2 Non-aircraft Emergencies

Information regarding non-aircraft related emergencies, such as natural disasters, usually originate from other mutual government alerting agencies such as the PAGASA, PHILVOLCS, RDCC and others.

The MCIAA Operation Center shall confirm from the concerned alerting agencies regarding forecasts and information of impending emergencies which will affect the Airport.

2.1.2 FORM OF EMERGENCY INFORMATION

Initial notification, mostly in aircraft related emergency cases, shall include the following information in this general form (each situation will necessitate some variation):

- EMPLAN NUMBER AND TYPE OF EMERGENCY

  (i.e.: 'this is an EMPLAN ONE – AIRCRAFT ACCIDENT…")

- AIRCRAFT TYPE, flight number and operator
- NUMBER OF PERSONS ON BOARD

- LOCATION OF ACCIDENT SITE (use Grid Map reference)
- ESTIMATED TIME OF ARRIVAL (ETA)
- RUNWAY IN USE / surface winds
- FUEL REMAINING
- Any additional information (i.e.: dangerous cargo)

IMPORTANT: Full primary notifications shall be made again for any major change in the emergency condition… (Example: an EMPLAN 3 – FULL EMERGENCY becomes an EMPLAN 1 – AIRCRAFT ACCIDENT – ON AIRPORT)

2.1.3 TYPICAL AIRCRAFT EMERGENCY ALARM NOTIFICATION FLOW

The chart on Appendix 5, page 4-7 shows how a typical aircraft emergency alarm originates or how it is initially received and subsequently relayed to the different response units.

Under most of the emergency cases involving aircrafts, it is usually the Tower that serves as the source of the emergency alarm after receiving such from the pilot of the aircraft. The emergency alarm is then relayed by the Tower to the Airport Rescue and Firefighting through Hotline connection. Subsequent notifications will be made by the Tower to the Operations Center, MCIAA through UHF radio frequency.

Aircraft emergencies under EMPLANs 1, 2, and 3 also require notification by the Tower to the 5052nd Search and Rescue Squadron (SARS), Phil. Air Force through the UHF radio issued to said unit by the Authority.

The Operations Center makes the subsequent calls to the other airport emergency response units through either VHF or UHF radio or by landline (Refer to Appendices 16 & 17, pp. 4-20 & 4-21 respectively for the Radio Frequencies).

Other mutual aid response units outside the airport shall be contacted by the Operations center by means of landline facilities.

2.1.4 TYPICAL FIELD COMMUNICATIONS NETWORK

The chart on Appendix 6, page 4-8 shows the typical exchange of information among the different response units in the field or on the accident site.

The On-scene Commander serves as the focal point of communications among the different responding units within the field or accident/incident site during the emergency. The Emergency Operations Center (EOC) or Emergency Command Center (ECC) also serves as the connecting unit from where information between the On-scene Commander and other emergency response units are relayed.

In most emergency situations, especially within the airport areas, the On-scene Commander transmits and receives messages by means of his handheld radio to the Operations Center/EOC or to other responding units with the same radio frequency.

2.2 MEANS OF COMMUNICATION

2.2.1 RADIO LINK

Communications by the MCIAA Primary Rescue Group; i.e., Rescue and Firefighting Division, Airport Police Division, Medical Division, with Mactan Control Tower shall always be on VHF Radio Frequency 121.8 MHz. MCIAA emergency response units are also linked-up by radio with the base at the MCIAA Operation Center. Designated radio call signs shall be assigned to the different officials and/or personnel for use during emergencies. (See Appendix 13, p. 4-18 for Radio Call Signs list).

The Operations Center (OC), MCIAA is provided with both UHF and VHF radios (base and mobile). It links with the Tower through UHF contact and hotline phone. Other selected MCIAA offices/units can be contacted with the same frequency. VHF radio frequency is also used by OC to contact other stations are using the same VHF frequency.

The Operations Center can also cross-link its UHF Channel 1 with the VHF Channel 1 to permit/allow a common radio linkage with both VHF and UHF. This may be done by the Operations Center especially during emergency situations to permit rapid communication among all responding units so as the need to switch from one radio frequency to another is no longer necessary. However, one drawback with this is that unnecessary radio messages from other non-emergency responding units, that is, allied services such as contractors and maintenance units which are using the operations UHF band, will interfere with regular emergency transmissions.

2.2.2 LANDLINE FACILITIES

A crash hotline connects the Mactan Control Tower (Master Station) direct to the Rescue and Firefighting Division (RFD), Operations Center and the 7th PCAS AVSEGROUP Special Operations Unit. This comprises the Group 1 hotline connection, and it is activated when the Tower lifts up the receiver and the simultaneous relay of information to the three responding units is subsequently started.

The Operations Center, MCIAA also has another crash hotline unit which connects with other concerned MCIAA emergency responding units and offices such as the Medical, Airport Police Emergency Response Team (ERT), Airport Police Desk Officer, General Manager's Office, and Assistant General Manager's Office. This comprises the Group 2 hotline connection, and is activated when the Operations Center lifts up the phone and the simultaneous relay of emergency information is subsequently started. Other airport offices/units using the MCIAA PABX (Private Automatic Branch Exchange) may also be connected with hotline as needed. (See Appendix 18, p. 4-23 for the Hotline Connection Chart).

Landline facilities are commonly used for communications between offices within and outside the airport. A public address system in the Airport is also one of the means of communications which will be used during actual emergencies as needed.

Appendix 11, pages 4-13 to 4-16 shows the MAEP Responding / Support Units Telephone Directory.

2.2.3 MOBILE PHONES

Communication between individuals can also be through the use of cellular/mobile phones. This is another option especially in emergency sites where radio communications is beyond range.

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SECTION 3 - EMERGENCY ACTIONS BY EMPLAN NUMBER

3.1 EMPLAN 1 - AIRCRAFT ACCIDENT (On-Airport)

When an aircraft accident has occurred within the movement area or within the area bounded by the airport perimeter fence and its connecting adjacent buildings and areas.

3.1.1 ACTIONS BY THE MACTAN CONTROL TOWER

- Activate the Crash alarm hotline and relay the following details to the MCIAA RESCUE AND FIREFIGHTING DIVISION (RFD).

  EMPLAN 1 - AIRCRAFT ACCIDENT ON AIRPORT

  - Location of accident (give grid reference)
  - Type of aircraft
  - Nature of accident (crash, fire, gear, runway in use, etc.)
  - Number of persons on board (if known)
  - Fuel on board
  - Presence of hazardous cargo (if known)

- Relay crash alarm information to the MCIAA Operation Center / Emergency Operations Center and to the 5052nd Search and Rescue Squadron (SARS), PAF.

- If crash location is within the Aircraft Movement Area (AMA), close affected surfaces to flight operations, and give priority clearance to the vehicles of primary units responding to the aircraft accident.

- Maintain close coordination with MCIAA Operation Center/Emergency Operations Center (EOC) and/or On-scene Commander.

- Obtain from the On-scene Commander report on runway/taxiway conditions and review runway availability status and issue the corresponding NOTAM.

- In consultation with the On-scene Commander, terminate EMPLAN 1 and issue the corresponding NOTAM after runway has been inspected and declared serviceable.

3.1.2 ACTIONS BY THE MCIAA RESCUE AND FIREFIGHTING DIVISION (RFD) / ON-SCENE COMMANDER

- Proceed, as instructed and/or as cleared by Mactan Control Tower, to the crash site with personnel and equipment.

- The most senior RFD Officer at the site assumes as On-scene Commander until relieved by the higher-ranking RFD Officer/Fire Chief or the ESSD Manager/Head.

- Initiate prompt rescue and fire control operations.

- Advise Emergency Operations Center (EOC) of need for additional fire rescue support requirements.

- Coordinate with the Staging Officer for the entry of secondary/support fire fighting units to the accident site when needed.

- Coordinate with the Transportation Officer in regard to the transportation needs of passengers/victims.

- Maintain overall command/coordination of the entire fire-fighting operation and rescue/extrication activities at the site.

- Maintain close coordination with EOC and Mactan Control Tower and give report as to the runway/taxiway conditions and the estimated time when normal or limited flight operations could be expected to resume.

- Coordinate with Medical/Rescue Coordinator and airline coordinator/representative for the headcount of persons on board.

- When accident site is safe from any further fire, all rescue activities have been completed and accident site is stabilized, notify EOC.

NOTE 1: It is very vital that during actual search and rescue operations, no officer or official of any organization may interfere, or in any manner attempt to direct or control the procedures adopted by trained personnel of the MAERO.

NOTE 2: In cases when crash fire involves military aircraft, the designated military officer/liaison officer shall take over as On-Scene Commander only after aircraft fire is contained and all passengers/victims are evacuated to safer ground.

3.1.3 ACTIONS BY THE MCIAA OPERATIONS CENTER / EMERGENCY OPERATIONS CENTER

- Relay details of the Crash Alarm to the following:

  - Airline involved
  - Airport Medical Division
  - Airport Police Division
  - ESSD, MCIAA
  - Airport General Manager/Assistant General Manager

- Activate as Emergency Operations Center (EOC). On-duty personnel of the MCIAA Operations Center shall automatically become members/staff of the EOC once activated.

- In coordination with the On-scene Commander and the Control Tower, monitor and control movements of response units within the Aircraft Movement Area (AMA).

- Limit the entry of non-responding vehicles at the AMA unless authorized by the On-scene Commander/EOC.

- Relay instructions/messages between the On-scene Commander and the concerned units.

- Send one Operations Center personnel to the accident/incident site to coordinate with the On-scene Commander (OSC) as needed.

- Prepare to activate the Emergency Command Center (ECC) in the pre-designated area/room as directed by the MAERO Commander or his authorized representative.

- Coordinate with the Electronics and Communications Division (ECD) for the communication requirements of the ECC, and other concerned offices for other requirements of the ECC if it will be activated.

- Call in MAERO staff and officials to the ECC as required.

- In coordination with the On-scene Commander and the Control Tower, exercise over-all control of post-emergency activities including:

  - Accounting of persons on board,
  - Coordination of aircraft recovery / removal,
  - Re-establishment of normal operations at Airport.

- Relay termination of EMPLAN 1.

3.1.4 ACTIONS BY THE MCIAA MEDICAL DIVISION

- Proceed, as instructed and/or as cleared by MCIAA Operation Center, to the crash site with personnel and equipment.

- The first responding senior-ranking MCIAA physician to arrive at the scene shall automatically assume as Medical Coordinator.

- Initiate rescue/medical activities and activate Triage procedures when necessary.

- Dispatch medical assistance to examine, treat ambulatory and / or uninjured passengers.

- In coordination with the On-scene Commander and EOC, request for additional help as needed.

- Coordinate with the Staging Officer for the entry of support units to the scene when needed.

- Coordinate with the On-scene Commander in directing the rescue/medical and extrication activities of secondary/auxiliary response units.

- Coordinate with the Transportation Officer for the transport of survivors to hospital, uninjured victims to designated holding areas at the Airport MIP Security Building and casualties to the designated temporary morgue at the MCIAA Motor Pool area.

- Advise On-scene Commander when all rescue activities have been completed, and the final tally of passengers have been properly accounted.

3.1.5 ACTIONS BY THE AIRPORT POLICE DIVISION (APD) / 7th PCAS AVSEGROUP

- Dispatch Police Officers to the emergency site.

- The most senior ranking Airport Police Officer to arrive first at the scene shall coordinate with the On-scene Commander and assume as Security Coordinator until relieved by the APD Chief.

- Cordon the accident site and establish traffic lanes for the ingress and egress for emergency responding units.

- Provide crowd control and handle traffic in the vicinity including rerouting if necessary.

- Assign Police Officers to act as Staging Officer at the designated area to control entry of vehicles and persons into the site in coordination with the On-scene Commander.

- Contact and establish coordination with the involved community/barangay security or police and other secondary security response units.

- Coordinate actions of secondary security response units.

- Secure and preserve the accident area for investigation purposes and ensure that there is no unauthorized removal of materials until cleared by proper authority.

3.1.6 ACTIONS BY THE INVOLVED AIRLINE OPERATOR

- Dispatch immediately a ranking representative to the Emergency Operations Center (EOC) or Emergency Command Center (ECC) as directed to coordinate with the On-scene Commander.

- Dispatch immediately a technical representative to the designated RVP or to the accident site as directed and coordinate with the OSC.

- Establish a two-way communication link between the technical representative at the accident site to the airline representative at the EOC or ECC.

- Prepare to provide copies of the passenger manifest and other relevant aircraft data to the EOC and On-scene Commander.

- Provide assistance for the transport of uninjured and ambulatory passengers from accident site to the designated survivors' holding area at the MIP Security Building or any agreed holding area at the Airport.

- Designate/assign airline personnel/staff to look after the survivors/passengers at the holding area, and provide assistance/catering as needed.

- At the direction of On-scene Commander or Medical Coordinator, provide assistance for the transport of uninjured and ambulatory passengers from accident site to terminal holding area (MIP Security Bldg.) and provide assistance/catering as may be needed.

- Coordinate with On-scene Commander/EOC regarding the use of the airport's Aircraft Recovery Equipment (ARE) as needed.

- Prepare to provide other forms of assistance as required.

3.1.7 ACTIONS BY THE SECONDARY FIRE RESPONSE UNITS

- Dispatch available fire/rescue resources and proceed to the designated RVP or Staging Area as directed during the initial receipt of the alarm from the Emergency Operations Center (EOC) or MCIAA Fire Base.

- Upon arrival, Fire Unit Leader, in coordination with the Staging Officer, shall report to the MCIAA Fire Coordinator or the On-scene Commander.

- Coordinate with the Fire Coordinator/On-scene Commander for further instructions.

3.1.8 ACTIONS BY THE SECONDARY MEDICAL RESPONSE UNITS

- Dispatch medical/rescue resources and proceed to the designated RVP or Staging Area as directed during the initial receipt of the alarm from the Emergency Operations Center (EOC) or MCIAA Medical Division.

- Upon arrival, Medical Unit Leader, in coordination with the Staging Officer, shall report to the MCIAA Medical Coordinator or the On-scene Commander.

- Coordinate with the Medical Coordinator for further instructions.

3.1.9 ACTIONS BY THE SECONDARY SECURITY RESPONSE UNITS

- Dispatch available security personnel and vehicles and proceed to the designated RVP or Staging Area as directed during the initial receipt of the alarm from the EOC or MCIAA Airport Police Division (APD).

- Upon arrival, Security Unit Leader, in coordination with the Staging Officer, shall report to the MCIAA Security Coordinator or the On-scene Commander.

- Coordinate with the Security Coordinator for further instructions.

3.1.10 ACTIONS BY THE ENGINEERING DEPARTMENT (SUPPORT GROUP)

- Start recall of personnel for possible deployment as Support Group.
- Dispatch personnel upon instructions from the EOC.
- Department Manager/Head or the most senior ranking personnel shall assume as Officer In-charge of the Support Group.
- Direct Transportation and Heavy Equipment Division (THED) to prepare for deployment of equipment and vehicles upon instructions from the EOC.
- Direct Electronics and Communications Division (ECD) to ensure the efficiency of the communication system.
- THED Manager/Head shall automatically assume as Transport Officer, and establish contact with the Support Group OIC, and the Emergency Operations Center (EOC)/On-scene Commander (OSC).
- Monitor and coordinate with the EOC/OSC.

3.1.11 ACTIONS BY OTHER SUPPORT UNITS

- Prepare to dispatch available resources and services upon instructions from the EOC/OSC.
- Monitor and coordinate with the EOC/OSC.

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3.2 EMPLAN 2 - AIRCRAFT ACCIDENT (Off-Airport)

All aircraft accidents located outside of the fenced airport compound to include water/sea areas are considered as off-airport. The level of response (if any) by the Airport Rescue and Firefighting Division (RFD) will be determined by the location of accident site and distance from the Airport.

Reports of aircraft accidents are generally reported to Mactan Control Tower. When, however, a report of an aircraft accident is received by MCIAA it shall immediately relay the same to Mactan Control Tower for verification and activation of the accident alarm, when warranted.

3.2.1 CLASSIFICATIONS OF OFF-AIRPORT AIRCRAFT ACCIDENT

Under this emergency plan, off-airport aircraft accidents are classified based on their location with respect to the Airport.

a. **Accident location in proximate land areas** – starts from the immediate areas just outside the airport perimeter fence and all land areas within the Mactan Island. In this situation, the immediate availability of RFD emergency response at the site is deemed practical.

b. **Accident location in remote land area** – includes all the land areas outside of Mactan Island and within the 8-kilometer area of responsibility of the MAEP. In this situation, the immediate availability and level of RFD emergency response at the site shall be determined based on the location and accessibility of the accident site from the airport.

c. **Accident location in sea water** – includes all sea water areas surrounding the Mactan aerodrome and other areas where there is a significant body water within the 8-kilometer area of responsibility of the MAEP. Under this situation, the Naval Forces Central (NAVFORCEN), Philippine Navy or the Philippine Coast Guard (PCG), based on their respective mandates and through Memorandum of Agreement (MOA) with MCIAA, shall be the lead agency and shall assume the role of the On-scene Commander.

3.2.2 ACTIONS OF RESPONSE UNITS WHEN ACCIDENT LOCATION IS IN PROXIMATE LAND AREAS (WITHIN MACTAN ISLAND).

3.2.2.1 ACTIONS BY THE MACTAN CONTROL TOWER

- If Tower serves as the origin of the crash alarm, activate the crash hotline and relay the following information to the MCIAA RESCUE AND FIREFIGHTING DIVISION (RFD).

  EMPLAN 2 - AIRCRAFT ACCIDENT – OFF AIRPORT

  - Location of accident
  - Type of aircraft and operator
  - Nature of accident (if known)
  - Number of persons on board (if known)
  - Fuel on board
  - Presence of hazardous cargo (if known)

- Relay crash alarm information to the MCIAA Operation Center / Emergency Operations Center and to the 5052nd Search and Rescue Squadron (SARS), PAF.

- If crash alarm is received from MCIAA or any outside sources other than the aircraft/pilot, verify information prior to activating the crash hotline and relaying back any verified details of the crash to MCIAA RFD and the MCIAA Operation Center.

- In consultation with the Airport Manager and Airport Fire Chief issue a NOTAM indicating the reduced level of protection.

- Maintain close coordination with MCIAA Operation Center/EOC and On-scene Commander, as required.

- In consultation with the MCIAA Operation Center/EOC or On-scene Commander terminate EMPLAN 2.

3.2.2.2 ACTIONS BY THE MCIAA RESCUE AND FIREFIGHTING DIVISION (RFD) / ON-SCENE COMMANDER

- Coordinate with Operation Center (OC)/EOC for the dispatch of RFD emergency response services to the crash site.
- Proceed as instructed and/or as cleared by OC/EOC to the crash site with personnel and equipment.
- Notify nearby local Fire Stations.
- Coordinate with any emergency/security response unit which arrived first at the scene for the initial assessment of the accident and to formally take over as On-scene Commander.
- The most senior RFD Officer to arrive at the site assumes as On-scene Commander until relieved by the arrival of the higher-ranking RFD Officer/Fire Chief or ESSD Manager/Head.
- Initiate prompt rescue and fire control operations.
- Advise OC/EOC of need for additional fire rescue support requirements.
- Coordinate with the OC/EOC for the additional support fire fighting units to the accident site when needed, also,
- Coordinate with the needs of passengers/victims.
- Maintain overall command/coordination of the entire fire-fighting operation and rescue/extrication activities at the site.
- Maintain close coordination with Emergency Operations Center (EOC) and give report as to the progress of the firefighting/rescue activities.
- When accident site is safe from any further fire, all rescue activities have been completed and accident site is stabilized, notify EOC.

- Report arrival/return of firefighting unit back at Fire Base to the EOC/Tower to signify resumption of normal level of protection at the Airport and the termination of EMPLAN 2.

- Coordinate with Medical/Rescue Coordinator and airline coordinator/representative for the headcount of persons on board.

NOTE 1: It is very vital that during actual search and rescue operations, no officer or official of any organization may interfere, or in any manner attempt to direct or control the procedures adopted by trained personnel of the MAERO.

NOTE 2: In cases when crash fire involves military aircraft, the designated military officer/liaison officer shall take over as On-Scene Commander only after aircraft fire is contained and all passengers/victims are evacuated to safer ground.

3.2.2.3 ACTIONS BY THE MCIAA OPERATIONS CENTER / EMERGENCY OPERATIONS CENTER (EOC)

- Upon receipt of initial alarm/information from the Tower, relay said alarm/information to the following:

  - Airline involved
  - Airport Medical Division
  - Airport Police Division
  - Airport General Manager/Assistant General Manager
  - ESSD, MCIAA

- Contact and relay crash alarm information to Emergency Rescue Unit Foundation (ERUF) and the Lapu-Lapu City Disaster Coordinating Council as needed.

- Activate as Emergency Operations Center (EOC). On-duty personnel of the MCIAA Operations Center shall automatically become members/staff of the EOC once activated.

- Coordinate with MAERO Commander or his authorized representative and Tower regarding deployment of the

Airport's fire fighting/rescue vehicles and personnel outside the airport.

- Notify other emergency response units as needed.
- Relay instructions and/or messages between the On-scene Commander and the concerned units.
- Send one Operations Center personnel to the accident/incident site to coordinate with the On-scene Commander (OSC) as needed.
- Prepare to activate the Emergency Command Center (ECC) in the pre-designated area/room as directed by the MAERO Commander or his authorized representative.
- Coordinate with the Electronics and Communications Division (ECD) for the communication requirements of the ECC, and other concerned offices for other requirements of the ECC if it will be activated.
- Call in MAERO staff and officials to the ECC as required.
- Maintain close coordination with the On-scene Commander as regards to the progress of the firefighting/rescue activities.
- Coordinate with the On-scene Commander and the involved airline as regards to post-emergency activities including:
  - Accounting of persons on board
  - Security at the accident site
  - Aircraft recovery/removal
- Relay termination of EMPLAN 2.

3.2.2.4 ACTIONS BY THE MCIAA MEDICAL DIVISION / MEDICAL COORDINATOR

- Proceed, as instructed and/or as cleared by MCIAA Operation Center/EOC, to the crash site with personnel and equipment.
- Report/coordinate with the On-scene Commander or to any emergency/medical response unit which arrived first at the

scene for the initial assessment of the accident and to formally assume as Medical Coordinator.

- The first responding senior-ranking MCIAA physician to arrive at the scene shall automatically assume as Medical Coordinator.
- Initiate rescue/medical activities and activate Triage procedures when necessary.

- Dispatch medical assistance to examine, treat ambulatory and/or uninjured passengers.

- In coordination with the On-scene Commander and EOC, request for additional help as needed.

- Coordinate with the On-scene Commander or Staging Officer for the entry of support units to the scene when needed.

- Coordinate with the On-scene Commander in directing the rescue/medical and extrication activities of secondary/auxiliary response units.

- Coordinate with the On-scene Commander/Transportation Officer for the transport of survivors to hospital(s), uninjured victims to designated holding areas at the Airport MIP Security Building and casualties to the designated temporary morgue at the MCIAA Motor Pool area.

- Advise On-scene Commander when all rescue activities have been completed, and the final tally of passengers have been properly accounted.

3.2.2.5 ACTIONS BY THE AIRPORT POLICE DIVISION (APD)/ SECURITY COORDINATOR

- Dispatch adequate number of Airport Police personnel to the crash site to secure the location and establish free traffic lanes to responding emergency units.

- Report/coordinate with the On-scene Commander or to any security response unit which arrived first at the scene for the initial assessment of the accident and to formally assume as Security Coordinator as needed.

- Most senior Airport Police personnel to arrive first at the scene shall assume as Security Coordinator until relieved by the appropriate authority.

- Notify nearby local Police or security unit.

- Establish a security cordon at reasonable distance from accident site and ensure that no removal of material until cleared by proper authority.

- Post Airport Police Officers at the designated Staging Area(s) to control entry of vehicles and persons at the site in coordination with the On-scene Commander.

- Extend help in rescue, extrication and transportation of victims/passengers as necessary.

- Advise On-scene Commander for additional security support at the site as needed.

- Properly turn-over security responsibilities at the accident site to the proper authorities as necessary after termination of the emergency response activities.

3.2.2.6 ACTIONS BY THE INVOLVED AIRLINE OPERATOR

- Dispatch immediately a ranking representative/official to the EOC and coordinate with the On-scene Commander.

- Coordinate with the On-scene Commander through the EOC for the dispatch of a technical representative or official to the accident site.

- Prepare to provide copies of the passenger manifest and other relevant aircraft data to the EOC and On-scene Commander.

- Establish a two-way communication link between the technical representative at the accident site to the airline representative at the Emergency Operations Center (EOC).

- At the direction of On-scene Commander or Medical Coordinator, provide assistance for the transport of uninjured

and ambulatory passengers/survivors from accident site to the holding area at the MIP Security Building or any agreed holding area in the Airport.

- Designate/assign airline personnel/staff to look after the survivors/passengers at the holding area, and provide assistance/catering as needed.
- Coordinate with the Medical Coordinator regarding the facilitation for the transport and transfer of casualties, if any, to the MCIAA Motor Pool area or direct to the morgue.

- Assess aircraft recovery and site security requirements and brief On-scene Commander.

- Prepare to provide other forms of assistance as required

3.2.2.7 ACTIONS BY THE SECONDARY FIRE RESPONSE UNITS

- Dispatch available fire/rescue resources and proceed to the site or Staging Area as directed during the initial receipt of the alarm from the EOC or MCIAA Fire Base.

- Upon arrival, Fire Unit Leader, in coordination with the Staging Officer, shall report to the MCIAA Fire Coordinator or the On-scene Commander.

- If the responding unit is the first Fire/Rescue unit to arrive at the site, its most senior-ranking Fire Officer shall assume the role as Fire Coordinator until the arrival of the MCIAA Fire Coordinator/On-scene Commander; and shall immediately commence fire suppression and rescue activities.

- Coordinate with the Fire Coordinator/On-scene Commander for further instructions.

3.2.2.8 ACTIONS BY THE SECONDARY MEDICAL RESPONSE UNITS

- Dispatch medical/rescue resources and proceed to the site or Staging Area as directed during the initial receipt of the alarm from the Emergency Operations Center (EOC) or MCIAA Medical Division.

- Upon arrival, Medical Unit Leader shall report to the MCIAA Medical Coordinator or the On-scene Commander.

- If the responding unit is the first medical unit to arrive at the site, its senior-ranking doctor/physician will assume as Medical Coordinator until the arrival of the MCIAA Medical Coordinator; and shall commence medical and rescue activities.

- Coordinate with the Medical Coordinator/On-scene Commander for further instructions.

3.2.2.9 ACTIONS BY THE SECONDARY SECURITY RESPONSE UNITS

- Dispatch available security personnel and vehicles to the site or Staging Area as directed during the initial receipt of the alarm from the EOC or MCIAA Airport Police Division.

- Upon arrival, Security Unit Leader shall report to the MCIAA Security Coordinator or the On-scene Commander.

- If responding unit is the first security unit to arrive at the site, its most senior-ranking security officer shall assume as Security Coordinator until the arrival of the MCIAA Security Coordinator; and shall immediately establish a security cordon at a reasonable distance from the accident site and assist accident victims.

- Coordinate with the Security Coordinator/On-scene Commander for further instructions.

3.2.2.10 ACTIONS BY THE SERVICE SUPPORT GROUPS

- Coordinate with EOC/On-scene Commander.

- Prepare the necessary resources for dispatch upon instructions from EOC/On-scene Commander.

3.2.3 ACTIONS OF RESPONSE UNITS WHEN ACCIDENT LOCATION IS IN REMOTE LAND AREAS (OUTSIDE OF MACTAN ISLAND)

3.2.3.1 ACTIONS BY THE MACTAN CONTROL TOWER

- If Tower serves as the first recipient of the crash alarm from the aircraft/pilot, activate the crash hotline and relay the following information to the 5052nd Search and Rescue Squadron (SARS), PAF.

  EMPLAN 2 - AIRCRAFT ACCIDENT – OFF AIRPORT

  - Location of accident
  - Type of aircraft and operator
  - Nature of accident (if known)
  - Number of persons on board (if known)
  - Fuel on board
  - Presence of hazardous cargo (if known)

- Relay crash alarm information to the MCIAA RESCUE AND FIREFIGHTING DIVISION (RFD) and the MCIAA Operation Center.

- If crash alarm is received from MCIAA or any outside sources other than the aircraft/pilot, verify information prior to activating the crash hotline and relaying back any verified details of the crash to MCIAA RFD and the OC

- In consultation with the Airport Manager and Airport Fire Chief issue a NOTAM indicating the reduced level of protection at the Airport.

- Maintain close coordination with the OC/Emergency Operations Center (EOC) and On-scene Commander.

- In consultation with the EOC or On-scene Commander terminate EMPLAN 2.

3.2.3.2 ACTIONS BY THE MCIAA RESCUE AND FIREFIGHTING DIVISION (RFD) / ON-SCENE COMMANDER

- Coordinate with the EOC for the level of response services of the RFD to be dispatched to the crash site.
- Proceed as instructed and/or as cleared by EOC to the crash site with personnel and equipment.
- Notify nearby local fire/rescue stations.
- Coordinate with any emergency/security response unit which arrived first at the scene for the initial assessment of the accident and to formally assume as On-scene Commander where necessary.
- The most senior RFD Officer to arrive first at the site assumes as On-scene Commander until relieved by higher-ranking government official(s) of the area such as the local disaster coordinating group, Chief of local Police, Mayor, et al.
- Initiate prompt rescue and fire control operations.
- Advise Emergency Operations Center (EOC) of need for additional fire rescue support requirements.
- Coordinate with EOC/local officials for additional secondary/support fire fighting units to the accident site when needed.
- Coordinate with the Transportation Officer in regard to the transportation needs of passengers/victims.
- Maintain overall command/coordination of the entire fire-fighting operation and rescue/extrication activities at the site.
- Maintain close coordination with EOC and give report as to the progress of the firefighting/rescue activities.
- When accident site is safe from any further fire, all rescue activities have been completed and accident site is stabilized, notify EOC.

- Coordinate with Medical/Rescue Coordinator and airline coordinator/representative for the headcount of persons on board.

- Coordinate with Medical/Rescue Coordinator and airline coordinator/representative for the headcount of persons on board.

- Report arrival/return of firefighting unit, if dispatched, back at Fire Base to the EOC/Tower to signify resumption of normal level of protection at the Airport and the termination of EMPLAN 2.

NOTE 1: It is very vital that during actual search and rescue operations, no officer or official of any organization may interfere, or in any manner attempt to direct or control the procedures adopted by trained personnel of the MAERO.

NOTE 2: In cases when crash fire involves military aircraft, the designated military officer/liaison officer shall take over as On-Scene Commander only after aircraft fire is contained and all passengers/victims are evacuated to safer ground.

3.2.3.3 ACTIONS BY THE MCIAA OPERATIONS CENTER / EMERGENCY OPERATIONS CENTER (EOC)

- Upon receipt of initial alarm/information from the Tower, relay said alarm/information to the following:

  - Airline involved
  - Airport Medical Division
  - Airport Police Division
  - Airport General Manager/Assistant General Manager
  - ESSD, MCIAA

- Contact and relay crash alarm information to Emergency Rescue Unit Foundation (ERUF) and the Regional Disaster Coordinating Council as needed.

- If MCIAA serves as the origin of the crash alarm, relay details of the alarm first to Mactan Control Tower for verification before relaying the same to the concerned offices/units.

- Activate as Emergency Operations Center (EOC). On-duty personnel of the MCIAA Operations Center shall automatically become members/staff of the EOC once activated.

- Coordinate with MAERO Commander or his authorized representative and Tower regarding deployment of the Airport's fire fighting/rescue vehicles and personnel outside the airport.

- Notify other emergency response units as needed.

- Relay instructions and/or messages between the On-scene Commander and the concerned units.

- Send one Operations Center personnel to the accident site to coordinate with the On-scene Commander (OSC) as needed.

- Prepare to activate the Emergency Command Center (ECC) in the pre-designated area/room as directed by the MAERO Commander or his authorized representative.

- Coordinate with the Electronics and Communications Division (ECD) for the communication requirements of the ECC, and other concerned offices for other requirements of the ECC if it will be activated.

- Call in MAERO staff and officials to the ECC as required.

- Maintain close coordination with the On-scene Commander as regards to the progress of the firefighting/rescue activities.

- Coordinate with the On-scene Commander and the involved airline as regards to post-emergency activities including:

  - Accounting of persons on board
  - Security at the accident site
  - Aircraft recovery/removal

- Relay termination of EMPLAN 2.

3.2.3.4 ACTIONS BY THE MCIAA MEDICAL DIVISION / MEDICAL COORDINATOR

- Proceed as instructed and/or as cleared by MCIAA Operation Center/EOC to the crash site with personnel and equipment.

- Report/coordinate with the On-scene Commander or to any emergency/medical response unit which arrived first at the scene for the initial assessment of the accident and to formally assume as Medical Coordinator.

- The first responding senior-ranking MCIAA physician to arrive at the scene shall automatically assume as Medical Coordinator.

- Initiate rescue/medical activities and activate Triage procedures when necessary.

- Dispatch medical assistance to examine, treat ambulatory and/or uninjured passengers.

- In coordination with the On-scene Commander and EOC, request for additional help as needed.

- Coordinate with the On-scene Commander or Staging Officer for the entry of support units to the scene when needed.

- Coordinate with the On-scene Commander in directing the rescue/medical and extrication activities of secondary/auxiliary response units.

- Coordinate with the On-scene Commander/Transportation Officer for the transport of survivors to hospital(s), uninjured victims to designated holding areas at the Airport MIP Security Building and casualties to the designated temporary morgue at the MCIAA Motor Pool area.

- Advise On-scene Commander when all rescue activities have been completed, and the final tally of passengers have been properly accounted.

3.2.3.5 ACTIONS BY THE AIRPORT POLICE DIVISION (APD)/ SECURITY COORDINATOR

- Dispatch adequate number of Airport Police personnel to the crash site to secure the location and establish free traffic lanes to responding emergency units.

- Report/coordinate with the On-scene Commander or to any security response unit which arrived first at the scene for the initial assessment of the accident and to formally assume as Security Coordinator as needed.

- Most senior Airport Police personnel to arrive first at the scene shall assume as Security Coordinator until relieved by the appropriate authority.

- Notify nearby local Police or security unit.

- Establish a security cordon at a reasonable distance from accident site and ensure that no removal of material until cleared by the proper authority.

- Post Airport Police Officers at the designated Staging Area(s) to control entry of vehicles and persons at the site in coordination with the On-scene Commander.

- Extend help in rescue, extrication and transportation of victims/passengers as necessary.

- Advise On-scene Commander for additional security support at the site as needed.

- Properly turn-over security responsibilities at the accident site to the proper authorities as necessary after termination of the emergency response activities.

3.2.3.6 ACTIONS BY THE INVOLVED AIRLINE OPERATOR

- Dispatch immediately a ranking representative/official to the Emergency Operations Center (EOC) and coordinate with the On-scene Commander.

- Coordinate with the On-scene Commander through the EOC for the dispatch of a technical representative or official to the accident site.

- Prepare to provide copies of the passenger manifest and other relevant aircraft data to the EOC and On-scene Commander.

- Establish a two-way communication link between the technical representative at the accident site to the airline representative at the EOC.

- At the direction of On-scene Commander or Medical Coordinator, provide assistance for the transport of uninjured and ambulatory passengers/survivors from accident site to the holding area at the MIP Security Building or any agreed holding area in the Airport.

- Designate/assign airline personnel/staff to look after the survivors/passengers at the holding area, and provide assistance/catering as needed.

- Coordinate with the Medical Coordinator regarding the facilitation for the transport and transfer of casualties, if any, to the MCIAA Motor Pool area or direct to the morgue.

- Assess aircraft recovery and site security requirements and brief On-scene Commander.

- Prepare to provide other forms of assistance as required

3.2.3.7 ACTIONS BY THE SECONDARY FIRE RESPONSE UNITS

- Dispatch available fire/rescue resources and proceed to the site or Staging Area as directed during the initial receipt of the alarm from the EOC or MCIAA Fire Base.

- Upon arrival, Fire Unit Leader, in coordination with the Staging Officer, shall report to the MCIAA Fire Coordinator or the On-scene Commander.

- If the responding unit is the first Fire/Rescue unit to arrive at the site, its most senior-ranking Fire Officer shall assume the role as Fire Coordinator and as temporary On-scene

Commander until the arrival of the MCIAA Fire Coordinator/On-scene Commander; and shall immediately commence fire suppression and rescue activities.

- Coordinate with the Fire Coordinator/On-scene Commander for further instructions.

3.2.3.8 ACTIONS BY THE SECONDARY MEDICAL RESPONSE UNITS

- Dispatch medical/rescue resources and proceed to the site or Staging Area as directed during the initial receipt of the alarm from the Emergency Operations Center (EOC) or MCIAA Medical Division.
- Upon arrival, Medical Unit Leader shall report to the MCIAA Medical Coordinator or the On-scene Commander.
- If the responding unit is the first medical unit to arrive at the site, its most senior-ranking doctor/physician will assume as Medical Coordinator until the arrival of the MCIAA Medical Coordinator; and shall commence medical and rescue activities.
- Coordinate with the Medical Coordinator/On-scene Commander for further instructions.

3.2.3.9 ACTIONS BY THE SECONDARY SECURITY RESPONSE UNITS

- Dispatch available security personnel and vehicles to the site or Staging Area as directed during the initial receipt of the alarm from the EOC or MCIAA Airport Police Division.
- Upon arrival, Security Unit Leader shall report to the MCIAA Security Coordinator or the On-scene Commander.
- If responding unit is the first security unit to arrive at the site, its most senior-ranking security officer shall assume as Security Coordinator until the arrival of the MCIAA Security Coordinator; and shall immediately establish a security cordon at a reasonable distance from the accident site and assist accident victims.
- Coordinate with the Security Coordinator/On-scene Commander for further instructions.

3.2.3.10 ACTIONS BY THE SERVICE SUPPORT GROUPS

- Coordinate with EOC/On-scene Commander.
- Prepare the necessary resources for dispatch upon instructions from EOC/On-scene Commander.

3.2.4 ACTIONS OF RESPONSE UNITS WHEN ACCIDENT LOCATION IS IN SEA WATER

3.2.4.1 ACTIONS BY THE MACTAN CONTROL TOWER

- If Tower serves as the first recipient of the crash alarm from the aircraft/pilot, relay crash alarm information to the 5052nd Search and Rescue Squadron (SARS), PAF.

  EMPLAN 2 - AIRCRAFT ACCIDENT – OFF AIRPORT

  - Location of accident
  - Type of aircraft and operator
  - Nature of accident (if known)
  - Number of persons on board (if known)
  - Fuel on board
  - Presence of hazardous cargo (if known)

- Activate crash Hotline to Operations Center, MCIAA and relay the crash alarm information.

- Relay crash alarm information to RFD, MCIAA through Hotline or radio.

- If crash alarm is received from MCIAA or any outside sources other than the aircraft/pilot, verify information prior to activating the crash hotline and relaying back any verified details of the crash to MCIAA RFD and the MCIAA Operation Center.

- In consultation with the Airport Manager and Airport Fire Chief issue a NOTAM indicating the reduced level of protection at the Airport if RFD firefighting and rescue unit will be dispatched.

- Maintain close coordination with the Emergency Operations Center (EOC) and On-scene Commander.

- In consultation with the EOC or On-scene Commander terminate EMPLAN 2.

3.2.4.2 ACTIONS BY THE MCIAA OPERATIONS CENTER / EMERGENCY OPERATIONS CENTER (EOC)

- Upon receipt of initial alarm/information from the Tower, immediately relay said alarm/information to the **Philippine Coast Guard (PCG) and the NAVFORCEN, Philippine Navy.**

- Contact and relay crash alarm information to Emergency Rescue Unit Foundation (ERUF) and the Regional Disaster Coordinating Council and/or CDCC

- Notify the following offices:

  - Airline involved
  - Airport Medical Division
  - Airport Police Division
  - Airport General Manager/Assistant General Manager
  - ESSD, MCIAA

- If MCIAA serves as the origin of the crash alarm, relay details of the alarm first to Mactan Control Tower for verification before relaying any verified information/details to the concerned offices/units.

- Activate as Emergency Operations Center (EOC). On-duty personnel of the MCIAA Operations Center shall automatically become members/staff of the EOC once activated.

- Coordinate with MAERO Commander or his authorized representative and Tower regarding deployment of the Airport's fire fighting/rescue vehicles and personnel outside the airport if needed.

- Relay instructions and/or messages between the On-scene Commander and the concerned units.

- Prepare to activate the Emergency Command Center (ECC) in the pre-designated area/room as directed by the MAERO Commander or his authorized representative.

- Coordinate with the Electronics and Communications Division (ECD) for the communication requirements of the ECC, and other concerned offices for other requirements of the ECC if it will be activated.

- Call in MAERO staff and officials to the ECC as required.

- Maintain close coordination with the On-scene Commander as regards to the progress of the firefighting/rescue activities.

- Coordinate with the On-scene Commander and the involved airline as regards to post-emergency activities including:

  - Accounting of persons on board
  - Security at the accident site
  - Aircraft recovery/removal

- Relay termination of EMPLAN 2.

3.2.4.3 ACTIONS BY THE ON-SCENE COMMANDER (NAVFORCEN OR PHIL. COAST GUARD)

- Proceed to accident site and initiate fire control and/or rescue operations.

- Most senior-ranking officer of the first responding unit to arrive at the accident site shall assume as On-scene Commander.

- If both NAVFORCEN and Phil. Coast Guard arrive at the site simultaneously, concerned officials of the said agencies shall decide among themselves as to who shall assume as On-scene Commander.

- Initiate prompt rescue and fire control operations.

- Establish contact with ground-based units and the Emergency Operations Center (EOC).

- Advise Emergency Operations Center (EOC) of need for additional fire rescue support requirements.

- Coordinate with the EOC in regard to the transportation needs of passengers/victims from the Collection Area to the Airport holding areas or other nearest holding areas and medical stations.

- Designate an appropriate sea vessel as the Incident Command Post (ICP) or mobile command post within the inner perimeter of the accident site.

- Facilitate for the conveyance/transportation of an Airport and airline officials to the designated ICP for liaisoning activities as needed.

- Maintain overall command/coordination of the entire fire-fighting operation and rescue/extrication activities at the site.

- Maintain close coordination with EOC, and give report as to the progress of the emergency/rescue activities.

- Coordinate with airline coordinator/representative for the headcount of persons on board.

3.2.4.4 ACTIONS BY THE MCIAA RESCUE AND FIREFIGHTING DIVISION (RFD)

- Coordinate with MAERO Commander and the EOC for the level of response services of the RFD to be dispatched near the crash site or at the designated Staging Area if needed.

- Proceed as instructed by EOC to the most convenient land area near the crash site with personnel and equipment.

- Set up the Staging/Collection area at the appropriate area.

- Notify other emergency response units as needed (as follow-up calls to confirm Tower's and Operations Center's notifications).

  - 5052nd Search and Rescue Squadron (SARS), PAF
  - Emergency Rescue Unit Foundation (ERUF)
  - Nearby local fire/rescue stations/units.

- Fire Chief or his deputy shall coordinate with the EOC and the On-scene Commander and facilitate for his presence at the Incident Command Post (ICP) or within the inner perimeter of the accident site for liaisoning purposes with the EOC and the On-scene Commander.

- Maintain close coordination with the On-scene Commander and advice EOC accordingly.

- Extend assistance to the passengers/victims being transported to the Staging Area in coordination with the Medical units.

- Standby for instructions.

- Report arrival/return of firefighting unit, if dispatched, back at Fire Base to the EOC/Tower to signify resumption of normal level of protection at the Airport and the termination of EMPLAN 2.

3.2.4.5 ACTIONS BY THE MCIAA MEDICAL DIVISION

- Prepare for deployment of medical/rescue resources upon instruction from the EOC.

- Proceed as instructed by EOC to the designated Staging Area site with personnel and equipment.

- Assume as Medical Coordinator while at the designated Staging Area/Collection Area and extend assistance to passengers/victims thereat.

- Advise EOC regarding need for additional medical assistance.

- Notify mutual aid hospitals as needed.

- Standby for instructions.

3.2.4.6 ACTIONS BY THE AIRPORT POLICE DIVISION (APD)

- Prepare for deployment of personnel upon instruction from the EOC.

- Notify nearby local Police and coordinate for their assistance.

- Proceed as instructed to the designated Staging Area, and establish security cordon of the area in coordination with the local Police.

- Standby for instructions.

3.2.4.7 ACTIONS BY THE INVOLVED AIRLINE OPERATOR

- Dispatch immediately a ranking representative/official to the Emergency Operations Center (EOC) and coordinate with the MAERO Commander or On-scene Commander.

- Coordinate with the On-scene Commander through the EOC for the dispatch of a technical representative or official to the accident site, if needed.

- Prepare to provide copies of the passenger manifest and other relevant aircraft data to the EOC and/or the On-scene Commander.

- Maintain communication link between the technical representative at the accident site to the airline representative at the EOC.

- At the direction of On-scene Commander or Medical Coordinator, provide assistance for the transport of uninjured and ambulatory passengers/survivors from the designated Collection Area to the holding area at the MIP Security Building or any agreed holding area in the Airport.

- Designate/assign airline personnel/staff to look after the survivors/passengers at the holding area, and provide assistance/catering as needed.

- Coordinate with the Medical Coordinator regarding the facilitation for the transport and transfer of casualties, if any, from the Collection Area to the MCIAA Motor Pool area or direct to the morgue.

- Assess aircraft recovery and site security requirements and advise EOC/On-scene Commander accordingly.

- Prepare to provide other forms of assistance as required.

3.2.4.8 ACTIONS BY THE SECONDARY FIRE RESPONSE UNITS

- Dispatch fire/rescue resources and proceed to the most convenient land area near the site or Staging Area as directed during the initial receipt of the alarm from the Emergency Operations Center (EOC) or MCIAA Rescue and Firefighting Division (RFD).

- If responding secondary fire response unit is the first to arrive at the most convenient land area or nearest to the site, immediately set up the Staging Area/Collection Area.

- Extend assistance to passengers/victims evacuated from the site in coordination with other response units.

- Standby for instructions.

3.2.4.9 ACTIONS BY THE SECONDARY MEDICAL RESPONSE UNITS

- Dispatch medical/rescue resources and proceed to the most convenient land area near the site or Staging Area as directed during the initial receipt of the alarm from the Emergency Operations Center (EOC) or MCIAA Medical Division.

- Upon arrival, Medical Unit Leader shall report to the MCIAA Medical Coordinator.

- If responding secondary medical unit is the first to arrive at the most convenient land area or nearest to the site, its most senior-ranking doctor shall temporarily assume as Medical Coordinator and immediately set up the Staging Area/Collection Area.

- Extend assistance to passengers/victims evacuated from the site in coordination with other units.

- Standby for instructions.

3.2.4.10 ACTIONS BY THE SECONDARY SECURITY RESPONSE UNITS

- Dispatch available security personnel and vehicles to the most convenient land area near the site or Staging Area as directed during the initial receipt of the alarm from the EOC or MCIAA Airport Police Division.

- Upon arrival, Security Unit Leader shall report to the MCIAA Security Coordinator or the On-scene Commander.

- If responding unit is the first security unit to arrive at the site, its most senior-ranking security officer shall assume as Security Coordinator until the arrival of the MCIAA Security Coordinator; and shall immediately establish a security cordon of the Staging/Collection Area and assist accident victims thereat.

- Coordinate with the Security Coordinator/On-scene Commander.

- Standby for further instructions.

3.2.4.11 ACTIONS BY THE SERVICE SUPPORT GROUPS

- Coordinate with Emergency Operations Center (EOC).

- Prepare the necessary resources for dispatch upon instructions from EOC.

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3.3 EMPLAN 3 - FULL EMERGENCY (Airborne Aircraft)

EMPLAN 3 - FULL EMERGENCY is activated when an airborne aircraft approaching (or in the vicinity of) Mactan-Cebu International Airport has declared an emergency, or is known to have a serious problem, which will cause, or is likely to cause, an aircraft accident.

EMPLAN 3 will very possibly escalate to an EMPLAN 1 or EMPLAN 2 - AIRCRAFT ACCIDENT - thereby necessitating a further series of re-notifications and subsequent actions as prescribed for that EMPLAN.

3.3.1 ACTIONS BY THE MACTAN CONTROL TOWER

- Activate the Crash alarm and relay the following information to the AIRPORT RESCUE AND FIREFIGHTING DIVISION:

  EMPLAN 3 - FULL EMERGENCY (Airborne Aircraft)

  - Type of aircraft and operator
  - Location of aircraft and ETA
  - Nature of Emergency (if known)
  - Estimated hours/minutes fuel remaining
  - Number of persons on board (if known)
  - Presence of hazardous cargo (if known)

- Immediately clear fire/crash vehicles to runway/taxiway standby positions as requested by Fire Chief.

- Limit the entry of non-responding vehicles at the Air Operations Area (AOA) unless authorized by the On-scene Commander.

- Maintain close liaisoning with MCIAA Operations Center and On-scene Commander, as required.

- If time permits, determine how long the aircraft will be able to remain airborne and relay the same to the On-scene Commander.

- As required, notify airborne aircraft approaching Airport of the on-going emergency and arrange diversions of aircraft as may be necessary.

- Terminate EMPLAN 3.

NOTE: If emergency condition permits, aircraft captain could be requested to remain airborne in a designated holding pattern until ground response agencies are prepared to receive the aircraft.

3.3.2 ACTIONS BY THE MCIAA RESCUE AND FIREFIGHTING / FIRE COORDINATOR

- Deploy crash vehicles to appropriate runway or taxiway standby positions.

- Request Tower to hold aircraft airborne (if possible) until all necessary emergency ground support personnel and equipment are in place.

- Standby and coordinate with Tower/EOC.

3.3.3 ACTIONS BY THE MCIAA OPERATIONS CENTER

- Commence primary notifications:

  - Airport General Manager
  - Assistant General Manager, MCIAA
  - ESSD Manager, MCIAA
  - Airport Medical Services Division
  - Airport Police (Main Office and Airside Sub-station)
  - Airline involved
  - 5052nd Search and Rescue Squadron (SARS), PAF

- Relay instructions from the On-scene Commander to the concerned unit. Likewise, relay response information from the concerned unit back to the On-scene Commander.

- Monitor movements of response units and advise On-scene Commander.

- Prepare to activate Emergency Operations Center (EOC) as directed by the General Manager and/or the Assistant General Manager or their authorized representative.

- On-duty personnel shall automatically become members of the EOC staff when activated.

- Standby and coordinate with Tower.

3.3.4 ACTIONS BY THE ON-SCENE COMMANDER.

- Proceed to Operations Center and coordinate the preparation of security, rescue and fire control operations.

- Evaluate situation in coordination with Tower and advise response units accordingly.

3.3.5 ACTIONS BY THE MCIAA MEDICAL SERVICES / MEDICAL COORDINATOR

- Proceed to designated Rendezvous Point (RVP) and report position to the On-scene Commander (OSC).

- Deploy ambulance at appropriate runway or taxiway standby position, as needed.

- Standby and coordinate with the OSC.

3.3.6 ACTIONS BY THE AIRPORT POLICE / SECURITY COORDINATOR

- Dispatch adequate Airport Police personnel to the designated RVP, and standby for further instructions.

- Dispatch patrol vehicles to the appropriate runway or taxiway standby position as needed.

- Standby and coordinate with the OSC.

3.3.7 ACTIONS BY THE INVOLVED AIRLINE OPERATOR

- Estimate severity of potential accident and prepare necessary personnel and equipment as needed.

- Standby and coordinate with Operation Center.

3.3.8 ACTIONS BY THE ENGINEERING DEPARTMENT (SUPPORT GROUP)

- Prepare to dispatch available resources and services upon instructions from the Operation Center.

- Monitor and coordinate with the OC.

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3.4 EMPLAN 4 - UNLAWFUL INTERFERENCE

Acts of Unlawful Interference with aircraft operations usually involve the threat of sabotage or the seizure (hijacking) of an aircraft while airborne or on the ground. Such acts may also involve a threat of an explosive device. Bomb threats against an aircraft - without an attempt to seize the aircraft - are treated separately in Section 3.5 – EMPLAN 5.

Initial notification of an act of Unlawful Interference will usually be received by Mactan Control Tower via air/ground radio from the aircraft cockpit crew - or from an adjacent Air Traffic Services Center.

NOTE: UNLAWFUL INTERFERENCE WITH AN AIRCRAFT IN ANY CATEGORY IS CONSIDERED TO BE A CRIMINAL OFFENSE AND THEREFORE IS UNDER THE TOTAL CONTROL OF THE 7th PCAS AVSEGROUP WHO WILL MAINTAIN FULL LIAISON WITH THE AIRPORT GENERAL MANAGER AND OTHER RESPONDING AGENCIES DURING THESE INCIDENTS.

3.4.1 ACTIONS BY THE MACTAN CONTROL TOWER

- Activate Emergency Hotline and relay the following to the AIRPORT OPERATIONS CENTER and the RESCUE AND FIREFIGHTING DIVISION (RFD), and inform the 7th PCAS accordingly.

  EMPLAN 4 - UNLAWFUL INTERFERENCE

  - Nature of threat
  - Aircraft type and registration
  - Current position and course
  - Hijackers' intentions
  - Number of passengers and crew
  - Fuel on board
  - Presence of hazardous cargo (if known)
  - An estimate of aircraft's arrival in Mactan Station airspace

- If aircraft is on the ground, direct aircraft to pre-determined Isolated Parking Position (IPP) - at Charlie or Juliet Taxiway/Run-up Area – in coordination with the 7th PCAS.

- Limit the entry of non-responding vehicles at the Airport Movement Area (AMA) unless authorized by the On-scene Commander.

- In the event that those in command of the aircraft will not comply with the above, efforts will be made to stop the aircraft in a location that will not create a hazard to other aircraft, personnel or facilities.

- If the aircraft is on the ground, coordinate with the On-scene Commander regarding actions to be taken. Relay Police instructions to Rescue and Firefighting Division and Operations Center / EOC.

  NOTE: Once aircraft is parked, the 7th PCAS will be responsible for all further communication with the aircraft.

- If aircraft is airborne, maintain radio contact with the aircraft pilot, and advise On-scene Commander.

3.4.2 ACTIONS BY THE MCIAA OPERATIONS CENTER

- Commence notifications

  - 7th PCAS AVSEGROUP-PNP
  - Airline concerned
  - Airport General Manager
  - Assistant General Manager, MCIAA
  - ESSD Manager, MCIAA
  - Airport Police (Main Office and Airside Sub-station) Airport
  - Medical Division

- Prepare to activate Emergency Operations Center (EOC) as directed by the General Manager and/or the Assistant General Manager or their authorized representative.

- Coordinate with On-scene Commander, and relay instructions to concerned units.

3.4.3 ACTIONS BY THE 7th PCAS AVSEGROUP-PNP / ON-SCENE COMMANDER

- The Chief, 7th PCAS shall assume over-all command in coordination with the Airport General Manager.

- Dispatch an officer to Tower to coordinate with Tower Supervisor and to assist in communications with aircraft.

- Coordinate with the Airport General Manager for the activation of the EOC and send a representative thereat.

- If aircraft is on the ground, set up an On-scene Command Post (ICP) strategically near incident point, once aircraft is parked.

- Coordinate with EOC, Rescue and Firefighting unit, Airport Police, and/or ESSD Manager – provide appropriate instructions for required actions and support.

- Provide instructions to the designated Information Officer with regards to press releases concerning the incident.

- Other Actions:

  - Cordon off Incident Point
  - Increase staff at airport access points

3.4.4 ACTIONS BY THE EMERGENCY OPERATIONS CENTER

- If activated, relay instructions from the On-scene Commander to the concerned unit. Likewise, relay response information from the concerned unit back to the On-scene Commander.

- Monitor movements of response units and advise the On-scene Commander.

3.4.5 ACTIONS BY THE ESSD MANAGER, MCIAA

- Proceed to the EOC and coordinate actions of subordinate units.

- Coordinate with the On-scene Commander for needed requirements.

3.4.6 ACTIONS BY THE MCIAA RESCUE AND FIREFIGHTING / FIRE COORDINATOR

- Consult immediately with the On-scene Commander, Chief, 7th PCAS or in his absence, the most senior 7th PCAS Police Officer on duty regarding actions to be taken by the Fire Services.

- If aircraft is on ground, place unit on active Station Standby or deploy to positions as directed by the On-scene Commander.

- If aircraft is airborne, alert all personnel and standby for further orders.

3.4.7 ACTIONS BY THE AIRPORT POLICE

- Coordinate with 7th PCAS.
- Provide additional Police Officers to guard and control access gates.
- Dispatch vehicles to RVP or to the designated staging area in coordination with the On-scene Commander.
- Alert other personnel for immediate deployment if requested.

3.4.8 ACTIONS BY THE MCIAA MEDICAL SERVICES / MEDICAL COORDINATOR

- Coordinate with the On-scene Commander through the ESSD Manager or the EOC.
- Place unit on active Station Standby or deploy to positions as directed by the On-scene Commander.

3.4.9 ACTIONS BY THE INVOLVED AIRLINE OPERATOR

- Senior airline representative to report/coordinate with On-scene Commander.
- Alert ground handling crews and standby for instructions from On-scene Commander.
- Assign representative to EOC to liaise the needed support/requirements.

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3.5 EMPLAN 5 - BOMB THREAT - (Involving Aircraft)

Bomb threats against aircraft may be made in many different forms such as: telephone call to airlines, airport, Police, etc.; notes or messages found on the aircraft or on the ground; or suspected bombs actually found in the aircraft or in baggage/cargo.

3.5.1 ACTIONS BY THE PERSON RECEIVING BOMB THREAT TO AIRCRAFT

- If threat is received by telephone, the person receiving should try to keep the caller talking and, if possible, obtain the following information:

  - Which airline is involved
  - Flight number and/or destination
  - Location of bomb (i.e.: baggage, cargo)
  - Type of bomb
  - Time of detonation
  - Reason for placing bomb
  - Organization responsible
  - Fuel on board
  - Presence of hazardous cargo (if known)
  - Any other information offered

- Call TOWER or the 7th PCAS and relay all available information received from a bomb threat call or from any written message.

3.5.2 ACTIONS BY THE MACTAN CONTROL TOWER

- Immediately contact 7th PCAS AVSEGROUP-PNP and relay the following information:

  EMPLAN 5 - BOMB THREAT TO AIRCRAFT

  - Details of threat (as per 3.5.1.)

- Activate emergency Hotline and relay the bomb threat details to the RFD, MCIAA.

- Activate emergency Hotline and relay the bomb threat details to the Operations Center.

- Notify or advise Pilot-in-command of the situation. If aircraft is taxiing, request pilot to taxi to the designated Isolated Parking Position (IPP) to isolate aircraft away from other aircrafts and building.

3.5.3 ACTIONS BY THE 7th PCAS AVSEGROUP-PNP / ON-SCENE COMMANDER

- The Chief, 7th PCAS AVSEGROUP shall assume command in coordination with the Airport General Manager.

- Assess threat and commence notifications accordingly:

  - Airport Police
  - Mactan Control Tower (if threat was received from other source)

- If indicated, request specialized support units to be dispatched to Airport:

  - Communications van
  - Explosive detection dogs
  - Bomb disposal team

- If aircraft is on the ground, establish command post and:

  - Cordon off area
  - Commence search of aircraft
  - Request Airline Operator to off-load baggage and cargo
  - Review passenger manifest and commence interviews with passengers (if needed)
  - Deploy/position fire trucks as needed

- If needed, activate Emergency Operations Center and coordinate all requirements for additional support.

- Coordinate with MCIAA Operations Center and/or ESSD Manager, and provide appropriate instructions for required actions and support.

- Provide instructions to the designated Information Officer with regards to press releases concerning the incident.

- Implement additional security measures as needed.

3.5.4 ACTIONS BY THE MCIAA RESCUE AND FIREFIGHTING DIVISION/ FIRE COORDINATOR

- Consult immediately with the On-scene Commander, Chief, 7th PCAS AVSEGROUP, regarding actions to be taken by the Fire Services.

- If aircraft is on ground, place unit on active station standby or deploy to positions as directed by the On-scene Commander.

- If aircraft is airborne, stand by on alert for further orders.

3.5.5 ACTIONS BY THE MCIAA OPERATIONS CENTER

- Commence primary notifications:

  - 7th PCAS
  - Airline concerned
  - ESSD Manager, MCIAA
  - Airport Medical Division
  - Airport Police (Main Office and Airside Sub-station)
  - Airport General Manager/Assistant General Manager, MCIAA

- Prepare to activate Emergency Operations Center as directed by the General Manager and/or the Assistant General Manager or their authorized representative.

- Coordinate with On-scene Commander, and relay instructions to concerned units.

3.5.6 ACTIONS BY THE EMERGENCY OPERATIONS CENTER

- If activated, relay instructions from the On-scene Commander to the concerned unit. Likewise, relay response information from the concerned unit back to the On-scene Commander.

- Monitor movements of response units and advise the On-scene Commander.

3.5.7 ACTIONS BY THE ESSD MANAGER, MCIAA

- Proceed to the EOC and coordinate actions of subordinate units.

- Coordinate with the On-scene Commander.

3.5.8 ACTIONS BY THE AIRPORT POLICE

- Coordinate with 7th PCAS.
- Provide additional Police Officer to guard and control access gates.
- Dispatch vehicles to RVP or to the designated staging area in coordination with the On-scene Commander.
- Alert other personnel for immediate deployment if requested.

3.5.9 ACTIONS BY THE MCIAA MEDICAL SERVICES / MEDICAL COORDINATOR

- Obtain status briefing from EOC.
- Alert other personnel for immediate deployment if requested.

3.5.10 ACTIONS BY THE INVOLVED AIRLINE OPERATOR

- Senior airline representative to report to and coordinate with On-scene Commander.
- Alert ground handling crews and standby for instructions from On-scene Commander.
- Prepare personnel to carry out or assist in the following:
  - Off-load passengers and transport to designated holding area.
  - When determined safe by On-scene Commander, off-load baggage and cargo and prepare for inspection and verification procedures – verification procedures to be carried out at a location more than 100 meters from aircraft.
  - Provide passenger manifest and seating plan to the On-scene Commander at the scene.
  - When cleared by the On-scene Commander, commence verification and reloading of baggage, cargo and passengers (note: 10 passengers at a time to verify bags – which can then be re-loaded into containers.

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3.6 EMPLAN 6 – BOMB THREAT (To Airport Buildings and/or Facilities)

Bomb threats to airport buildings and facilities may be made in many different forms such as: telephone calls to airlines, airport, Police, etc.; notes or messages, or suspected bombs actually found in an airport facility. In any case, it is important that any person receiving or discovering such threat immediately relay or report the threat to the proper airport authorities.

NOTE: If an explosive device has already exploded in the terminal, emergency response and notifications will be in accordance with EMPLAN 8 (Structural Fire) procedures

3.6.1 ACTIONS BY THE PERSON RECEIVING A BOMB THREAT TO AIRPORT BUILDINGS AND/OR FACILITIES

- If threat is received by telephone, the person receiving the call should try to keep the caller talking in order to obtain as much information as possible from him/her such as the following:

  - Location of the bomb (which building or facility is involved)
  - Description of bomb (appearance)
  - Type of bomb (type of explosive)
  - Anticipated time of detonation
  - Reason for placing bomb
  - Organization responsible
  - Any other information which might be offered

- Relay the information gathered to the proper airport authorities:

  - 7th PCAS Office/personnel
  - Airport Police Division/Airport Police Officer

- If an employee finds a suspicious object or has his attention drawn to an item such as an unattended suitcase, bag, briefcase, or parcel which is found under unusual circumstances, he should:

  - **Leave the item alone – do not disturb or move it**
  - Immediately inform a supervisor or the nearest Police Officer / Security Guard
  - The supervisor should then notify:

    - 7th PCAS AVSEGROUP
    - Airport Police Division

- If the bomb threat information is received by the Police via any other source same will be relayed to the Operations Center and to Mactan Tower to notify other concerned units.

3.6.2 NOTIFICATIONS AND ACTIONS BY THE RESPONDING UNITS

3.6.2.1 ACTIONS BY THE MACTAN CONTROL TOWER

- If information involving a bomb threat to airport buildings is first received by the Mactan Control Tower, activate emergency Hotline and notify Airport Rescue and Firefighting Division and MCIAA Operations Center indicating:

  EMPLAN 6 - BOMB THREAT TO BUILDING and provide details of threat as per 3.6.1.

- Coordinate and monitor developments with MCIAA Operations Center.

3.6.2.2 ACTIONS BY THE 7th PCAS AVSEGROUP / ON-SCENE COMMANDER

- The Chief, 7th PCAS shall assume command in coordination with the Airport General Manager and the Airport Fire Chief.

- Evaluate threat and commence notifications accordingly:

  - MCIAA Operation Center
  - Airport security units
  - Mactan Control Tower (if threat was received by 7th PCAS)

- If indicated, request specialized support units to be dispatched to Airport:

  - Communications van
  - Explosive detection dogs
  - Bomb disposal team

- Establish Incident Command Post with Airport Fire Chief at a designated area and:

  - Cordon off area
  - Commence search of area

- Coordinate with the ESSD Manager or the Airport Operations Center Officer regarding any additional Airport support that may be needed.

- Coordinate with MCIAA Operation Center, Airport Police, and/or ESSD Manager and provide appropriate instructions for required actions and support.

- Instruct the designated Information Officer with regards to press releases.

- Terminate EMPLAN 6.

3.6.2.3 ACTIONS BY THE MCIAA RESCUE AND FIREFIGHTING DIVISION / FIRE COORDINATOR

- Proceed to building area involved and coordinate with On-scene Commander.

- Assist the Police in the evacuation of the area concerned.

- When item is found, or identified, implement fire protection procedures as may be indicated.

3.6.2.4 ACTIONS BY THE MCIAA OPERATIONS CENTER

- Commence primary notification:

  - 7th PCAS
  - Airport Rescue and Firefighting Division
  - Mactan Control Tower
  - Airport General Manager/Assistant General Manager
  - ESSD Manager, MCIAA
  - Airport Medical Services Division
  - Airport Police (Main Office and Airside Sub-station)
  - Airline concerned

- Prepare to activate EOC if directed by the Airport General Manager and/or the Assistant General Manager or their authorized representative.

- Coordinate with On-scene Commander for further instructions.

3.6.2.5 ACTIONS BY THE EMERGENCY OPERATIONS CENTER

- If activated, relay instructions from the On-scene Commander to the concerned unit. Likewise, relay response information from the concerned unit back to the On-scene Commander.

- Monitor developments and advise the On-scene Commander and Mactan Control Tower.

3.6.2.6 ACTIONS BY THE ESSD MANAGER, MCIAA OR AIRPORT DUTY MANAGER

- Proceed to the EOC or to the designated Command Post and coordinate actions of subordinate units.

- Coordinate with the On-scene Commander.

3.6.2.7 ACTIONS BY THE AIRPORT POLICE

- Evaluate threat and commence primary notifications to personnel.

- Dispatch personnel to the building area involved to assist in the evacuation of the area concerned.

- When suspected item is found within airport buildings – direct personnel to clear immediate area and establish cordon to ensure minimum risk to passengers and airport staff.

- Coordinate with On-scene Commander and Senior Fire Officer to determine further course of action required.

3.6.2.8 ACTIONS BY THE MCIAA MEDICAL SERVICES / MEDICAL COORDINATOR

- Obtain status briefing from the EOC or the On-scene Commander.

- Alert other personnel for immediate deployment if requested.

3.6.2.9 ACTIONS BY THE AIRLINE OPERATORS

- Assist in the identification of item found. Make appropriate announcements as directed by the Police.

- Assist the Police and Airport Management as may be required.

3.6.3 EVACUATION OF TERMINAL OR OTHER BUILDINGS

3.6.3.1 DECISION TO EVACUATE

- The decision to evacuate portion of the Airport Terminal or other building in the Terminal area will be taken only after direct consultation between the On-scene Commander, Airport Police Chief, MCIAA Operation Center Officials and the Airport Fire Chief. The primary objective is to minimize risk to passengers and airport staff.

- Immediate evacuation of a limited area may be carried out by a responsible Police and/or Fire Services Officers if so indicated by the situation at hand. (Refer to Appendix 8 & 9, pages 4-9 & 4-10 for the Airport terminal layout).

3.6.3.2 ANNOUNCEMENT TO EVACUATE

- Once a decision has been made to evacuate a certain portion or all of the Terminal, an announcement will be made on the public address system by the MCIAA Public Affairs Office and/or by hailing in the immediate area.

- The Announcement shall be in this general format, and announced both in English and in local language.

"ATTENTION, ATTENTION…. ALL PERSONS IN THE (…..) AREA OF THE AIRPORT TERMINAL AREA ARE REQUESTED TO IMMEDIATELY LEAVE THE BUILDING BY THE NEAREST EXIT

(REPEAT THIS MESSAGE ONCE MORE OR SEVERAL TIMES.)

RE-ENTRY WILL NOT BE PERMITTED UNTIL CLEARED BY THE ON-SCENE COMMANDER."

- Wherever appropriate, fire alarms may be rung to signal evacuation of the terminal areas. Rescue and Firefighting personnel will check all offices and rooms to ensure complete evacuation.

3.6.3.3 EVACUATION PROCEDURES

- All persons evacuating the Airport Terminal shall be directed by the Police or airport staff to a designated area. No person should remain closer than 100 meters of the building that has been evacuated.

- Passengers in the second level Departure area or Holding Rooms may be evacuated through the nearest Passenger Tubes and down to the ramp area for transport to safer area by buses.

- Airport staff working in the airside areas of the Terminal will evacuate via airside emergency exits when access through the landside emergency exits would be considered dangerous.

- Other Airport buildings may be evacuated as required. Persons evacuating these buildings shall proceed to a safer area 100 meters away from the building or as otherwise directed by the Airport Police or the Rescue and Firefighting Division.

3.6.3.4 RESPONSIBILITIES

- The On-scene Commander, Chief, 7th PCAS or his Deputy/Duty Officer will assume responsibility for overall control and further actions involving an actual bomb hazard or threat involving the airport terminal or an airport building.

- In the event of an explosion and/or fire, the Chief, Rescue and Firefighting Division, MCIAA will be in overall command of the situation until such time that the fire has been fully suppressed, and the rescue and evacuation operations have been fully completed.

  At that time he will hand over the scene to the Senior MCIAA Operations Department Officer present, who will coordinate with the Senior Police Officer for follow-up investigation and related actions.

NOTE : The restoration of normal operations in the Terminal Area should be given the highest priority after the immediate threat has been neutralized. The airport general manager shall be the sole authority to declare the area "all clear" as recommended by the OSC.

In case of damage to airport facilities, the Operations Department in coordination with the Engineering Department will locate an alternate area/facilities to restore normal airport operations.

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3.7 EMPLAN 7 – GROUND INCIDENT

A Ground Incident is any occurrence, other than an aircraft accident, in which an aircraft on the ground has been involved in an accident which affects, or could affect the safety of that aircraft, passengers, crew or ground staff. Examples of Ground Incidents could include.

- Aircraft engine fire – where damage is limited to engine
- Minor damage to aircraft engine, cowlings, propellers, wingtips, etc.
- Small dents or puncture in the aircraft skin
- Disabled aircraft due to tire damage, overheated brakes.
- Fuel spills around the aircraft
- Occurrences involving dangerous goods on board or intended for loading

3.7.1 ACTIONS BY THE MACTAN CONTROL TOWER

- Notify AIRPORT RESCUE AND FIREFIGHTING DIVISION – provide the following information:

  EMPLAN 7 – GROUND INCIDENT

  - Location of aircraft or incident
  - Type of aircraft or operator
  - Description of emergency – or incident involved
  - Number of persons on board
  - Fuel on board
  - Whether dangerous goods are involved
  - Any other available information

- Inform Operation Center.

- Give priority clearance to the vehicles of primary units responding to the aircraft on emergency.

- Coordinate airside operations until arrival of On-scene Commander.

- Terminate EMPLAN 7.

3.7.2 ACTIONS BY THE MCIAA RESCUE AND FIREFIGHTING DIVISION / ON-SCENE COMMANDER

- Fire Chief or the most senior-ranking Fire Officer shall assume as On-scene Commander.

- Deploy rescue/firefighting vehicles to scene.

- Assess situation and determine what actions will be required and request additional support as may be needed.

- Commence fire suppression – or other actions as may be required.

- Effect evacuation of aircraft if situation so dictates.

3.7.3 ACTIONS BY THE MCIAA OPERATIONS CENTER

- Commence primary notifications:

  - Airport General Manager/Assistant General Manager, MCIAA
  - Airline concerned
  - Airport Ground Operations Division
  - ESSD Manager, MCIAA
  - Airport Police
  - Airport Medical Services

- Prepare to activate EOC as directed by the Airport General Manager or his duly authorized representative.

- Coordinate with On-scene Commander for further instructions.

3.7.4 ACTIONS BY THE EMERGENCY OPERATIONS CENTER

- If activated, relay instructions from the On-scene Commander to the concerned unit. Likewise, relay response information from the concerned unit back to the On-scene Commander.

- Monitor movements of response units and advise the On-scene Commander.

3.7.5 ACTIONS BY THE ON-SCENE COMMANDER

- Proceed to accident site and coordinate security, rescue and fire control operations.

- Evaluate situation and advise EOC of need for additional support requirements.

- When accident site is safe from any further fire, all rescue activities have been completed, and accident site is stabilized, notify EOC.

3.7.6 ACTIONS BY THE AIRPORT POLICE / SECURITY COORDINATOR

- Dispatch additional officers to gates and to incident scene as may be required.
- Report to incident location and liaise with the On-scene Commander.
- Assist On-scene Commander to establish safety cordon if requested.

3.7.7 ACTIONS BY THE MCIAA MEDICAL SERVICES / MEDICAL COORDINATOR

- Obtain status briefing from EOC.
- Coordinate with On-scene Commander for further instructions.

3.7.8 ACTIONS BY THE INVOLVED AIRLINE OPERATOR

- Dispatch airline representative to incident scene and coordinate with On-scene Commander.
- Determine if passengers, crew, baggage and cargo will have to be off-loaded. Provide buses and equipments accordingly.
- If incident involves a fuel spill at an aircraft, keep all operational equipment and vehicles away from aircraft, until the Airport Fire Services has neutralized the spill and has determined the incident is over. If vehicles are already positioned at aircraft when a fuel spill occurs, turn off all engines and motors and do not restart until fuel spill is neutralized.
- If incident involves a disabled aircraft, determine what engineering support will be required.

3.7.9 ACTIONS BY THE AIRPORT GROUND OPERATIONS DIVISION

- If required, carry out on-site inspection.
- Determine what actions may be required to clear area of safety hazards.

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3.8 EMPLAN 8 – STRUCTURAL FIRE

Structural fires include all fires which may occur at the airport – but which do not involve an aircraft. For the purpose of this procedure only, fires involving vehicles or other non-structural fires at the airport will be treated as structural fires in terms of response.

3.8.1 NOTIFICATION:

Initial notification of a structural fire may originate from any location and shall be relayed immediately to the AIRPORT RESCUE AND FIREFIGHTING DIVISION.

3.8.2 ACTIONS BY THE MACTAN CONTROL TOWER

- If Tower is the first to discover or receive report of the emergency, commence primary notifications indicating:

  EMPLAN 8 - STRUCTURAL FIRE to:

  - Airport Rescue and Firefighting Division
  - MCIAA Operations Center

- If fire involves an airside facility, or structure, arrange movement of any aircraft parked near that facility.

3.8.3 ACTIONS BY THE MCIAA RESCUE AND FIREFIGHTING DIVISION / ON-SCENE COMMANDER

- Alarm Detail personnel shall obtain all possible details from the caller … specifically:

  - The exact location of the fire (what building, airside/landside, etc.)
  - The type of fire (what is burning – electrical, fuel, chemicals, etc.)
  - Persons injured (if any)
  - The name of the caller, and who he works for
  - The number of the phone where he is calling from

- Brief Senior Fire Officer of the location and nature of the fire.

- Commence primary notifications – indicating:

  EMPLAN 8 - STRUCTURAL FIRE and provide details as above to:

- Mactan Control Tower (tel. no. 3408211)
- MCIAA Operation Center (tel. no. 3402486 loc. 1561 / 1562)
- Airport Police (tel. no. 3402486 loc. 1610 / 1611)

- Fire Chief or Senior Fire Officer shall assume as On-scene Commander until properly relieved.

- Immediately proceed to the scene with rescue and firefighting resources and commence fire suppression.

- Conduct marshalling and/or evacuation of Terminal building occupants if needed. (Refer to Appendices 14 & 15, pp. 4-19 & 4-20 for the Terminal building Evacuation Routes.)

- Assess situation and determine if additional support will be required.

- Determine if hazardous materials are involved.

- Establish an Incident Command Post where necessary.

- After fire has been suppressed, inform MCIAA Operations Center for a formal hand-over of operations.

- Coordinate with rescue/medical, airline and other concerned Terminal building office personnel for the headcount of building occupants prior to termination of the emergency.

- Terminate EMPLAN 8.

3.8.4 ACTIONS BY THE MCIAA OPERATIONS CENTER / EMERGENCY OPERATIONS CENTER

- Commence primary notifications:

  - Mactan Control Tower
  - Airport General Manager
  - Assistant General Manager, MCIAA
  - ESSD Manager, MCIAA
  - Airport Crash Fire and Rescue
  - Duty Electrician (to report to scene immediately)
  - Airport Police
  - Airport Medical Services

- Engineering Department, MCIAA
- Airline Operators

- Relay instructions from the On-scene Commander (OSC) to the concerned unit(s). Likewise, relay response information from the concerned units back to the OSC.

- Prepare to activate EOC as directed by the Airport General Manager and/or the Assistant General Manager or their authorized representative.

- Monitor movements of response units and advise the On-scene Commander.

- Coordinate with On-scene Commander for further instructions.

- Relay termination of EMPLAN 8.

3.8.5 ACTIONS BY THE AIRPORT POLICE / SECURITY COORDINATOR

- If location is determined, Airport Police Chief shall immediately dispatch Airport Police personnel to assist in expediting flow of responding fire trucks and other emergency response vehicle.

- Establish a security cordon at reasonable distance and preservation of affected area until further cleared.

3.8.6 ACTIONS BY THE MCIAA MEDICAL SERVICES / MEDICAL COORDINATOR

- Immediately proceed to the scene and provide medical rescue operation.

- Assist in the evacuation and transport of fire victims.

- Establish a collection area at a safe spot outside the building, and provide treatment/medication to injured victims.

- Transport victims to hospitals.

3.8.7 ACTIONS BY THE AIRLINE OPERATORS

- Provide assistance as required to the On-scene Commander and Police in evacuation of passengers from the terminal areas.

- Ensure involved offices are evacuated as necessary.

3.8.8 ACTIONS BY THE SECONDARY FIRE RESPONSE UNITS

- Dispatch available fire/rescue resources and proceed to the designated RVP or Staging Area as directed during the initial receipt of the alarm from the MCIAA Operation Center or EOC.

- To remain on standby at RVP until further advised by On-scene Commander.

3.8.9 ACTIONS BY THE SECONDARY MEDICAL RESPONSE UNITS

- Dispatch medical/rescue resources and proceed to the designated RVP or Staging Area as directed during the initial receipt of the alarm from the MCIAA Operation Center or EOC.

- To remain on standby at RVP until further advised by On-scene Commander.

3.8.10 ACTIONS BY THE SECONDARY SECURITY RESPONSE UNITS

- Dispatch available security personnel and vehicles and proceed to the designated RVP or Staging Area as directed during the initial receipt of the alarm from the EOC.

- To remain on standby at RVP until further advised by On-scene Commander.

3.8.11 ACTIONS BY THE SERVICE SUPPORT GROUPS

3.8.11.1 ACTIONS BY THE MCIAA ELECTRICAL DIVISION

- Dispatch duty electrician to report to scene and coordinate with Fire Chief to determine what electrical and building systems will have to be shut down.

- If fire is electrical in nature, deactivate and isolate circuits involved.

- Restore power as soon as practicable after situation has been stabilized.

- Commence clean-up operations after fire risk has been eliminated.

3.8.11.2 ACTIONS BY THE OTHER SERVICE SUPPORT UNITS

- Prepare the necessary resources for dispatch upon instructions from the EOC.

- Standby.

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3.9 EMPLAN 9 - LOCAL STANDBY

A Local Standby is declared by Air Traffic Services when an aircraft approaching the airport has developed - or is suspected of having developed - some defect, but that the defect or trouble will not normally create any serious difficulty in effecting a safe landing.

A Local Standby (precautionary standby) may also be requested by the captain of the aircraft. Rescue and Firefighting vehicles may standby in the station - or be pre-positioned on the movement area as may be determined by the Chief, Airport Rescue and Firefighting Division (RFD). Airport RFD vehicles will stand down from a Local Standby condition only by the direction of the Fire Chief.

3.9.1 ACTIONS BY THE MACTAN CONTROL TOWER

- Notify Airport Rescue and Firefighting Division and provide the following details:

  EMPLAN 9 - LOCAL STANDBY

  - Type of aircraft and operator
  - Nature of problem
  - ETA at Terminal Control Area
  - Number of persons on board
  - Presence of hazardous cargo on board
  - Hours of fuel remaining
  - Runway in use

- If conditions permit, determine whether aircraft with problem can remain in circuit traffic until other traffic is dealt with. Maintain full operations as long as conditions permit.

- UPGRADE TO EMPLAN 3 – FULL EMERGENCY if circumstances indicate a possible aircraft accident, or EMPLAN 1 AIRCRAFT ACCIDENT if an accident actually occurs. Commence full notification procedures immediately for the new classification of emergency.

- Terminate EMPLAN 9

3.9.2 ACTIONS BY MCIAA RESCUE AND FIREFIGHTING DIVISION / FIRE COORDINATOR

- In coordination with Mactan Control Tower, determine whether standby will be made in station or on the movement area.
- Deploy rescue and firefighting vehicles to pre-determined airfield standby positions as required by the nature of the problem with the aircraft.
- If problem with aircraft becomes more serious, or an accident actually occurs, direct call for additional support.
- If indicated, follow aircraft to parking position or stopping point to make inspection to confirm if there is no safety hazard remaining.
- Secure from standby when aircraft is on the ground, and problem has been rectified, or deemed safe.
- Coordinate with Tower for the termination of the emergency.

3.9.3 ACTIONS BY THE MCIAA OPERATIONS CENTER

- Commence notification to:
  - Airport General Manager/Assistant General Manager
  - ESSD Manager, MCIAA
  - Airport Police
  - Airport Medical Services
  - Airline involved
- Coordinate with Tower and Fire Chief.
- Relay instructions from the Fire Chief to concerned units.
- Relay Termination of EMPLAN 9.

3.9.4 ACTIONS BY THE ESSD MANAGER, MCIAA

- Monitor developments with the Operation Center.
- Coordinate with subordinate response units in preparation for possible deployment.

3.9.5 ACTIONS BY THE AIRPORT POLICE / SECURITY COORDINATOR

- Prepare for possible deployment and standby for further developments.

3.9.6 ACTIONS BY THE MCIAA MEDICAL SERVICES / MEDICAL COORDINATOR

- Standby for further developments/instructions.

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3.10 EMPLAN 10 - WEATHER STANDBY

A Weather Standby is initiated when weather conditions deteriorate to a point where these conditions could affect the safety of aircraft operations at the airport, or when the Tower has difficulty observing landings and takeoffs, or where weather conditions may affect the safety of aircraft, personnel, services or facilities at the airport.

Extreme weather conditions - e.g. strong surface winds and gusts, severe thunderstorms, low level windshear / turbulence, severe hailstorms/dust storms, and tropical storms - could necessitate that a Weather Standby be declared.

3.10.1 INITIAL NOTIFICATION

3.10.1.1 PAGASA WEATHER STATION

The PAGASA Weather Station, upon recognizing that a weather condition could create a hazard to operations at Mactan-Cebu International Airport, will call the Mactan Control Tower and relay an Aerodrome Weather Warning as follows:

AERODROME WEATHER WARNING

- Nature of warning (weather condition expected)
- Anticipated arrival of weather condition at airport
- Anticipated period this weather condition will last
- Any other related information

3.10.1.2 MACTAN CONTROL TOWER

- The Control Tower will declare a **Weather Standby** under the following conditions:

  - The weather conditions have become sufficiently severe that the safety of aircraft landing or takeoff is affected.

  - The visibility of the airport has deteriorated so that the aircraft on (or approaching) the runway is no longer visible from the Tower.

  - The PAGASA Weather Station has issued an Aerodrome Warning of an impending weather condition that could result in the above conditions and/or could also create a hazard to aircraft, personnel and facilities on the ground.

3.10.2 ACTIONS BY THE MACTAN CONTROL TOWER

- Contact Airport Rescue and Firefighting Division and relay the following information:

  EMPLAN 10 - WEATHER STANDBY

  - Details of weather conditions (existing or anticipated)
  - Estimated period that these conditions will exist (if known)
  - Runway in use
  - What operations or services could be adversely affected

- Commence other primary notifications:

  - Airborne aircraft - if affected
  - MCIAA Operations Center
  - Phil. Air Force Operations

- When weather conditions have abated, cancel Weather Standby.

3.10.3 ACTIONS BY THE MCIAA OPERATIONS CENTER

- Commence Primary Notifications

  - Rescue and Firefighting Division
  - Airport General Manager/Assistant General Manager
  - ESSD Manager
  - Airport Police Division
  - Medical Division
  - Engineering Department
  - General Services Division
  - Airline Operators

- Coordinate with Tower/PAGASA for weather updates.

- Coordinate with On-scene Commander for further instructions.

3.10.4 ACTIONS BY THE MCIAA RESCUE AND FIREFIGHTING DIVISION

- RFD Manager/OIC or the most senior ranking Fire Officer shall assume as temporary Incident Commander in the absence of the ESSD Manager.

- Determine level of standby needed and prepare for possible deployment of equipment and vehicles to affected areas.

- Coordinate with Operations Center/EOC regarding weather updates.

- Take appropriate action to secure Fire Station and equipment against severe weather if so indicated.

- Coordinate with Operations Center for the activation of the EOC if needed.

- Coordinate with airport tenants, airport staff, security services, etc. as may be required to ensure the safety and continuity of airport services.

- Coordinate evacuation, rescue and/or clearing operations.

3.10.5 ACTIONS BY THE EMERGENCY OPERATIONS CENTER

- If activated, relay instructions from the On-scene Commander to the concerned units. Likewise, relay response information from the concerned unit back to the On-scene Commander.

- Monitor movements of response units and advise the On-scene Commander.

3.10.6 ACTIONS BY THE ESSD MANAGER / ON-SCENE COMMANDER

- Assume as On-scene Commander.

- Recall personnel as needed.

- Proceed to the EOC or at the site and coordinate emergency response activities.

3.10.7 ACTIONS BY THE AIRPORT POLICE / SECURITY COORDINATOR

- Coordinate with the On-scene Commander and standby for further instructions.

- In addition to their regular security duties, provide assistance to the emergency evacuation/rescue operations.

3.10.8 ACTIONS BY THE MCIAA MEDICAL SERVICES / MEDICAL COORDINATOR

- Prepare to dispatch medical/rescue personnel, ambulance, medical supplies and equipment to affected area if needed.
- Prepare medical clinic to accommodate possible victims.
- Coordinate with the On-scene Commander and standby for further instructions.

3.10.9 ACTIONS BY THE AIRLINE OPERATORS

- Implement necessary precautions to ensure the safety and security of parked aircraft, ground equipment, facilities and personnel.
- Provide assistance as required by the On-scene Commander.

3.10.10 ACTIONS BY THE AIRPORT SERVICE SUPPORT UNITS

3.10.10.1 ACTIONS BY THE AIRPORT GROUND OPERATIONS DIVISION

- Standby and determine what actions may be required to secure airport ramp and ground operations areas.
- Coordinate with On-scene Commander.

3.10.10.2 ACTIONS BY THE MCIAA ENGINEERING DEPARTMENT

- Standby and determine what actions may be required to secure airport facilities, equipment and buildings.
- Coordinate with On-scene Commander

3.10.10.3 ACTIONS BY THE OTHER SERVICE SUPPORT UNITS

- Coordinate with the On-scene Commander or the Operation Center.
- Prepare the necessary resources for dispatch upon instructions from the Operation Center / On-scene Commander.

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3.11 EMPLAN 11 - EARTHQUAKE

A sudden, violent shaking or movement of part of the earth's surface which can affect the safety of aircraft, or adversely affect the safety of persons, buildings, facilities or equipment at the Airport.

NOTE: Initial Notification.

Case 1: This may come from the PHILVOLCS office in the form of a prediction based on recent records. An earthquake alarm with a predicted intensity and other related information may be initially relayed to the MCIAA Operation Center by the PHILVOLCS office. Receipt of the initial notification shall serve as a signal to commence the following subsequent actions.

Case 2: The earthquake has started, and most likely, notification shall be made by the Operation Center or any concerned person within the affected area or nearby area to the Airport Authority or to the Operation Center after the occurrence.

3.11.1 ACTIONS BY THE MCIAA OPERATIONS CENTER

- Commence Primary Notifications

  - Rescue and Firefighting Division
  - Airport General Manager/Assistant General Manager
  - ESSD Manager
  - Airport Police
  - Medical Division
  - Engineering Department
  - General Services Division
  - Airline Operators

- Standby and determine what actions may be required to secure airport ramp and ground operations areas.

- Coordinate with On-scene Commander.

3.11.2 ACTIONS BY THE MCIAA RESCUE AND FIREFIGHTING DIVISION

- RFD Manager/OIC or the most senior ranking Fire Officer shall assume as temporary On-scene Commander in the absence of the ESSD Manager.

- Determine level of standby needed and prepare for possible deployment of equipment and vehicles to affected areas.

- Coordinate with Operation Center/PHILVOLCS regarding situation updates.

- Take appropriate action to secure airport facilities and equipment against the earthquake.

- Coordinate with Operation Center for the activation of the EOC if needed.

- Coordinate with airport tenants, airport staff, security services, etc. as may be required to ensure the safety and continuity of airport services.

- After occurrence of the earthquake/tremor, immediately proceed to the affected area with personnel and equipment.

- Conduct marshalling and/or evacuation of Terminal building occupants if needed. (Refer to Appendices 14 & 15, pp. 4-18 & 4-19 for the Terminal building Evacuation Routes.)

- Conduct rescue and extrication of trapped victims, if any.

- Standby and coordinate with the On-scene Commander.

3.11.3 ACTIONS BY THE EMERGENCY OPERATIONS CENTER

- Once activated, relay instructions from the On-scene Commander to the concerned unit. Likewise, relay response information from the concerned unit back to the On-scene Commander.

- Monitor movements of response units and advise the On-scene Commander.

3.11.4 ACTIONS BY THE ESSD MANAGER / ON-SCENE COMMANDER

- Assume as On-scene Commander.

- Recall personnel as needed.

- Proceed to the EOC or at the site and coordinate emergency response activities.

- Advice EOC to call for additional rescue / medical support services if needed.

- Advice Engineering Department to conduct structural inspection prior to declaring for the termination of the emergency.

- Coordinate with rescue/medical teams and concerned terminal building office personnel for the headcount of building occupants.

- Advise termination of emergency.

3.11.5 ACTIONS BY THE MCIAA MEDICAL SERVICES / MEDICAL COORDINATOR

- Prepare to dispatch medical/rescue personnel, ambulance, medical supplies and equipment to affected area if needed.

- Prepare medical clinic to accommodate possible victims.

- After the tremor, proceed to the affected area to assist in the rescue and evacuation procedures.

- Establish victim collection area at a safe/open area, and provide treatment/medication to injured victims prior to transport to hospitals.

- Advise On-scene Commander / Operation Center for additional medical help if needed.

- Standby and coordinate with the On-scene Commander.

3.11.6 ACTIONS BY THE AIRPORT POLICE / SECURITY COORDINATOR

- Coordinate with the On-scene Commander and standby for further instructions.

- Establish security cordon of the affected area.

- In addition to their regular security duties, provide assistance to the emergency evacuation/rescue operations.

3.11.7 ACTIONS BY THE ID AND PASS CONTROL DIVISION (IDPCD)

- Coordinate with the Duty Officer/ On-scene Commander and standby for further instructions.
- Prepare/handle ID/permit requirements for other authorized personnel.

3.11.8 ACTIONS BY THE MCIAA OPERATIONS DEPARTMENT

- Coordinate with On-scene Commander /EOC.
- During the earthshaking, available department personnel shall, where possible, advise the persons around him to conduct the DROP, COVER and HOLD practice.
- After the tremor, available personnel shall open emergency exits and serve as marshals to guide Terminal building occupants the way out to safe and open areas.
- Coordinate with airlines in regards to the rescue, evacuation and/or clearing operations.
- Recall personnel as needed.
- Coordinate emergency response activities of the divisions under the department.

3.11.8.1 ACTIONS BY THE AIRPORT GROUND OPERATIONS DIVISION (AGOD)

- Implement safety measures in the ramp area.
- Provide assistance/manpower to the rescue, evacuation, and/or clearing operations.
- Coordinate with the On-scene Commander/EOC.

3.11.8.2 ACTIONS BY THE INTERNATIONAL TERMINAL OPERATIONS DIVISION (ITOD)

- Implement safety measures in the International Passenger Terminal.

- Provide assistance/manpower to the rescue, evacuation and/or clearing operations.

- Coordinate with the On-scene Commander /EOC.

3.11.8.3 ACTIONS BY THE DOMESTIC TERMINAL OPERATIONS DIVISION (DTOD)

- Implement safety measures in the Domestic Passenger Terminal.

- Provide assistance/manpower to the rescue, evacuation and/or clearing operations.

- Coordinate with the On-scene Commander/EOC.

3.11.8.4 ACTIONS BY THE GENERAL AVIATION AND INDUSTRIAL DIVISION (GAID)

- Implement safety measures in the General Aviation area.

- Provide assistance/manpower to the rescue, evacuation and/or clearing operations.

- Coordinate with the On-scene Commander/EOC.

3.11.9 ACTIONS BY THE ENGINEERING DEPARTMENT

- If required, direct concerned Division to conduct inspections of facilities, equipment and structures.

- Recall personnel as needed.

- Determine what actions may be required to secure airport facilities, equipment and buildings.

3.11.9.1 ACTIONS BY THE CIVIL WORKS DIVISION

- Provide assistance/manpower to the rescue, evacuation and/or clearing operations.

- Coordinate with the On-scene Commander/EOC.

3.11.9.2 ACTIONS BY THE TRANSPORT AND HEAVY EQUIPMENT DIVISION

- Prepare for dispatch all available transport vehicles and equipment.
- Assist in the rescue, evacuation and/or clearing operations.
- Coordinate with the On-scene Commander/EOC.

3.11.9.3 ACTIONS BY THE MECHANICAL DIVISION

- Check/repair and monitor service conditions of machineries, power plants, and other facilities.
- Provide assistance/manpower to the rescue, evacuation and/or clearing operations.
- Coordinate with the On-scene Commander/EOC.

3.11.9.4 ACTIONS BY THE ELECTRICAL DIVISION

- Check/repair and monitor service conditions of the airport's electrical systems, equipment and other facilities.
- Provide assistance/manpower to the rescue, evacuation and/or clearing operations.
- Coordinate with the On-scene Commander/EOC.

3.11.9.5 ACTIONS BY THE ELECTRONICS AND COMMUNICATIONS DIVISION

- Check/repair and monitor service conditions of electronic and communication devices and other equipment.
- Coordinate with the On-scene Commander/EOC.

3.11.10 ACTIONS BY THE GENERAL SERVICES DIVISION

- Provide assistance/manpower to the clearing operations.
- Recall personnel as needed.

- Coordinate with the On-scene Commander/EOC.

3.11.11 ACTIONS BY THE PUBLIC AFFAIRS DIVISION

- Head of office shall assume as the Public Information Officer (PIO).
- Prepare/designate an area as media center or press release room.
- Recall personnel as needed.
- Screen and, in coordination with the ID and Pass Control Division (IDPCD), issue appropriate permits for airport access.
- Coordinate with On-scene Commander/EOC for press information releases and other media activities.

3.11.12 ACTIONS BY OTHER MCIAA OFFICES

- Recall personnel as needed.
- During the tremor, available personnel shall advice persons around them to do the DROP, COVER and HOLD practice.
- After the tremor, available personnel shall act as building marshals to guide building occupants the way out to the safe and open areas.
- Coordinate with the On-scene Commander/EOC.

3.11.13 ACTIONS BY THE AIRLINE OPERATORS

- Implement necessary precautions to ensure the safety and security of parked aircraft, ground equipment, facilities and passengers.
- During the tremor, available personnel shall advice persons around them to do the DROP, COVER and HOLD practice.
- After the tremor, available personnel shall act as marshals to guide building occupants the way out to the safe and open areas.
- Provide assistance as required by the On-scene Commander.
- Coordinate with the On-scene Commander/EOC.

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3.12 EMPLAN 12 - HAZARDOUS MATERIALS INCIDENT

When any substance or material that, when involved in an accident and released in sufficient quantities, poses a risk to people's health, safety and/or property at the Airport. These substances and materials include explosives, radioactive materials, flammable liquids or solids, combustible liquids or solids, poisons, oxidizers, toxins, and corrosive materials.

NOTE: Initial Notification.

This may come from the Pilot-in-Command of an aircraft carrying certain substances or materials that, when involved in an accident and released in sufficient quantities, poses a risk to people's health, safety and/or property at the Airport. The pilot informs the Tower which then relays the information to the Airport Operations Center.

3.12.1 ACTIONS BY THE MCIAA OPERATIONS CENTER

- Commence Primary Notifications

  - Airport General Manager/Assistant General Manager
  - ESSD Manager
  - Duty Manager
  - Airport Police
  - Rescue and Firefighting Division
  - Airport Medical Services
  - Engineering Department
  - Airline Operator

- Prepare to activate the Emergency Operations Center as directed by the On-scene Commander.

- Recall personnel as needed.

- Establish communication with the concerned aircraft operator.

3.12.2 ACTIONS BY THE EMERGENCY OPERATIONS CENTER

- Once activated, relay instructions from the On-scene Commander to the concerned unit. Likewise, relay response information from the concerned unit back to the On-scene Commander.

- Monitor movements of response units and advise the On-scene Commander.

3.12.3 ACTIONS BY THE ESSD MANAGER / ON-SCENE COMMANDER:

- Proceed to Emergency Operations Center or at the site.
- Request concerned airline operator to send technical representative(s) to EOC or at the site for the conduct of coordinated actions.
- Take appropriate action to ensure that exposure to hazardous materials by people at the downwind side of the aircraft is prevented, if not, minimized.
- Coordinate emergency rescue/evacuation operations.
- Coordinate with airport tenants, airport staff, security services, etc. as may be required to ensure the safety and continuity of airport services.
- Recall personnel as needed.

3.12.4 ACTIONS BY THE MCIAA RESCUE AND FIREFIGHTING DIVISION (RFD)

- Fire chief or the most senior-ranking Fire Officer shall assume as temporary On-scene Commander until relieved by the ESSD Manager.
- Determine level of standby needed and prepare vehicles and equipment for possible deployment to the site.
- Coordinate with the On-scene Commander / EOC.

3.12.5 ACTIONS BY THE MCIAA MEDICAL SERVICES / MEDICAL COORDINATOR

- Prepare to dispatch medical/rescue personnel, ambulance, medical supplies and equipment to disaster/emergency area if needed.
- Prepare medical clinic to accommodate possible victims.

- Coordinate with the On-scene Commander and standby for further instructions.

3.12.6 ACTIONS BY THE AIRPORT POLICE / SECURITY COORDINATOR

- Coordinate with the On-scene Commander and standby for further instructions.

- In addition to their regular security duties, provide assistance to the emergency rescue operations.

3.12.7 ACTIONS BY THE MCIAA OPERATIONS DEPARTMENT

- Coordinate with On-scene Commander /EOC.

- Coordinate with airlines in regard to the rescue, evacuation and/or clearing operations.

- Coordinate emergency response activities of the divisions under the department.

3.12.7.1 ACTIONS BY THE AIRPORT GROUND OPERATIONS DIVISION (AGOD)

- Implement safety measures in the ramp area.

- Provide assistance/manpower to the rescue, evacuation, and/or clearing operations.

- Coordinate with the On-scene Commander/EOC.

3.12.7.2 ACTIONS BY THE INTERNATIONAL TERMINAL OPERATIONS DIVISION (ITOD)

- Implement safety measures in the International Passenger Terminal.

- Provide assistance/manpower to the rescue, evacuation and/or clearing operations.

- Coordinate with the On-scene Commander /EOC.

3.12.7.3 ACTIONS BY THE DOMESTIC TERMINAL OPERATIONS DIVISION (DTOD)

- Implement safety measures in the Domestic Passenger Terminal.
- Provide assistance/manpower to the rescue, evacuation and/or clearing operations.
- Coordinate with the On-scene Commander/EOC.

3.12.7.4 ACTIONS BY THE GENERAL AVIATION AND INDUSTRIAL DIVISION (GAID)

- Implement safety measures in the General Aviation area.
- Provide assistance/manpower to the rescue, evacuation and/or clearing operations.
- Coordinate with the On-scene Commander/EOC.

3.12.8 ACTIONS BY THE ENGINEERING DEPARTMENT

- Standby and coordinate with On-scene Commander.

3.12.9 ACTIONS BY THE GENERAL SERVICES DIVISION

- Standby and coordinate with the On-scene Commander/EOC.

3.12.10 ACTIONS BY THE PUBLIC AFFAIRS DIVISION

- Head of office shall assume as the Public Information Officer (PIO).
- Prepare/designate an area as media center or press release room.
- Recall personnel as needed.
- Screen and, in coordination with the ID and Pass Control Division (IDPCD), issue appropriate permits for airport access.
- Coordinate with On-scene Commander/EOC for press information releases and other media activities.

3.12.11 ACTIONS BY THE AIRLINE OPERATORS

- Implement necessary precautions to ensure the safety and security of parked aircraft, ground equipment, facilities and passengers.
- Send technical representative(s) to EOC to coordinate with Incident Commander
- Provide assistance as required by the On-scene Commander
- Coordinate with the On-scene Commander/EOC.

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3.13 EMPLAN 13 – AVIATION PANDEMIC INCIDENT

When there is a suspected or actual case of communicable disease on board an aircraft such that further exposure and/or contact of the infected person, whether direct or indirect, with other persons in the Airport will result in pandemic contamination.

NOTE: Initial Notification.

Case 1: This will come from the Pilot-in-Command of the aircraft carrying certain passenger(s) who are confirmed or suspected of being infected with or carriers of certain communicable diseases/illnesses, such as Avian Influenza (AI), Bird Flu, Severe Acute Respiratory Syndrome (SARS), etc., which pose a risk to other people's health at the Airport. The pilot informs the Tower which then relays the information to the MCIAA Operation Center.

Case 2: The Bureau of Quarantine (BOC), a government agency which is tasked to monitor and handle cases of communicable diseases in the airport, may also become the source of the initial notification. This is made possible due to the use of a device known as the Thermal Scanner which can register or measure the body temperature of each arriving or departing passenger as he/she passes by the scanner while inside the Passenger Terminal building. Any registered deviation from the normal body temperature of a person requires him/her to be subjected to further medical examination or confirmation of any disease. In this case, the BOC will immediately inform the MCIAA Operation Center.

3.13.1 ACTIONS BY THE MCIAA OPERATIONS CENTER

- Commence Primary Notifications

  - Bureau of Quarantine, if initial information is received from Tower.
  - Airport General Manager/Assistant General Manager
  - ESSD Manager, MCIAA/Airport Duty Manager
  - Medical Division
  - Mactan Control Tower
  - Airport Police Division
  - Involved Airline Operator

- Coordinate with the Bureau of Quarantine for the assumption of its Head/Doctor as On-scene Commander

- Prepare to activate the Emergency Operations Center (EOC) as directed by the On-scene Commander.

- Recall personnel as needed.

- Establish communication with the involved aircraft operator.

- Coordinate with Tower for the parking of involved aircraft at the designated area at the Military Ramp fronting the MIP Security Building.

3.13.2 ACTIONS BY THE BUREAU OF QUARANTINE

- Bureau Head to assume as On-scene Commander.

- Inform MCIAA Operation Center.

3.13.3 ACTIONS BY THE EMERGENCY OPERATIONS CENTER

- Once activated, relay instructions from the On-scene Commander to the concerned unit. Likewise, relay response information from the concerned unit back to the On-scene Commander.

- Monitor movements of response units and advise the On-scene Commander.

3.13.4 ACTIONS BY THE ON-SCENE COMMANDER

- Coordinate with Operation Center/Emergency Operations Center.

- Implement Aviation Pandemic Preparedness Plan. (Refer to Appendix 12, page 4-17).

- Request concerned airline operator to send technical/medical representative(s) to EOC if needed.

- Coordinate emergency rescue/evacuation operations.

- Coordinate with airport tenants, airport staff, security services, etc. as may be required to ensure the safety and continuity of airport services.

- Activate EOC as needed.

3.13.5 ACTIONS BY THE EMERGENCY AND SECURITY SERVICES DEPARTMENT (ESSD)

- ESSD Manager/OIC, or his duly authorized representative shall coordinate with the On-scene Commander.

- Issue appropriate instructions to concerned units.

- Recall personnel as needed.

3.13.5.1 ACTIONS BY THE MCIAA MEDICAL DIVISION

- Prepare to dispatch medical/rescue personnel, ambulance, medical supplies and equipment as instructed by the On-scene Commander.

- Coordinate with the ESSD Manager/OIC and/or On-scene Commander and standby for further instructions.

3.13.5.2 ACTIONS BY THE AIRPORT POLICE

- Implement strict access control measures at the ramp area where the subject aircraft is parked.

- Coordinate with the ESSD Manager/OIC or On-scene Commander.

3.13.6 ACTIONS BY THE MCIAA OPERATIONS DEPARTMENT

- Standby and coordinate with On-scene Commander /EOC.

- Issue appropriate instructions to concerned units.

3.13.6.1 ACTIONS BY THE AIRPORT GROUND OPERATIONS DIVISION (AGOD)

- Implement safety measures in the ramp area.

- Coordinate with the On-scene Commander/EOC.

3.13.6.2 ACTIONS BY THE INTERNATIONAL TERMINAL OPERATIONS DIVISION (ITOD)

- Implement safety measures in the International Passenger Terminal (IPT) area.
- Coordinate with the On-scene Commander/EOC.

3.13.7 ACTIONS BY THE PUBLIC AFFAIRS DIVISION

- Head of office shall assume as the Public Information Officer (PIO).
- Prepare/designate an area as media center or press release room as needed.
- Recall personnel as needed.
- Screen media personnel and, in coordination with the ID and Pass Control Division (IDPCD), issue appropriate permits for airport access.
- Coordinate with On-scene Commander/EOC for press information releases and other media activities.

3.13.8 ACTIONS BY THE INVOLVED AIRLINE

- Implement necessary precautions to ensure the safety and security of parked aircraft, ground equipment, facilities and passengers.
- Send technical/medical representative(s) to EOC to coordinate with On-scene Commander
- Provide personnel to coordinate and handle press/media activities in coordination with the PIO.
- Provide assistance as required by the On-scene Commander
- Coordinate with the On-scene Commander/EOC.

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3.14 EMPLAN 14 – CROWD CONTROL

When crowds of people assemble at the Airport for many reasons, including civil unrest, peaceful assembly or the result of an accident or natural disaster. In either event, a crowd could inadvertently or deliberately disrupt airport operations.

NOTE: Initial Notification.

Notification will normally come from the Airport Police Office or the 7th PCAS AVSEGROUP upon confirmation of an actual presence of crowds of people assembling at the Airport for any of the aforesaid reasons.

3.14.1 ACTIONS BY THE AIRPORT POLICE

- Commence Primary Notifications

  - 7th PCAS AVSEGROUP
  - Operation Center
  - Airport General Manager
  - Assistant General Manager, MCIAA
  - ESSD Manager, MCIAA
  - Duty Manager

- Dispatch personnel to the area and assess the situation.

- Implement measures to contain the crowd.

- In case of civil unrest or when the situation will likely turn worse, the 7th PCAS AVSEGROUP shall be coordinated with for formal assumption of the 7th PCAS Chief as On-scene Commander.

3.14.2 ACTIONS BY THE 7th PCAS AVSEGROUP

- Upon receipt of information, proceed to the area and assess the situation.

- Standby and provide support to the Airport Police.

- Chief, 7th PCAS, with the coordination of the Airport General Manager or his duly authorized representative, shall assume as On-scene Commander upon determining the seriousness of the situation.

- Implement measures to contain the crowd.

- Properly turn-over command once situation is restored to normal.

3.14.3 ACTIONS BY THE MCIAA OPERATIONS CENTER

- Relay information to

  - Mactan Tower
  - Airport Rescue and Firefighting Division
  - Airport Medical Services
  - Airport Operations Department
  - Airline Operators

- Coordinate with the On-scene Commander

- Prepare to activate the Emergency Operations Center as directed by the On-scene Commander.

- Recall personnel as needed.

3.14.4 ACTIONS BY THE EMERGENCY OPERATIONS CENTER

- Once activated, relay instructions from the On-scene Commander to the concerned unit. Likewise, relay response information from the concerned unit back to the On-scene Commander.

- Monitor movements of response units and advise the On-scene Commander.

3.14.5 ACTIONS BY THE ON-SCENE COMMANDER

- Coordinate with Emergency Operations Center

- Implement measures to contain the crowd.

- Coordinate with the Public Affairs Office regarding the designation of a media relations personnel or Public Information Officer to handle press activities

- Coordinate with airport tenants, airport staff, security services, etc. as may be required to ensure the safety and continuity of airport services.

3.14.6 ACTIONS BY THE EMERGENCY AND SECURITY SERVICES DEPARTMENT (ESSD)

- ESSD Manager/OIC, or his duly authorized representative shall coordinate with the On-scene Commander.
- Issue appropriate instructions to concerned units.
- Recall personnel as needed.

3.14.6.1 ACTIONS BY THE MCIAA RESCUE AND FIREFIGHTING DIVISION

- Standby and prepare to dispatch equipments as needed.
- Coordinate with the ESSD Manager/OIC or On-scene Commander.

3.14.6.2 ACTIONS BY THE MCIAA MEDICAL SERVICES / MEDICAL COORDINATOR

- Standby and prepare to dispatch medical/rescue personnel, ambulance, medical supplies and equipment if needed.
- Coordinate with the ESSD Manager/OIC and/or On-scene Commander and standby for further instructions.

3.14.7 ACTIONS BY THE MCIAA OPERATIONS DEPARTMENT

- Standby and coordinate with On-scene Commander /EOC.
- Relay information to affected airlines.

3.14.8 ACTIONS BY THE PUBLIC AFFAIRS DIVISION

- Head of office shall assume as the Public Information Officer (PIO).
- Control and coordinate media activities and, in coordination with the ID and Pass Control Division (IDPCD), issue appropriate permits for airport access to accredited media personnel.
- Coordinate with On-scene Commander/EOC for press information releases and other media activities.

3.14.9 ACTIONS BY THE INVOLVED AIRLINE

- Implement necessary precautions to ensure the safety and security of parked aircraft, ground equipment, facilities and passengers.

- Send representative(s) to EOC to coordinate with On-scene Commander as needed.

- Provide assistance as required by the On-scene Commander

- Coordinate with the On-scene Commander/EOC.

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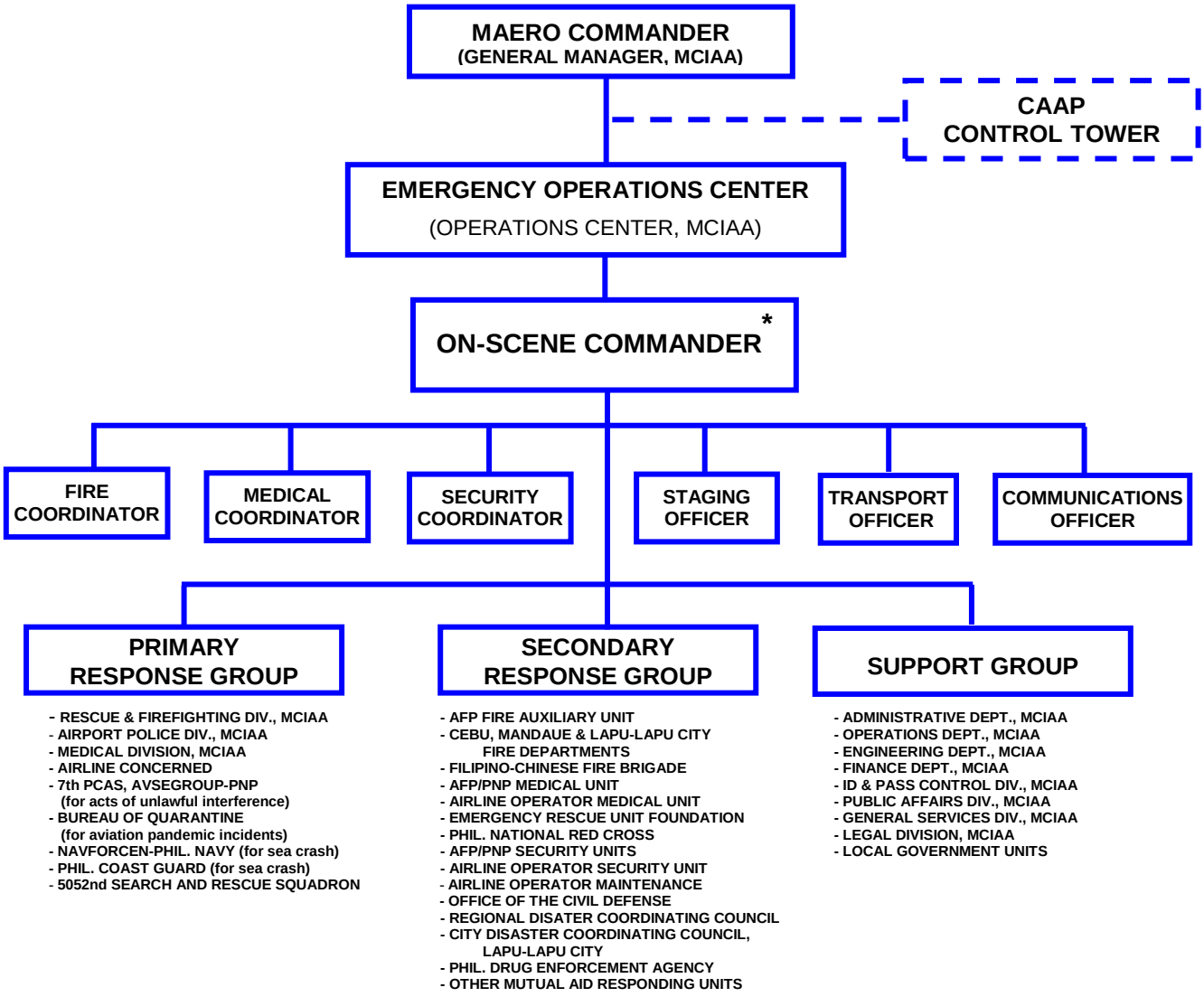
SECTION 4 - APPENDICES

MACTAN AIRPORT EMERGENCY RESPONSE ORGANIZATION (MAERO)



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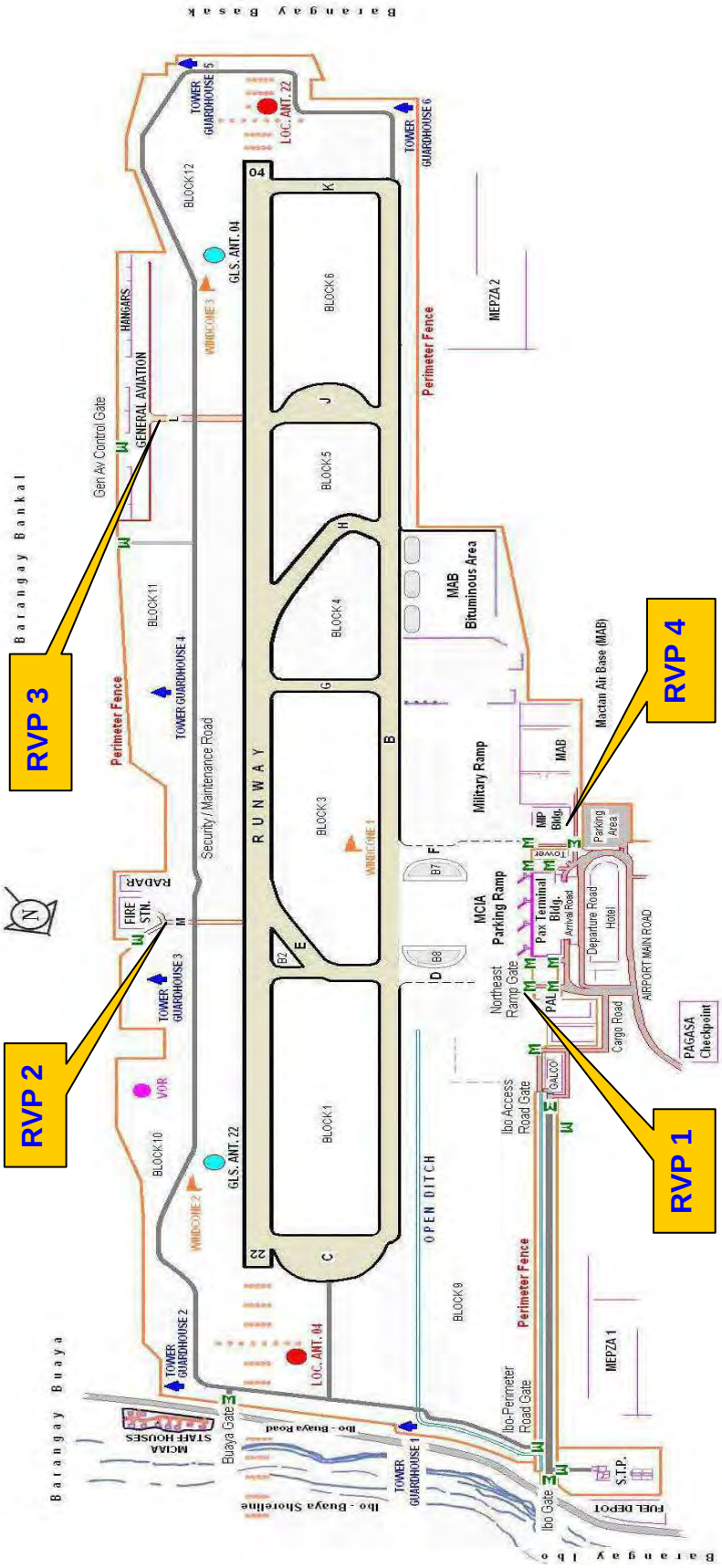
* ON-SCENE COMMANDER (OSC) position to be assumed by the designated persons under the following situation:

1. Manager/Head, Emergency and Security Services Department (ESSD), MCIAA – for all airport emergencies except in emergencies involving acts of unlawful interference, aviation pandemic incidents, and sea water aircraft crash.
2. Chief 7th PCAS AVSEGROUP-PNP – for emergencies involving acts of unlawful interference (hijacking and bomb threat) and threats to airport security.
3. Chief Medical Officer, Bureau of Quarantine (BOQ) – for aviation pandemic incidents.
4. Commander, Phil. Coast Guard or NAVFORCEN – for aircraft crash in sea water.

APPENDIX 1 - ORGANIZATIONAL CHART



APPENDIX 2 - RENDEZVOUS POINT (RVP) LOCATIONS

1 Mactan Community Hospital,
2 Carajay General Hospital,
3 Mactan Benito-Ebuen Air Base Hospital
4 Mandaue City General Hospital
5 Perpetual Succor Hospital
6 Velez General Hospital
7 Chong Hua Hospital
8 Cebu Doctors Hospital
9 North General Hospital

1 MCIAA Rescue and Firefighting Division
2 Mactan Air Base Fire Station
3 MEPZA Fire Station
4 Bgy. Mactan Fire Station
5 Lapu-Lapu City Fire Station
6 Bgy. Marigondon Fire Station
7 Bgy. Babag Fire Station
8 Bgy. Mandaue City Fire Staion
9 Mabolo Fire Station
10 Cebu City Fire Station
11 Consolacion Fire Station
12 Talamban Fire Station
13 Sta. Rosa Fire Station

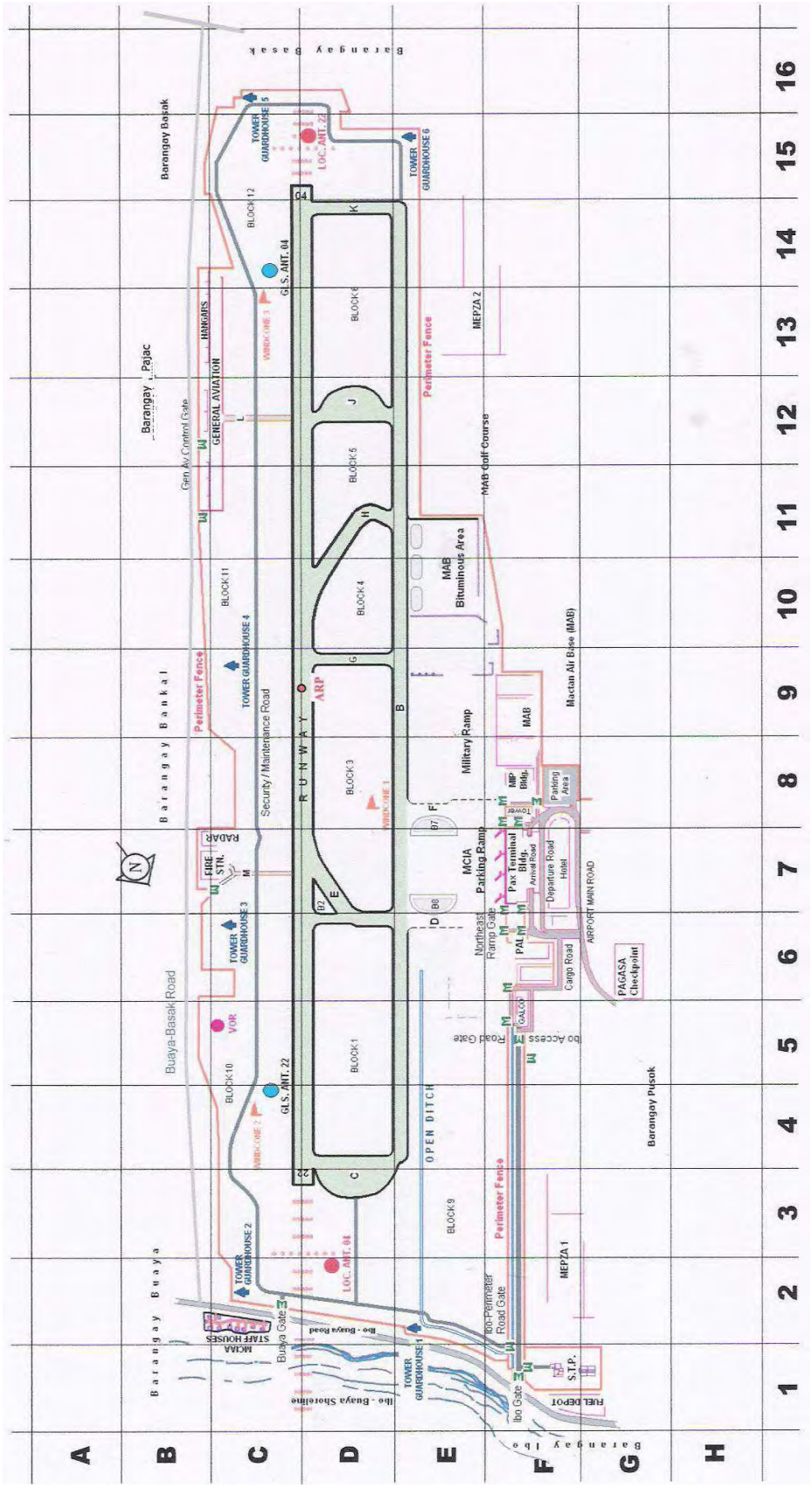
Philippine Coast Guard
Naval Forces Central (NAVFORCEN), PN
Emergency Rescue Unit Foundation
5052nd Search and Rescue Squadron, PAF

APPENDIX 3 – MAEP AREA OF RESPONSIBILITY

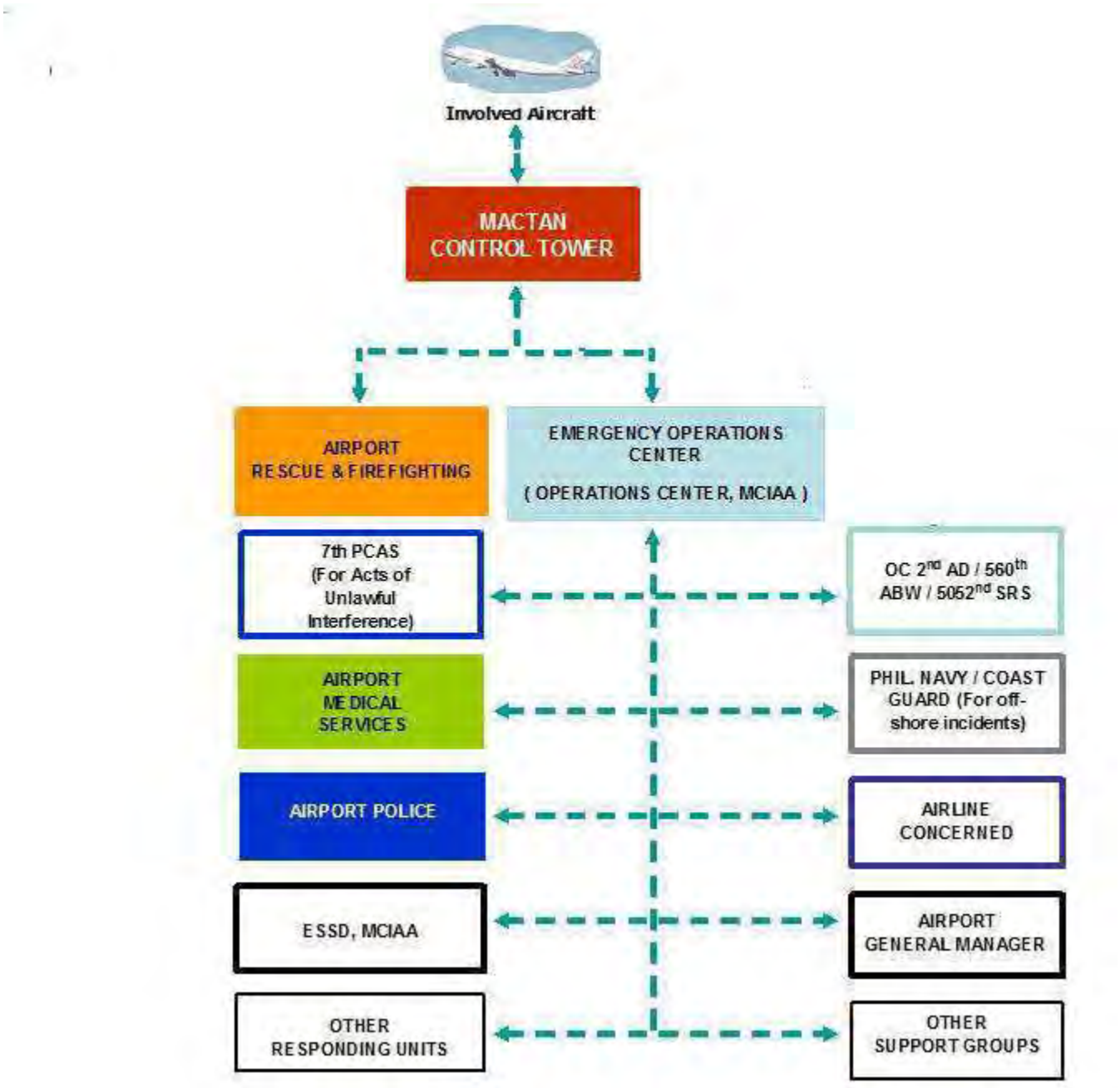
(Showing the 8 km. radius AOR and the locations of hospitals and rescue units)

NAME OF HOSPITAL	TOTAL BED CAPACITY	NUMBER OF OPERATING ROOMS	NUMBER OF BEDS IN THE EMERGENCY ROOM	NUMBER OF TRAUMA VANS & AMBULANCES
Cebu City Medical Center	300	4	4 -5	-
Cebu Doctors Hospital	300	10	12	2
Cebu Velez General Hospital	200	4	4	-
Chong Hua Hospital	660	10	30	3
Cortes General Hospital	60	1	4	-
H.W. Miller Memorial Sanitarium and Hospital	60	2 major 2 minor	2 minor beds 4 major beds	1
Lapu-Lapu City District Hospital	75	1	4	1
Mactan Doctors Hospital	50	1	4	1
Mandaue City Hospital	50	1	4	1
North General Hospital	150	4	8	1
Perpetual Succour Hospital	240	7	17 w/ ICU Rm 2 beds	3
Sacred Heart Hospital	150	4	8	1
Seamen's Hospital	60	4	3	2
Tojong General Hospital	50	2	4	1
Vicente Sotto Memorial Medical Center	800	120	50	2
Vicente Gullas Memorial Hospital	25	2	4	1

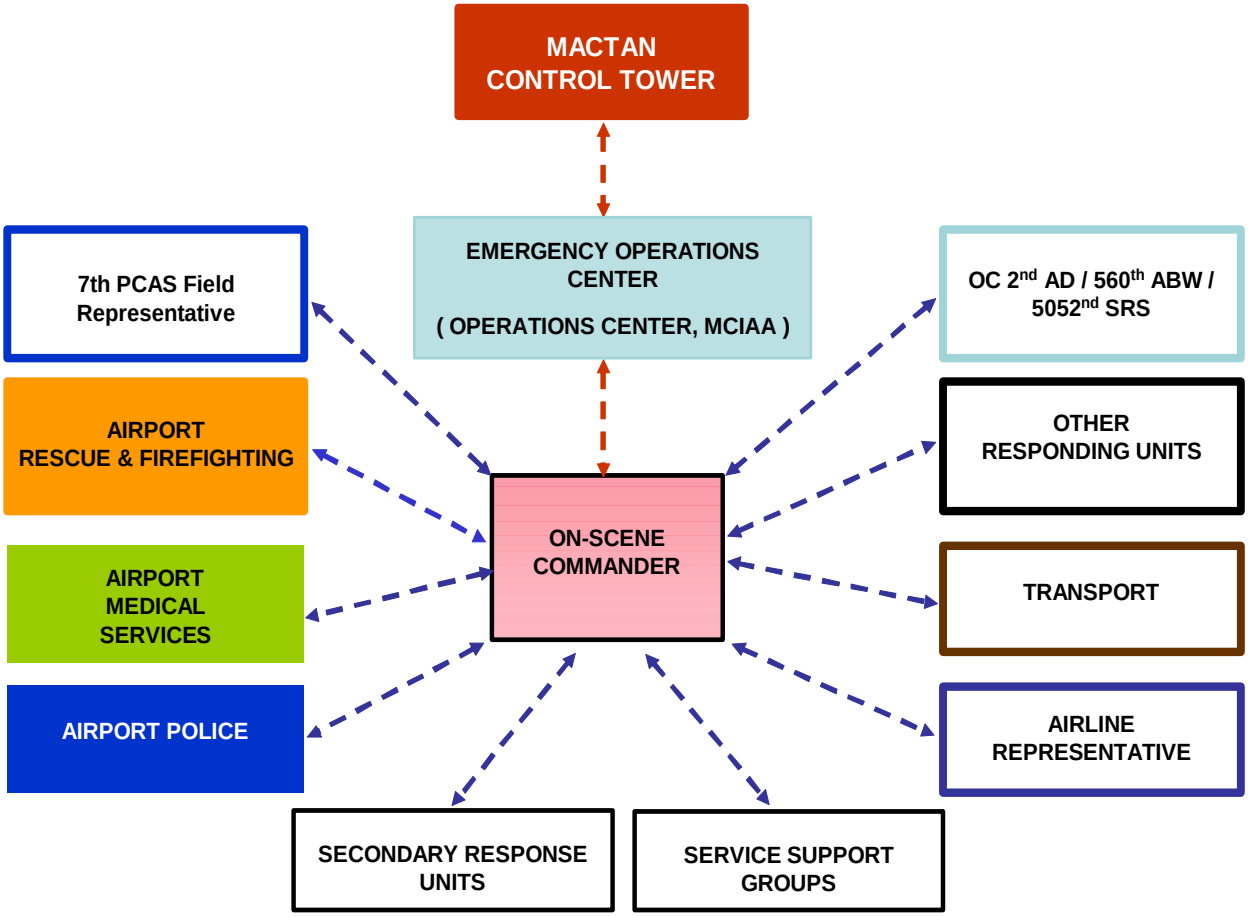
APPENDIX 3A – HOSPITAL FACILITIES



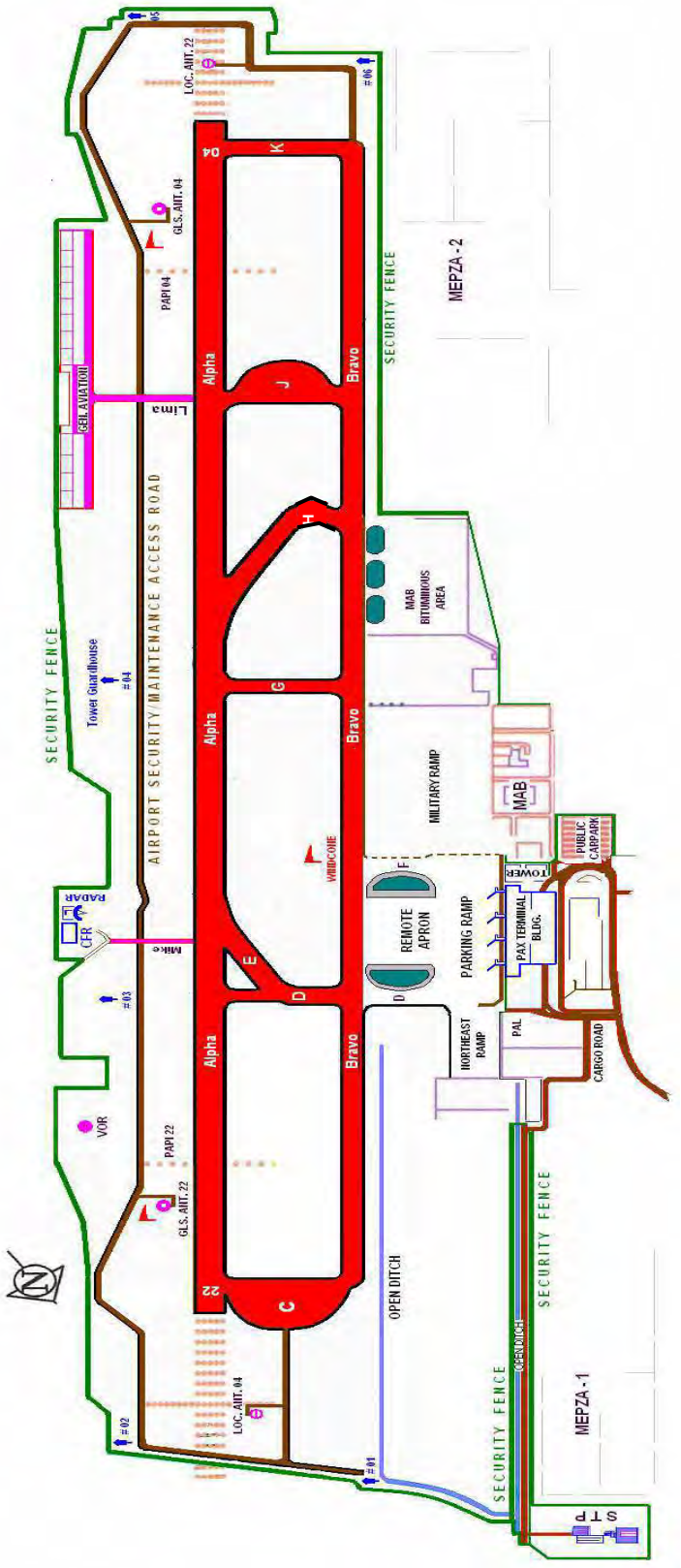
APPENDIX 4 - AIRPORT GRID MAP



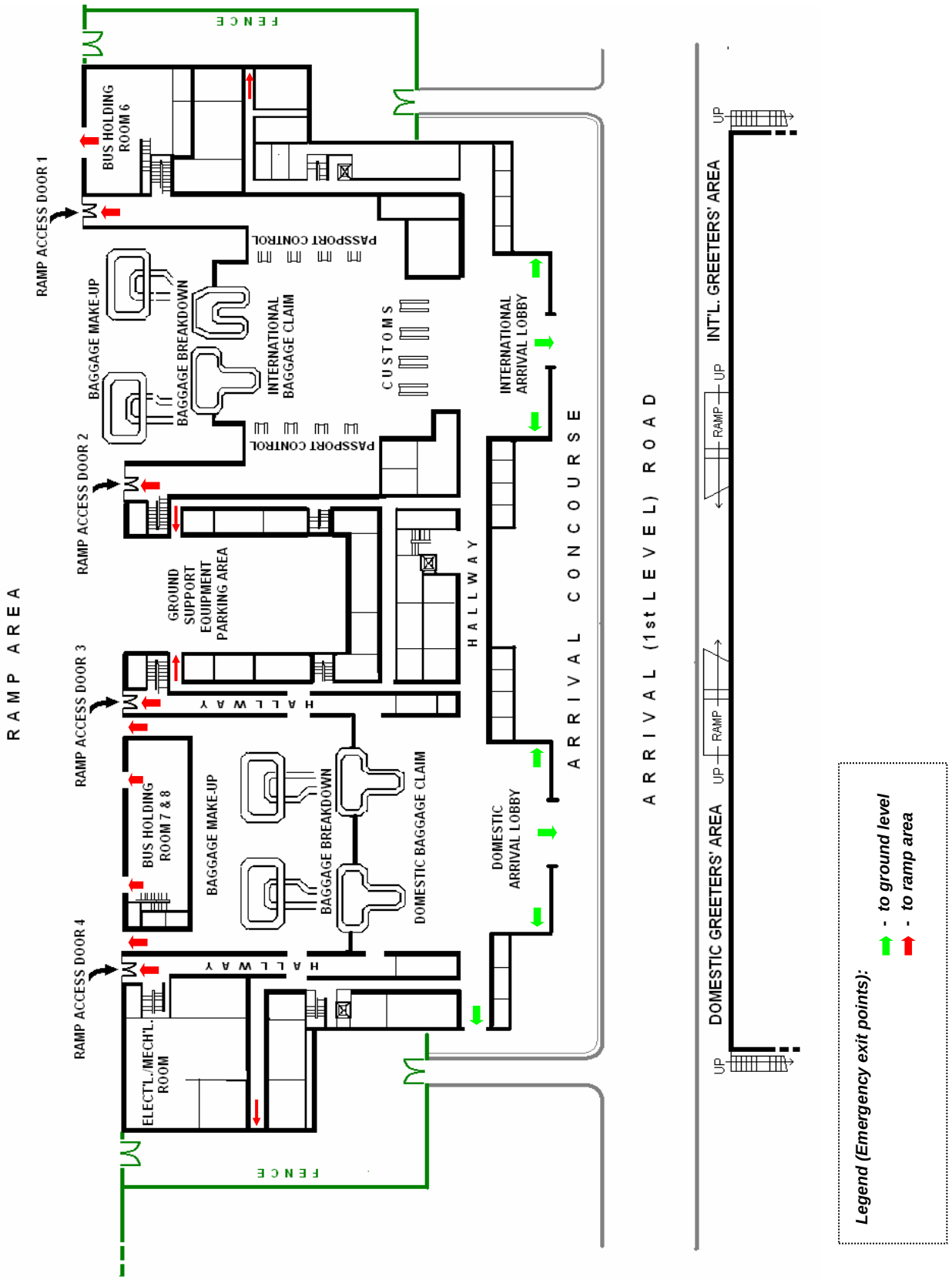
APPENDIX 5 – TYPICAL AIRCRAFT EMERGENCY ALARM NOTIFICATION CHART



APPENDIX 6 - TYPICAL FIELD COMMUNICATIONS NETWORK

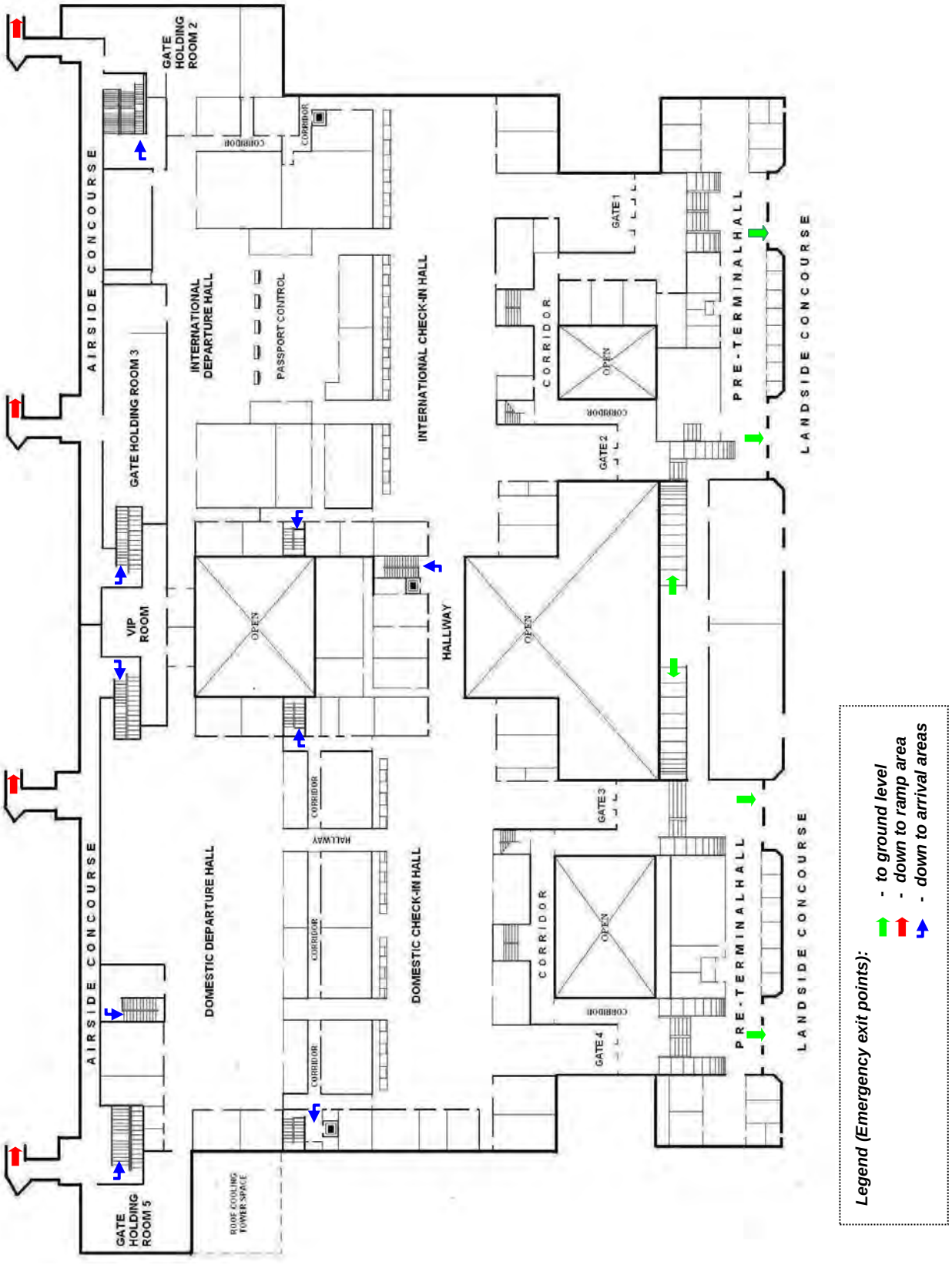


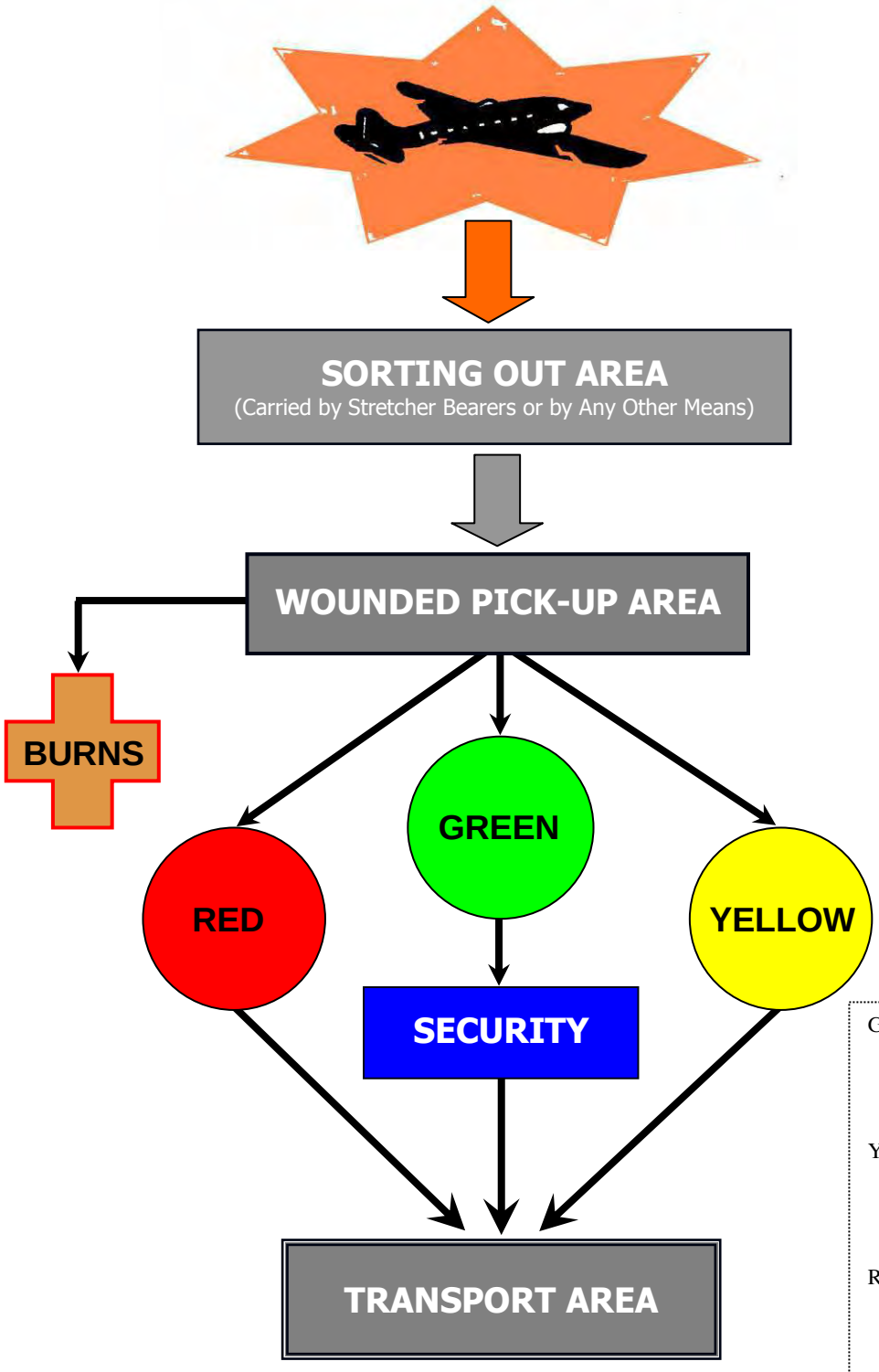
APPENDIX 7 - RUNWAY / TAXIWAY DESIGNATION



APPENDIX 8 - FIRST LEVEL AREA LAYOUT

APPENDIX 9 - SECOND LEVEL AREA LAYOUT





GREEN: Least injured among the survivors – pass through security area for identification.

YELLOW: Survivors who are seriously wounded but can be transported after First Aid.

RED: Seriously wounded with impaired vital body functions, and transporting them will be very risky. Also, burns on total body surface.

APPENDIX 10 - TRIAGE DIAGRAM

APPENDIX 11 - MAEP & RESPONDING / SUPPORT UNITS TELEPHONE DIRECTORY

MAEP AND RESPONDING / SUPPORT UNITS TELEPHONE DIRECTORY

POLICE / SECURITY:

Airport Police	340-2486 loc 1610 / 1611
7th PCAS, PNP	340-2486 loc. 4003 / 4004
Cebu Ports Authority (CPA)	
Port Police & Safety Division	232-1967 / 232-1461 loc. 25
Centurion Security Agency	344-0926 / 344-0707
Concolacion Police Station	346-2847
K-9:	
710th SPOW	340-2486 loc. 4040
PDEA	340-2486 loc. 4038
Lapu-Lapu City Police Station	341-1311
SWAT (Lapu-Lapu)	341-1311
Mabolo Police Station	412-8262 / 233-6973
Mandaue City Police Station	344-6314
Mambaling (Station 11)	261-9804
MEPZ 1 Police	340-0603
MEPZ 2 Police	341-4474 / 341-5918
Narcotics Command	231-4752
National Intelligence &	
Security Authority (NISA)	232-9048
PASSCOR, MCIAA	340-6744
Presidential Security Group (PSG)	09186711495
Talamban (Station 8)	344-7400 / 09104541928

MILITARY:

Philippine Air Force (PAF)	340-2212 / 340-8543
PAF 505 2nd SAR SQRN	340-2212
PAF 560 Air Base Wing	340-8543
PAF TOC	340-2212
PAF 220th HAW	340-8339
PAF 2nd Air Division	
Phil. Army / Central Command (CENTCOM)	232-0966
	232-4944
	233-2922 Loc. 3419/3418
Phil. Navy (NAVFORCEN)	340-9402 (Operation)
Phil. Coast Guard	

FIRE STATIONS:

220th Air Base Wing (ABW) Fire	340-3128 loc 2225
Cordova Fire Station	496-8164
Lapu-Lapu City Fire Station	304-0252 / 342-8509
Mactan Fire Station	342-8508

Mandaue City Fire Station	34747/343364
Marigondon Fire Stn	492-3160
MEPZ 1 Fire Stn	340-0605
Minglanilla Fire Stn.	273-2830
Naga Fire Stn.	272-6410
Sto. Niño / Pahina Central	256-0541 / 256-0542
Talamban (Station 8)	344-9200
Talisay City Fire Stn.	272-8277
220th Air Base Wing (ABW) Fire Stn.	340-3128 loc. 2225

RESCUE / MEDICAL:

Emergency Rescue Unit Foundation (ERUF):	
Banilad Office	233-9300
Lapu-Lapu Office	304-0252 / 3428509
Abellana Sports Complex Ofc	255-7287
Philippine. National Red Cross (PNRC):	
PNRC Cebu Chapter	253-9793
PNRC Blood Center	253-4611
Regional Disaster Coordinating Council (RDCC):	253-8730 / 2536162

HOSPITALS

Cebu City Medical Center	253- 1778
Cebu Doctors Hospital	253-6020
Chong Hua Hospital	255-8000
Gullas Memorial Hospital	346-9293
Lapu-Lapu District Hosp.	340-0248
Mactan Doctors Hospital	341-0000
Mandaue City Hospital	345-9742
North General Hospital	343-7777
PNP Hospital	233-5614
Perpetual Succour Hospital	233-8620

BARANGAY UNITS (LAPU-LAPU CITY):

Babag Bgy. Hall	340-1864
Bankal Bgy. Hall/Tanod	495-2713
Bankal Bgy. Capt.	495-8708
Basak Bgy. Hall/Tanod	340-4308
Buaya Bgy. Hall	341-1952
Cordova Town Hall	
Gun-ob Bgy. Hall	340-4661
Ibo Bgy. Hall/Tanod	3413630
Ibo Bgy. Capt.	342-4631
Looc Bgy. Hall	341-3681
Mactan Bgy. Hall	340-2514 / 495-7700
Marigondon Bgy. Hall	495-1620

Pajac Bgy. Hall	341-3783
Pajo Bgy. Hall	340-1893
Punta Engaño Bgy. Hall	495-1326
Pusok Bgy. Hall/Tanod	340-0771
Pusok Bgy. Capt	340-0561

OTHER OFFICES / UNITS

Civil Aviation Authority of the Philippines (CAAP)	340-8211
Mactan Electric Cooperative (MECO)	340-8134
National Bureau of Investigation (NBI):	256-3366 / 253-5631
National Intelligence & Security Division (NISA)	232-9048
Office of the Civil Defense	2536162 / 2538730
Bureau of Immigration	3400-751 / 3401-473
Bureau of Customs	3402486 loc 4022

APPENDIX 12 – BUREAU OF QUARANTINE - AVIATION PANDEMIC PREPAREDNESS PLAN

AVIATION PANDEMIC PREPAREDNESS PLAN

MACTAN-CEBU INTERNATIONAL AIRPORT SUPPLEMENTAL

COOPERATIVE ARRANGEMENT FOR PREVENTING THE SPREAD OF COMMUNICABLE DISEASES THROUGH AIR TRAVEL (CAPSCA)

MAY 2008

INTRODUCTION

The Threat of emergence of Pandemic Influenza is real. The year 2003 took many people and aviation officials by surprise with the rapid spread of Sever Acute Respiratory Syndrome (SARS) which led to disruption of air services to vital points in the region. ICAO workshops on developing measures at airports started in Singapore with the aim in reducing the risk of the spread of the dreaded disease through air travel. Such measures were deemed necessary to regain the confidence of the public in air transportation and minimize the impact on trade and travel.

In the year 2005, we saw the emergence of another threat, the Avian Influenza. This spread rapidly throughout southeast Asia and China. ICAO then took a proactive approach and held meetings in Singapore and in order to bolster the project, the Cooperative Arrangement for Preventing the Spread ofcommunicable disease through air travel was launched in September 2006, the aim of which is to reduce the risk of spreading influenza having pandemic potential and similar communicable diseases by air travel through the cooperation of participating states in the region.

The Mactan-Cebu International Airport is the second largest and busiest airport in the country. Aside from the Ninoy Aquino International Airport in Manila, The MCIA has been identified by the International Civil Aviation Organization (ICAO)as a premier international airport in the Philippines. Increasing international air traffic at the MCIA would necessitate increased vigilance as far as pandemic preparedness is concerned.

This supplemental to the Philippine Aviation Pandemic Preparedness Plan for the CAPSCA is aimed to enhance the existing preparedness plan in place at the MCIA during the time of SARS and will serve as a guide for the major stakeholders at the MCIA in case a pandemic crisis which we all dread would occur.

PANDEMIC PREPAREDNESS PLAN

MACTAN-CEBU INTERNATIONAL AIRPORT

GOAL: To be able to prevent, prepare and respond to the potential crisis at the local level and protect member countries of CAPSCA from the impact of such crisis.

OBJECTIVES:

1. To define the roles and responsibilities of the different agencies at the Mactan-Cebu International airport in preventing and responding to any pandemic scenario.
2. To implement the Philippine Aviation Preparedness plan and adopt it at the MCIA.
3. To enhance the existing preparedness plan in place at the MCIA.
4. To establish an effective communication and coordination system with the different stakeholders.
5. To serve as a guide to further enhance the pandemic preparedness with the various agencies and stakeholders.

Key Activities of the Pandemic Response Plan of the Mactan-Cebu International Airport

A. Pandemic Response Team
   1. Bureau of Quarantine Medical Officers – Handling of suspect/s and referral to dedicated hospital and coordination with other concerned agencies.
   2. MCIA Medical team – provides assistance to the Quarantine Medical officers in the handling of exposed passengers and with the collecting of pertinent data/surveillance documents.
   3. Airline Medical Staff – assisting the Airport medical officers (QMO's and MCIA medical team) in the handling of exposed passengers/crew and collection of surveillance documents.
   4. Other Medical Augmentation force – Lapulapu City Health office.
   5. MCIA security – providing and maintaining security of the aircraft.
   6. Airport Public / media affairs – handling of media and press releases – public affairs division of the MCIA
   7. Infection control team – composed of the MCIA medical, the Quarantine Medical Officers and the Airline medical staff, adoption of the Department of health guidelines on infection control.
   8. MCIA Management – designation of isolation aircraft parking assignment at the remote parking near the MIP lounge.

B. Surveillance Data for collection

   1. Health check list
   2. Passenger manifest
   3. Aircraft General Declaration of Health
   4. Aircraft configuration showing seat map

C. Assembly area – Bureau of Quarantine office, arrival area, international terminal. Exit to tarmac beneath gate2 of the MCIA. Isolation parking area near the MIP lounge.
D. Decontamination for aircraft – to be handled by the service providers of the airlines concerned in coordination with airport health officials (Airline Medical Personnel).
E. Communication Plan
   - Establishment of an information center similar to the Manila model composed of department heads of agencies that would respond to the pandemic crisis within the areas of concern.
   - Designated Media briefing area: Media Public affairs, MCIA domestic departure area.

F. Stockpiles of Personal Protective equipment – must have a ready and ample supply of PPE's. Identification of priority groups in airport services, prioritization of personnel (on the frontlines) and at the Arrival and Departure areas i.e. Ailines, Ground handlers, CIQ, Airport security and transport.

PROCEDURES:

In case a crew member/passenger of an aircraft is suspected to be infected with the pandemic flu or any highly communicable disease identified as Public health emergencies of international concern or PHEIC, the following procedures shall apply:

- If there is a report coming from the air traffic control regarding an arriving aircraft with an ill passenger onboard showing signs and symptoms of a highly communicable disease:

  a. The Quarantine Medical Officer on duty shall act as the incident commander with the assistance the MCIA medical staff on duty.

  b. Quarantine ambulance must be on standby prior to the arrival of the aircraft.

  c. BOQ personnel (Quarantine Medical Officer and Quarantine Nurse) and the MCIA medical team will be mobilized.

  d. There will be restriction of movement of the aircraft crew/passengers prior to the boarding of the Quarantine Medical officer until such time the QMO allows the crew and passengers to disembark.

  e. The aircraft will be directed to park at the remote parking area designated for the processing of the ill passenger /s and crew.

  f. The QMO assisted by the MCIA medical staff in complete PPE's, boards the aircraft, examines and evaluates the ill passenger and close contacts.

  g. The ill passenger will disembark and be brought by the Quarantine ambulance to the dedicated hospital.

h. Quarantine personnel request the airline to provide passenger manifest for that flight, aircraft seating arrangement and configuration.

i. All passengers and crew must accomplish the Health check list. If Health check list and Health alert cards are no provided prior to disembarkation, Quarantine personnel will provide the passengers and crew with the said forms to be accomplished before leaving the area.

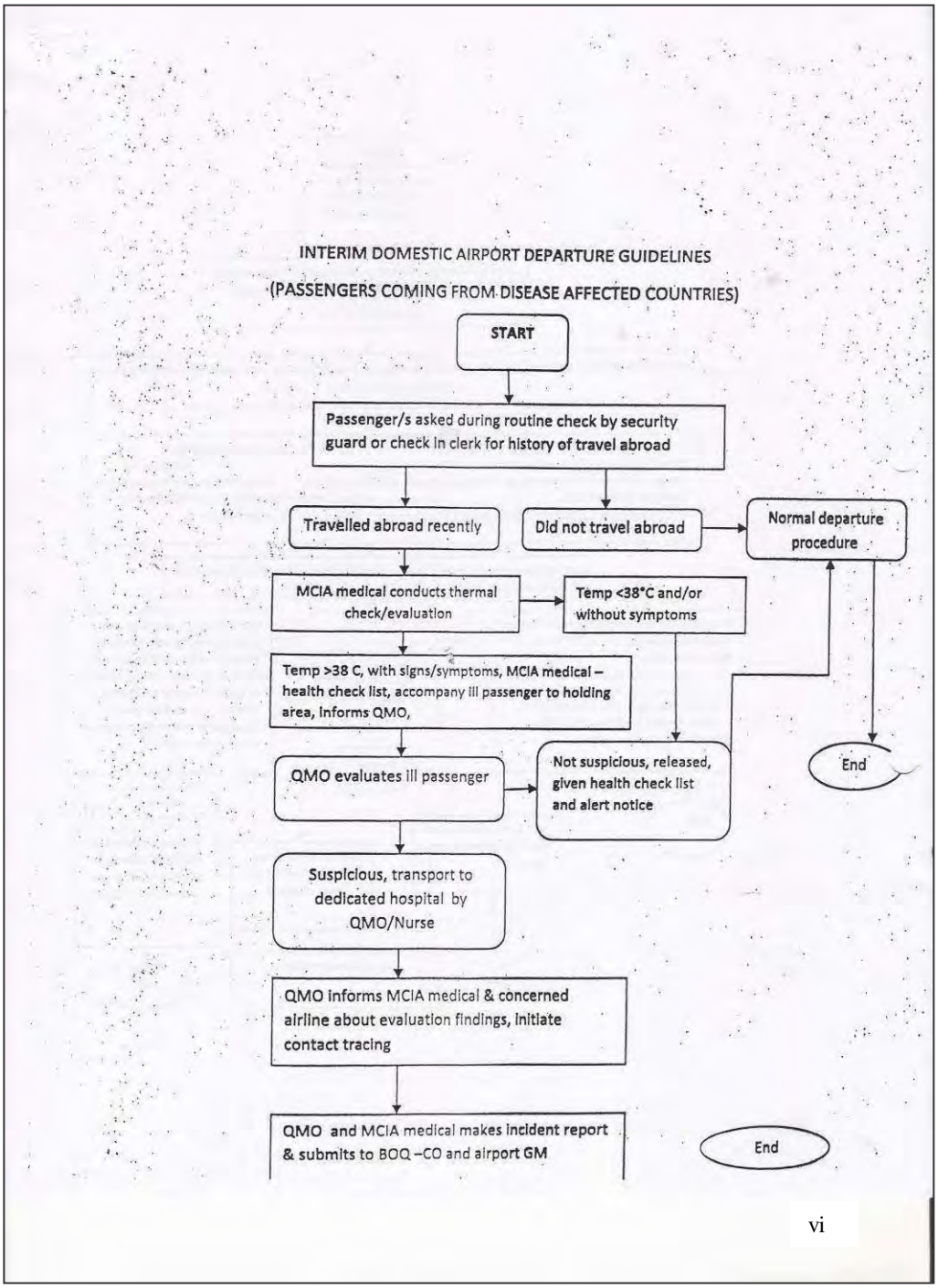
j. The QMO will complete any and all forms required. A referral letter will be prepared and will be turned over to the receiving medical team or hospital personnel.

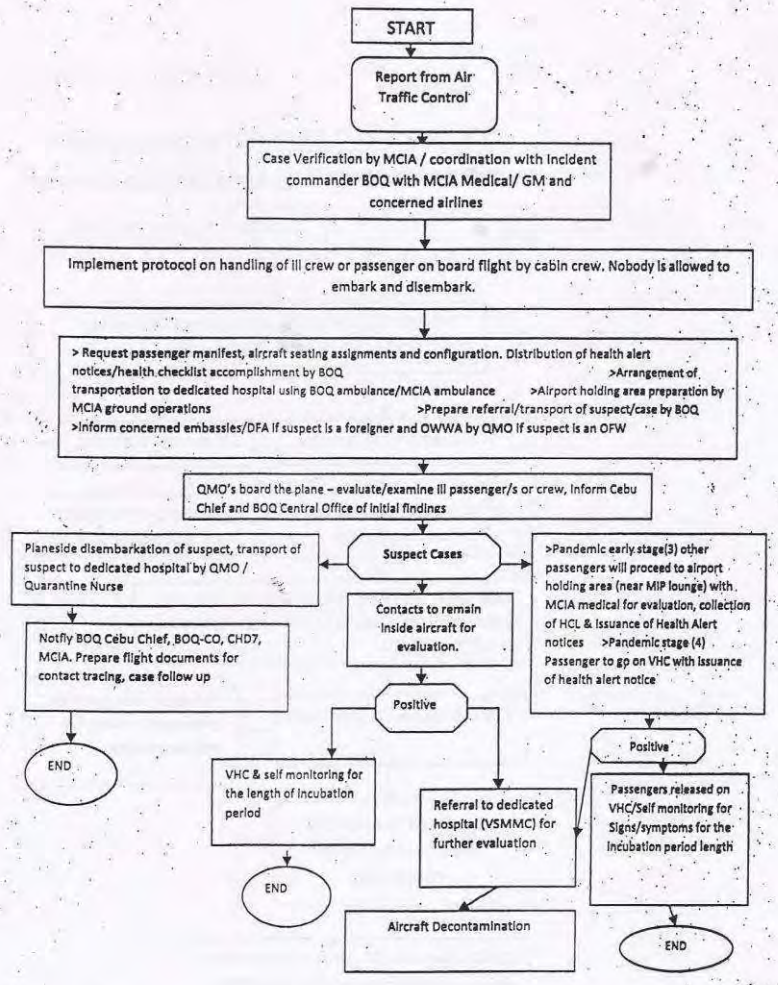
k. QMO reports the case once it is known immediately to the Chief of Office, Cebu Quarantine Station who in turn will relay the message directly to the Director of Quarantine, Main Office, Manila and to the Regional Health Director, CHD7.

l. The Regional Director will notify various health agencies concerned such as the Regional Epidemiology and Surveillance Unit (RESU), Disaster coordination unit (HEMS) unit of the Vicente Sotto Memorial Hospital.

m. The Director of Quarantine and the Regional Director CHD7 shall be constantly informed of the status of the patient.

n. A comprehensive written preliminary report shall be submitted to the Director of Quarantine, Manila within 48 hours.


INTERIM DOMESTIC AIRPORT DEPARTURE GUIDELINES
(PASSENGERS COMING FROM DISEASE AFFECTED COUNTRIES)
START
Passenger/s asked during routine check by security guard or check in clerk for history of travel abroad
Travelled abroad recently
Did not travel abroad
Normal departure procedure
MCIA medical conducts thermal check/evaluation
Temp <38°C and/or without symptoms
Temp >38 C, with signs/symptoms, MCIA medical – health check list, accompany ill passenger to holding area, informs QMO,
QMO evaluates ill passenger
Not suspicious, released, given health check list and alert notice
End
Suspicious, transport to dedicated hospital by QMO/Nurse
QMO informs MCIA medical & concerned airline about evaluation findings, initiate contact tracing
QMO and MCIA medical makes incident report & submits to BOQ –CO and airport GM
End


START
Report from Air Traffic Control
Case Verification by MCIA / coordination with Incident commander BOQ with MCIA Medical/ GM and concerned airlines
Implement protocol on handling of ill crew or passenger on board flight by cabin crew. Nobody is allowed to embark and disembark.
> Request passenger manifest, aircraft seating assignments and configuration. Distribution of health alert notices/health checklist accomplishment by BOQ >Arrangement of transportation to dedicated hospital using BOQ ambulance/MCIA ambulance >Airport holding area preparation by MCIA ground operations >Prepare referral/transport of suspect/case by BOQ >Inform concerned embassies/DFA if suspect is a foreigner and OWWA by QMO if suspect is an OFW
QMO's board the plane – evaluate/examine ill passenger/s or crew, Inform Cebu Chief and BOQ Central Office of initial findings
Suspect Cases
Planeside disembarkation of suspect, transport of suspect to dedicated hospital by QMO / Quarantine Nurse
Notfiy BOQ Cebu Chief, BOQ-CO, CHD7, MCIA. Prepare flight documents for contact tracing, case follow up
END
Contacts to remain inside aircraft for evaluation.
Positive
VHC & self monitoring for the length of incubation period
END
>Pandemic early stage(3) other passengers will proceed to airport holding area (near MIP lounge) with MCIA medical for evaluation, collection of HCL & issuance of Health Alert notices >Pandemic stage (4) Passenger to go on VHC with issuance of health alert notice
Positive
Referral to dedicated hospital (VSMMC) for further evaluation
Passengers released on VHC/Self monitoring for Signs/symptoms for the incubation period length
Aircraft Decontamination
END

ANNEX A

"For your own protection; for the safety of your family and the community

HEALTH CHECK LIST

TO ALL TRAVELERS:

IMPORTANT REMINDER: Accomplish this form honestly and completely to facilitate quarantine procedures. Anyone found giving false information is liable and punishable in accordance with Philippine laws.

Travel History:

Arrival Date_____ Port of Origin_____ Flt #_____ Seat #_____

Countries visited the past three (3) weeks:

[ ] Hongkong [ ] Taiwan [ ] Vietnam [ ] Canada [ ] China

[ ] Thailand [ ] Japan [ ] Singapore [ ] Indonesia [ ] U.S.

[ ] Cambodia [ ] Pakistan [ ] Korea [ ] Laos [ ] Others

Personal Data:

Name:_____

Last Name First Name Middle Name

Sex____ Age____ Nationality _____ Civil Status:_____

Occupation:

[ ] works in a hospital, clinic or nursing home [ ] household help

[ ] others (specify):_____

Address in the Philippines: _____

_____

Tel/Mobile No. _____

Please check if you have any of the following at present or during the past 14 days:

[ ] Fever [ ] Body Weakness [ ] Difficulty of Breathing

[ ] Cough [ ] Diarrhea [ ] Sore Throat

[ ] Headache [ ] others (specify): _____

	Yes	No
Did you visit any health worker, hospital, clinic or nursing home?	[ ]	[ ]
Did you visit any poultry farm, animal market or have been in contact		
With birds/chickens?	[ ]	[ ]
Were you confined in a hospital?	[ ]	[ ]
Do you have any household member/s or close friend/s currently		
Having fever, cough and/or respiratory problems?	[ ]	[ ]

_____

Signature of Passenger

Note: If you have been to a "SARS/BIRD FLU" –infected country:

a. Quarantine or confine yourself at home for 10 days and limit your contact with household members.
b. Should you develop signs and symptoms, cover your mouth and nose with a piece of cloth, handkerchief or surgical mask.
c. You may call any of the following numbers:

Bureau of Quarantine Cebu Station(BOQ):

Tel. (6332) 232-2072 (Cebu) Tel. No. (6332) 233-4283 (Cebu)

(632) 3019101 (Manila)

Department of Health (DOH) Region 7 Tel. No. (6332) 418-7130

Regional Epidemiological Surveillance Unit (RESU) Tel. No. (6332) 418-7629

National Epidemiology Center (NEC) Manila Tel. No. (632) 743-1937

ANNEX B

Department of Health

Bureau of Quarantine

Cebu

HEALTH ALERT NOTICE

For International Travelers Arriving in the Philippines

To the Traveler

Keep this card in your wallet or purse for 2 weeks. If you become ill during this time, give this card to your physician and tell him/her about your recent travel outside the Philippines.

Please be aware of the main symptoms of avian flu: high fever, dry cough and breathing difficulties. If you have been to an avian flu-infected area in the last 10 days and have any of these symptoms, please consult a health authority.

To the Physician

This patient presenting this card has recently been abroad, and could have been exposed to a communicable disease not commonly seen in the Philippines. If you suspect an unusual infectious disease in this instance (avian flu, SARS, Japanese encephalitis, cholera, hemorrhagic fever, malaria, yellow fever, etc.), please report immediately to your Municipal Health Officer or Provincial Health Officer and also to the Bureau of Quarantine.

BOQ Tel. Nos: 232-2072 DOH Regional Office: 418-7130 (Regional Dir.)

(Cebu) 233-4283 418-7629 (RESU)

418-7458 (Disaster Coordinator CHD7)

Text Hotline: 0916-4665823

NEC (Manila) Tel. No: 743-1937

For Foreign Tourists: If you have develop signs and symptoms during your stay, please contact the local health authorities for management and coordination with the Department of Health.

To the PHYSICIANS:

The person presenting this card has recently been abroad, and could have been exposed to a communicable disease. Please refer the individual to the Municipal Health Officer or to the Bureau of Quarantine or Center for Health Development (CHD) for further management and monitoring by the Surveillance Unit of the area.

(Sgd.) EDGARDO C. SABITSANA, MD, MPH, CESO III

Director IV

Bureau of Quarantine & Int'l Health Surveillance

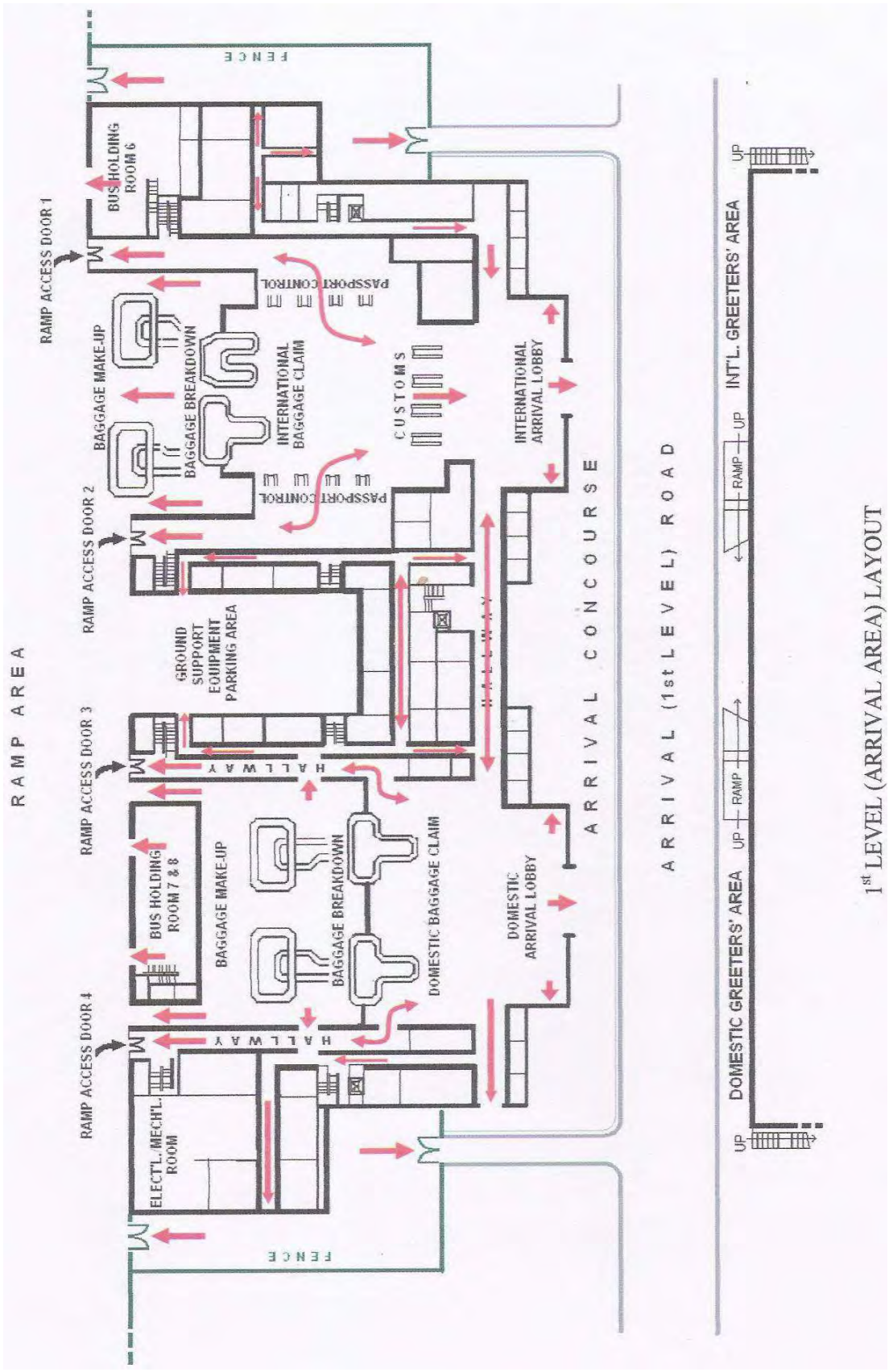
Approved:

(Sgd.) FRANCISCO T. DUQUE, MD, MSc

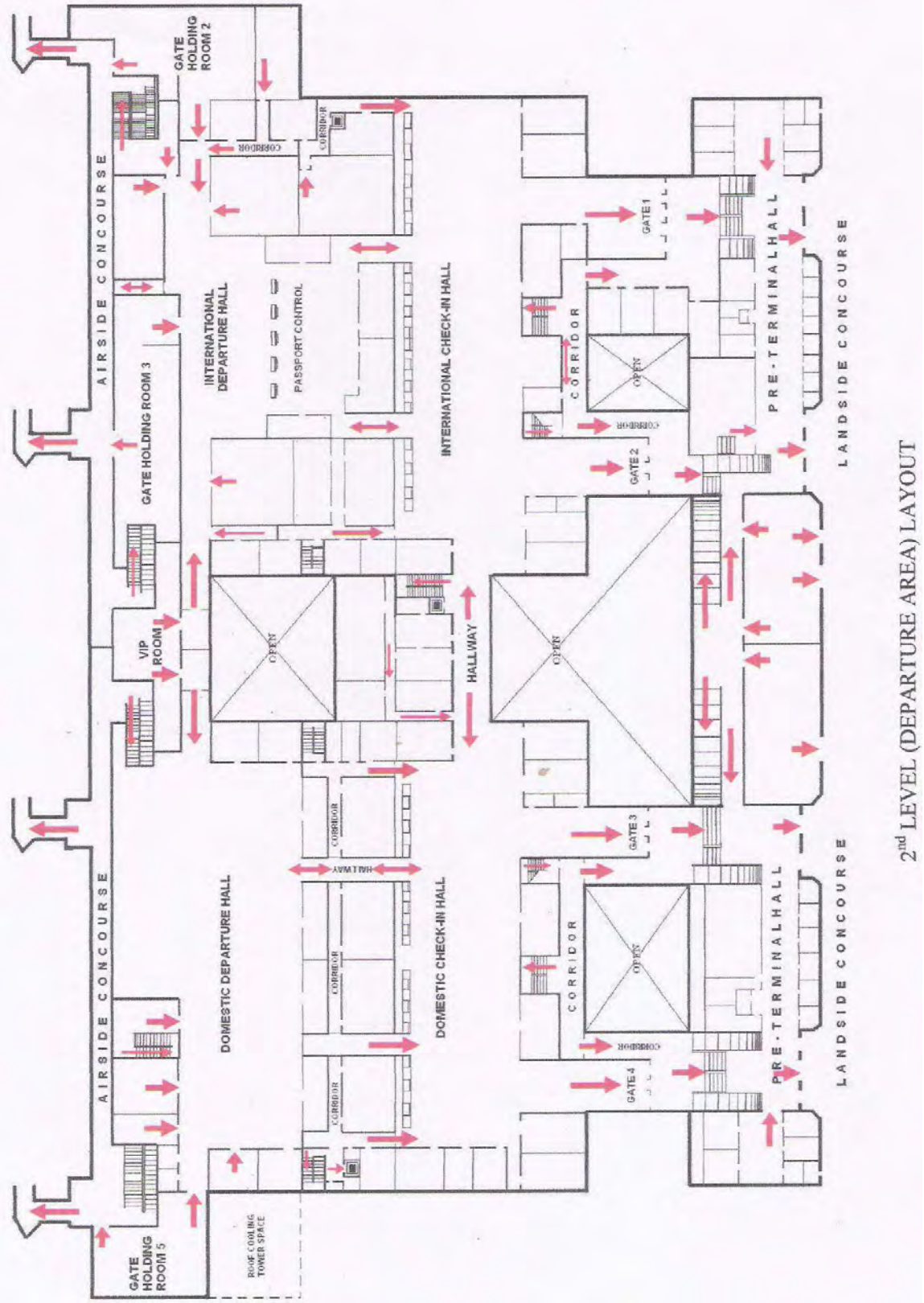
Secretary of Health

POSITION	CALL SIGN
MAERO COMMANDER	ALPHA-1
DEPUTY COMMANDER	ALPHA-2
EMERGENCY COMMAND CENTER	COMMAND CENTER
EMERGENCY OPERATIONS CENTER	OSCAR CHARLIE
ON-SCENE COMMANDER	ON-SCENE COMMANDER
MAIN FIRE STATION	FIREBASE
FIRE CHIEF	FIRE CHIEF
SENIOR FIRE FIGHTER ON DUTY	SIERA FOX
FIRETRUCKS	OSKOSH, KOMODO, FIREBANN
MCIAA MEDICAL	MEDICAL
MEDICAL PERSONNEL	MEDIC-1, 2, 3, 4
AIRPORT POLICE OFFICE	LIMA ECHO
APD CHIEF	APD CHIEF
AIRPORT POLICE DUTY SUPERVISORS	TEAM LEADER
APD SWAT	E R T
AIRPORT POLICE VEHICLES	APACHE-1, 2, 3, 4
DESIGNATED STAGING PERSONNEL	STAGING-1, 2, 3, 4
TRANSPORAT OFFICER	TRANSPO-1, 2, 3, 4
OIC MCIAA SUPPORT GROUP	SUPPORT-1
OPNS STAFF ON-SITE	OC STAFF
COMMUNICATION OFFICER	ECOM-1
CCTV	EYEBALL
MACTAN TOWER	TOWER OR MACTAN TOWER
7TH PCAS AVSEGROUP	7th PCAS
410 SOW, PAF (MACTAN STATION)	KILO NINER

APPENDIX 13 – RADIO CALL SIGNS



APPENDIX 14 - 1st LEVEL EMERGENCY EVACUATION ROUTES TOWARDS SAFE/OPEN AREAS IN CASE OF EARTHQUAKE OR STRUCTURAL FIRE



APPENDIX 15 - 2nd LEVEL EMERGENCY EVACUATION ROUTES TOWARDS SAFE/OPEN AREAS IN CASE OF EARTHQUAKE OR STRUCTURAL FIRE

USER	VHF RADIO (169.0250 Tx/ 171.525 Rx)		UHF RADIO (441.950 Rx/ 446.950 Tx)		VHF/UHF (Dual Band)
	Base Radio	Handheld	Base Radio	Handheld	Handheld
A. Emergency and security Services Dept. (ESSD)					
1. Airport Police Division	3	48		1	24
2. Rescue & Firefighting Div.	4	20	2		
3. Medical Div.	1	4	3	1	
B. Engineering Dept.					
1. Electrical Div.		2		4	
2. Electronics & Communications Div.				3	
3. Civil Works Div.				10	
4. Mechanical Div.				3	
5. Transport & Heavy Eqpt. Div.					
C. Administrative Dept.					
1. General Services Div.				4	
D. Finance Dept.					
1. Collection				2	
E. Operations					
1. Grounds (Opns. Ctr.)	1		1		
2. Domestic Terminal Operations Div.				2	
3. International Terminal Operations Div.				10	
4. General Aviation Div.				2	
F. Others					
1. 7th PCAS - PNP				1	
2. 505th Wing, PAF				1	
3. Mactan Tower				1	
Total	**9**	**74**	**6**	**55**	**24**

Source: ECD

APPENDIX 16 - OPERATIONAL RADIO COMMUNICATION INVENTORY LIST
(As of March, 2010)

MCIAA UHF Frequency – Tone Assignment

Channel 1	441.950 Rx 446.950 Tx		Tone 156.7	
Channel 2	441.950	-	Simplex	
Channel 15	441.950	-	Simplex	Tone: 67.0
Channel 16	441.950	-	Duplex	Tone: 88.5

VHF Frequency Assignment

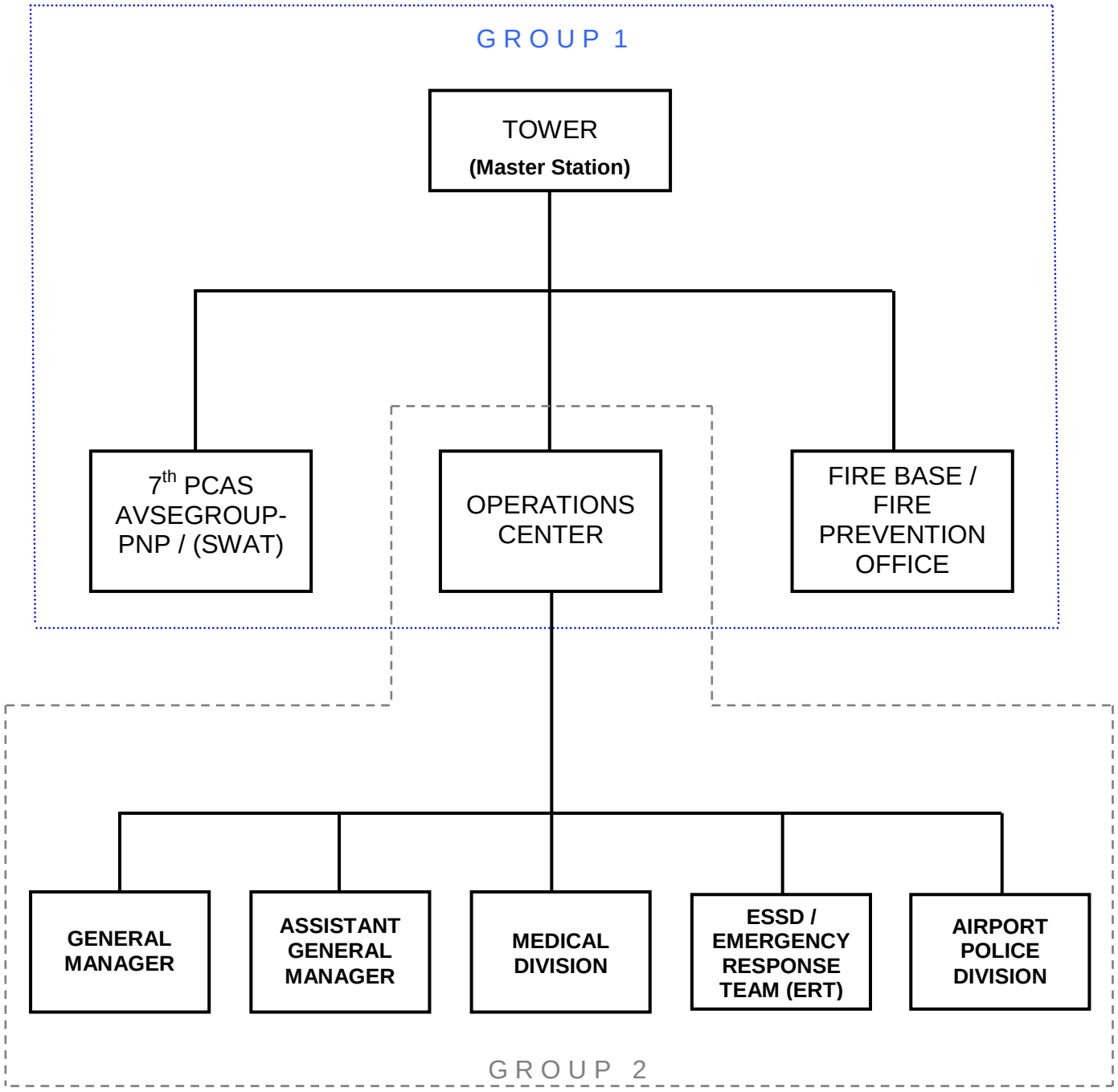
Channel 1 (Duplex)	169.0250 Tx 171.525 Rx	Tone: 88.5 Tone: 88.5	 Airport Police/RFD
Channel 2 (Simplex)	169.0250 Tx 169.0250 Rx	Tone: 88.5 Tone: 88.5	
Channel 3 (Simplex)	169.0250 Tx 169.0250 Rx	Tone: 103.5 Tone: 103.5	

Air Band

118.10 (Pilot – Tower)	Monitoring only
121.8 Tx/Rx	Grounds Control

Source: ECD

APPENDIX 17 – NTC APPROVED FREQUENCIES FOR MCIAA



APPENDIX 18 – HOTLINE CONNECTION CHART

ANNEX 6.2:

AERODROME NOTIFICATION/ EMERGENCY REPORT

Republic of the Philippines
Department of Transportation and Communication
Mactan-Cebu International Airport Authority
RESCUE AND FIREFIGHTING DIVISION
Lapu-Lapu City, Cebu

AERODROME NOTIFICATION / EMERGENCY REPORT

(To be accomplished by Pilot in Command)

COMMERCIAL AIRLINES	*TYPE OF A/C*	*AIRCRAFT REG. NO.*

GENERAL AVIATION A/C	*TYPE OF A/C*	*AIRCRAFT REG. NO.*

FOREIGN AIRCRACT	*TYPE OF A/C*	*AIRCRAFT REG. NO.*

MILITARY AIRCRAFT	*TYPE OF A/C*	*AIRCRAFT REG. NO.*

PILOT IN COMMAND : DATE:

LICENSE NO.: KIND :

NATURE OF EMERGENCY :

PASSENGERS ON BOARD : CREW ON BOARD : TOTAL :

ORIGIN : FUEL LOAD : Pounds/Gallons

(Signature of Pilot in Command)

CERTIFIED BY :

FIRE CREW SUPERVISOR, RFD

NOTE : This form must be attached to the Emergency Response Report
Addressed to the Office of the Airport General Manager.

ANNEX 6.3:

AERODROME EMERGENCY (SUPERVISOR'S REPORT)

Republic of the Philippines
Department of Transportation and Communication
Mactan-Cebu International Airport Authority
RESCUE AND FIREFIGHTING DIVISION
Lapu-Lapu City, Cebu

AERODROME EMERGENCY

SUPERVISOR'S REPORT

SUBMITTED TO :

DATE : _____
TIME : _____

REPORT SENDER : _____
ALARM OPERATOR : _____

EMERGENCY PLAN : _____

TIME	EMERGENCY DETAILS / REMARKS

RESPONDING CREW :

Firetruck : _____
Crew Chief : _____
Driver/Opt : _____
Firefighters : _____
_____
_____
_____
_____

Firetruck : _____
Crew Chief : _____
Driver/Opt : _____
Firefighters : _____
_____
_____
PINO, R
_____

Prepared by :

_____
In-Command, Firebase

Noted by :

_____
OIC, Rescue & Firefighting Division

ATTACHMENT :

Aerodrome Notification / Emergency Report
(for aircraft emergencies only)

ANNEX 7:

GMCAC HUMAN RESOURCES POLICIES

GMCAC – FAQs

Q.1 – What is GMCAC?
GMR Megawide Cebu Airport Corporation (GMCAC) is the Filipino company that has been formed to manage and develop the airport for the next 25 years. Over the next year the existing Terminal 1 will be upgraded to provide a more exciting and efficient travel experience for the passengers. At the same time Terminal 2, a brand new International Terminal will be constructed and it will be open to the public in early 2018 thereby doubling the passenger capacity of the airport.

Q.2 – What is the share holding pattern?
Megawide holds 60% share and GMR India holds 40% Share.

Q.3 – Please let us know more about GMR & Megawide.
Megawide Corporation is one of the Philippines' leading construction firms listed on the Philippine Stock Exchange since 2011 and the company employs advanced construction systems and technologies to deliver numerous construction projects throughout the Philippines. Mega wide Corporation has a market capitalization of $600m and directly employs 10,000 staff.

GMR Group is a world renowned infrastructure developer that has an excellent track record of transforming airports into exciting, efficient award winning airports in India and overseas. The Group owns, develops, operates and manages two major airports in India at New Delhi & Hyderabad, major energy utilities, modern highways and urban infrastructure facilities with an asset base of over US $ 10 billion with over 10,000 employees.

Q.4 – Who is the head of GMCAC?
Louie Ferrer who is currently the Head of Marketing for Megawide is the President of GMCAC and Andrew Harrison who is currently Deputy CEO of Delhi Airport is the Chief Executive Advisor of GMCAC. Andrew will be managing GMCAC's affairs and day-to-day operations of the airport.

Q.5 – Will I get the same salary or more if I join GMCAC?
We will not be making any salary reductions and whatever monetary benefits you are currently getting from MCIAA will be maintained. There will not be any reduction in any of your components. GMCAC is currently studying the different benefits which you are getting and based on that we will work out a new structure; however the current salary will be protected.

Q.6 – Will I get any benefits from MCIAA if I join GMCAC?
We are sorry that we are not qualified to answer this question and we kindly suggest that you contact MCIAA HR for a response.

GMCAC – FAQs

Q.7 – I am not there in the list of 94, however I want to join GMCAC, can I apply? Will there be a formal interview process?
Yes, if you meet the required criteria mentioned in the ad and notice, you may please apply. And yes, you will go through the same interview process which will be applicable for others.

Q.8 – Will I get any extra weightage for my experience with MCIAA?
During the interview process we will naturally consider your current skill-set, expertise and potential in the GMCAC role.

Q.9 – My name is not a part of the list, however I am applying for the job with GMCAC, what will be my salary? Will I get the same salary that I get in MCIAA? What about my position?
You may apply for any suitable job and your hiring will be subject to the selection criteria which is applicable for all the candidates. The applicable salary for the job that you are applying will be based on the salary for that position which will be clearly communicated to you during the process.

Q.10 – I heard that if privatization comes, there will be lot of strict performance measures; hence I am scared that I may lose my job?
No, this is a myth. Performance measures should not make anyone insecure about their jobs. MCIAA also has performance measures as do many other companies and it should be noted that just as performance measures highlight employee areas of improvement it is the same performance measures that reward employees for exemplary performances. Employee performance measures is a clear and well-defined process that we believe all employees will appreciate rather than be concerned with. This is because such systems are designed to enhance the employee and organization's capability.

Q.11 – What will be the total number of employees required for GMCAC, how many expats will be hired?
We have a total requirement of 197 as we are not taking over the entire operations of the airport. MCIAA will still have some of the functions with them. Of that number, between 7-10 employees are likely to be expats. The remaining positions will all be filled by Filipinos. There are an additional number of expats, with specific domain knowledge and expertise, who are here for 6-8 months to support the transition and training of GMCAC staff. At the end of that period these expats will go back to their original roles within GMR. Our preference to fill roles will always be with Filipinos as this is a Filipino company.

GMCAC – FAQs

Q.12 – Will the shuttle service be discontinued for the employees?
No, the shuttle service will not be discontinued as it is a big advantage for the staff now. Also we will see how we can enhance this facility.

Q.13 – Will there be new canteen for the staff?
Issues such as canteens for staff are one of the numerous issues that are being examined and whilst it is our firm belief that there should be such facilities and we are in the process of evaluating how Terminal 1 has to be enhanced. We will update you shortly on this aspect.

Q.14 – I am currently not paid up to the market level and my performance, when will my salary be corrected?
GMCAC doesn't want to rush into any correction at this point of time; however it's a commitment from us that we will do a very transparent market compensation study by an independent consultant called Tower Watson to consider the job bands and rate of pay. The findings of the study will be shared and presented to GMCAC employees and at that time we will also advise what action, if any, which GMCAC will take to address the findings of the report.

Q.15 – When will be the first performance evaluation process?
There will be both half yearly and annual appraisals. It will be from January – June and July to December.

Q.16 – I don't want to sign the GMCAC offer now; I need some time to take a decision?
The time period to sign GMCAC offer is from 21st July 2014 to 28th July 2014. We will close this window after 28th July 2014 and based on the number of remaining positions where MCIAA staffs have not signed, we will offer these positions to other MCIAA employees and the external candidates. We have received more than 500 applications from Cebu and Manila who are seeking an opportunity to work for GMCAC. However, we would always want to give the first opportunity to the MCIAA team, but as we need to take over the Airport and train the new staff, the window period to sign the offer for MCIAA will be for seven days and after this stipulated time, we will not be able to extend the window for acceptance beyond 28th of July 2014 to ensure that we are ready for take over at the end of October.

Q.17 – Whom should I contact from GMCAC HR if I have any further queries?
You may please contact the following HR personnel from GMCAC HR Team:

- **Magesh Nambiar – +63 917 565 3206**
- **Maeann Forcadilla– + 63 917 625 3869**

TRAINING

GMR Aviation Academy

The GMR Aviation Academy (AA) was set up in 2009 with the immediate objective of providing professional training and enhancing the knowledge and skills of GMR Airports personnel and also to provide highly talented manpower for the Global Aviation Industry, especially in Asia-Pacific Region.

It has emerged as a global gateway for aviation learning in India. We facilitate Airports Council International (ACI) Training Programs, organize and host International Civil Aviation Organization (ICAO) Trainings Programs, conduct International Air Transport Association (IATA) certificate Training Programs, provide Directorate General of Civil Aviation (DGCA) approved Dangerous Goods Training Programs. GMR Aviation Academy has signed a Sister Airports Agreement with Incheon Airport Aviation Academy to share expertise, knowledge and establish aviation training programs.

Training Calender for GMCAC

Sno.	From	To	Program Title/Course
1	4-Aug-14	5-Aug-14	Introduction to Airport Business
2	6-Aug-14	8-Aug-14	Introduction to Annex 14
3	11-Aug-14	11-Aug-14	Human Factors
4	12-Aug-14	12-Aug-14	Basics of Airport Operations Control Center
5	13-Aug-14	14-Aug-14	Annex 9
6	15-Aug-14	15-Aug-14	Security Awareness Program
7	18-Aug-14	22-Aug-14	E&M Installations of Terminal Building
8	25-Aug-14	29-Aug-14	Pavement Maintenance
9	1-Sep-14	5-Sep-14	Advanced Annex 14
10	8-Sep-14	10-Sep-14	E&M Installations at Operations Area
11	11-Sep-14	12-Sep-14	Basics of Airside Operations
12	15-Sep-14	19-Sep-14	Facilities Management System
13	22-Sep-14	22-Sep-14	Baggage Handling System
14	23-Sep-14	25-Sep-14	Introduction to Annex 14
15	26-Sep-14	26-Sep-14	Airport Emergency Plan
16	30-Sep-14	30-Sep-14	Safety Management System
17	1-Oct-14	3-Oct-14	Airport Service Quality
18	8-Oct-14	10-Oct-14	E&M Installations at Terminal Buildings and Operational Area
19	13-Oct-14	17-Oct-14	Advanced Annex 14
20	20-Oct-14	20-Oct-14	Basic Health of Occupational Health and SMS
21	28-Oct-14	30-Oct-14	CCTV Monitoring and Video Analysis

MARRIAGE GIFT

POLICY & PROCEDURE

- Gift cheque of PHP 15,000/– is given only to an employee marrying for the first time. The amount will be paid through the monthly payroll subject to deduction of tax.

ANNUAL HEALTH CHECK UP

ELIGIBILITY AND APPLICABILITY

- Below 45 years: Once in two years @ Grade 3 & above.
- Employee's spouse above 50 years of age is also covered under annual health checkup.
- Medical checkup twice in a year for Drivers, Security Guards, Cooks and Office Boys.

POLICY & PROCEDURE

- Employees should contact HR Department to request an appointment date and collect a letter to submit it to the hospital on the day of check–up.
- HR will make necessary arrangements for appointment

HIGHER EDUCATION ASSISTANCE FOR EMPLOYEES' CHILDREN

ELIGIBILITY AND APPLICABILITY

- The Policy is applicable to all permanent employees of the company, who have completed two years of service with GMCAC and is applicable for up to two children.
- Children who secure admission in recognized institutions in Philippines or overseas are eligible for financial assistance for the duration of the course, subject to successfully each year and obtain minimum 60% marks each year.
- The top 10 students shall be awarded up to Php 50,000/– each year towards meeting the educational expenses which shall include: Enrolment fees, Examination fees, Tuition fees, Expenses towards Books.
- Employees who would like to avail this facility need to make an application in the prescribed format before **30th September** each year

MERIT REWARD TO EMPLOYEES' CHILDREN

Eligibility & Applicability

- The policy is applicable to all employees on regular rolls of GMCAC.

Policy & Procedure

- A cash prize / Gift Cheque would be awarded to the employee's children who secure highest marks in Schools / Colleges as indicated below:
- SSLC / X Standard – Highest marks in the school (minimum 70%) – at each school level –Php 1000/- per child.
- II PUC / XII Standard – Highest marks in the school/college (minimum 70%) – at each school / college level – Php 1500/- per child.
- BA / B.SC / B.Com – Highest marks in the college (minimum 70%) – at each College level – Php 3000/- per child.
- All PG / Professional Courses – Highest marks in the college (minimum 70%) – at college level – Php 5000/- each.

CHILD EDUCATIONAL ASSISTANCE POLICY

Eligibility & Applicability

- All employees on regular rolls of GMCAC in the Grade 1, having less than Php 15,000/- PM take home salary.

Policy & Procedure

The reimbursement is made:-

- Towards meeting the expenses of School fee, Hostel fee, Uniforms (maximum of 3 sets), Cost of textbooks, Computer learning conducted by school etc.
- Maximum Php 6000/- PA/per child is done towards meeting the above-specified expenses for 2 children only.
- On the basis of relevant receipts / bills or in the absence of receipts, a certified letter from the Institution is required.
- Quarterly by Business Accounts (during March, June September and December of a year).
- On the basis of relevant receipts / bills or in the absence of receipts, a certified letter from the Institution is required.

KNOWLEDGE MANAGEMENT (REWARDS & RECOGNITION)

Knowledge Management is a process of capturing, organizing, and storing experiences and learning of employees and groups within an organization and making it available to others. By collecting those artifacts in a central or distributed electronic environment KM aims to help a company gain competitive advantage.

Policy & Procedure

The incentive plan has been described on three parameters; the KM contributors, KM users and KM champions.

- **KM Contributor**: The KM contributor is the person who has contributed the maximum to KM during the period under consideration i.e. quarterly.
- **KM User**: The KM User is the person who has made maximum use of the KM during the period under consideration i.e. quarterly.
- **KM Champion**: KM Champion is the person who has had the maximum overall involvement, both as a contributor and as a user, in KM during in the period under consideration i.e. annually.
- **KM Spot Awards**: Spot awards are to be given out to employees as and when identified for 'any significant contribution to KM' or 'any significant usage of the KM that has resulted in quantifiable business benefit'.

Each of the winners from the Businesses under the different categories can be rewarded as:

- KM Contributor – Php 10,000/–
- KM User – Php 10,000/–
- KM Champion – Php 50,000/–

Group Level Schemes can be announced by the CEA based on feasibility/budgets

- The employees may be rewarded in any of the following manner subject to announcement of the Group level schemes by the CEA and feasibility / budgets.
- Holiday package for the winners.
- Nominate winners for specialized short–term training programs in top institutions / universities.
- Celebration through group picnics.
- Personal meeting with GCM over coffee/dinner.
- Outstanding performers will be given an opportunity to present their work at offsite meets besides given time to do local sightseeing etc by the company.

PERSONAL LOAN POLICY

Objective

To assist employees to meet unforeseen personal expenditure that may arise due to purchase of household goods, emergency medical expenses and children education or marriage (i.e. for self, dependent children & sisters). Reason for Loan to be specified in the Application Form.

Eligibility & Applicability

- All employees on regular rolls of GMCAC who have completed one year of service.

Policy And Procedure

1. Accomplish application form and attach requirements
2. Submit the requirements to HR
3. Maybank / HSBC will notify the approved applications within 2–3 working days

Salary Loan Features

Interest rate	:	0.82% per month
Loanable amount	:	3X of gross income
Terms of payment	:	6 months to 36 months

INTERNAL JOB POSTING (IJP)

Objective

- To provide an opportunity to existing employees to seek new jobs available in the Business /Group companies.
- IJP as a Policy is an employee initiated process for self-development and progression.

Eligibility

- All the employees on regular rolls of GMCAC excluding Advisors/ Consultants
- Be in the Grade of 3 & Below
- Have worked in the current role in GMCAC for a minimum of 2 years.
- Possess relevant qualification, experience and competency for the new job.
- Not have been hired in the current role through internal job posting / job rotation in the last 12 months

Policy & Procedure

- The current openings posted for IJP should be made available in the Employee self-service (ESS) in company portal.
- An employee applying for the job must also submit an updated resume for IJP through Employee Self Service in company portal.
- An employee may apply directly under copy to the immediate manager. The application will be disqualified if the immediate manager is found not informed.
- The immediate Manager is expected to forward the application with his recommendations.
- An employee applying through IJP can also seek an opportunity to apply for higher Grade only if s/he possesses the required qualification, experience and other attributes required for that Grade.
- An appropriate selection process including interview will be put in place.
- In the event of two or more employees being shortlisted through IJP for the same job, the one who ranks higher on merit will be selected.
- Information of the final selection will be sent to the internal candidate and CEA through HR.
- The transition period for movement of an employee from the current role to the new role, will be based on the business needs & criticality.
- An employee selected through the IJP will not be restricted from taking on the new role/position.
- The transition period will not in any case, exceed 5 weeks from the date of selection and 12 weeks from the date of the announcement of the job.

SKIP LEVEL MEETING

Eligibility & Applicability

All employees on regular rolls of GMCAC excluding Advisors/ Consultants.

Policy & Procedure

- Skip Level Manager will be two levels above in the hierarchy of the employees participating in the Skip Level Meeting.
- A group of employees (6–8 nos.) of the same department may be invited to meet the Skip level Manager half–yearly.
- The meeting will be carried out without the presence of the employee's immediate reporting manager.
- Skip level Manager must provide an opportunity for the employees to suggest improvements in the work place, Business performance and also seek clarity on existing/new systems /policy.
- Skip Level Manager must take direct responsibility to resolve the queries/clarifications raised during the meeting within two weeks.
- Some of the Do's & Don'ts to be followed by the employees & Skip Level Managers but not limited to the following are:

	Do's	Don'ts
Skip Level Manager	Build rapport and trust amongst the employees before starting the skip meeting	Make Commitments to the employees without stakeholder check
	Discuss broad themes / concerns / opportunities with the direct supervisor of the employees	
	Cover topics specified in the agenda & encourage employees to ask questions & give feedback	
	Limit the discussion to constructive criticism to bring out positive climate	
Employee	Be aware of the agenda before attending the meeting	Raise Questions related to salary disparity, performance reward & increments etc
	Be open and raise question related to the agenda. Give suggestion and feedback	

WHISTLE BLOWER POLICY

Policy & Procedure

- Constitutes of Malpractice, Impropriety, Abuse or Wrongdoing.
- To provide a platform for employees to disclose information internally, without fear of reprisal or victimization.
- Any unlawful act, whether criminal (e.g. theft) or a breach of the civil law (e.g. slander or libel) or abuse of power is some of the issues which may be raised under this policy.
- The registration of the complaint could be through an e–mail to gmr@ethicshelpline.in or by way of a written complaint to the Group Ombudsmen.
- The Concern shall be investigated by the Group Ombudsperson either by himself or through any other person as deemed necessary by the Group Ombudsperson.
- The Ombudsperson has to acknowledgement of the receipt– within 3 working days and the Closing the matter within 30 days.

POLICY AGAINST SEXUAL HARASSMENT

Policy & Procedure

GMCAC recognizes that sexual harassment violates fundamental rights of gender equality, right to life and liberty and right to work with human dignity as guaranteed by the Constitution of India.

- Sexual Harassment is a criminal offence and punishable under relevant laws of the Country.
- This policy on Sexual Harassment applies to men and women.
- The Committee against sexual harassment will be represented by minimum 50% of members being women and the Committee Head will also be a woman.
- Any person who wants to complain on sexual harassment is required to promptly inform the Committee against sexual harassment of such complaint, in writing and duly signed at gmr@ethicshelpline.in or by way of a written complaint addressed to the Head of the Committee.
- In case the employee who has made the complaint feels that the Committee against sexual harassment has not provided her/him due justice, the complaint can be escalated to President
- The time frame for investigating and closing the case is 3 months from the time it is brought to the notice of the Committee.

GRIEVANCE MANAGEMENT POLICY

Individual Employee grievances and complaints which are primarily a manifestation of their dissatisfaction about working conditions, managerial decisions, if not promptly attended to may affect morale and productivity.

Grievance, for the purpose of this policy will mean dissatisfaction arising out of the decision of the Management concerning the employee. Grievance for the purpose of this procedure will only cover individual grievance such as:

- Interpersonal Conflicts/Issues with the Superior or team members
- Payment of Salary
- Recovery of dues etc
- Working Conditions/ Health and Safety
- Leave and Attendance
- Medical Insurance/ Facilities
- Non- extension of benefits under rules
- Transfer
- FMS Related Issues
  (telephone, mobile, transport, food, guesthouse etc).
- HR Policy Administration
- Loan Administration

Procedure:

The individual can raise grievance according to this procedure:

STAGE–I

- The aggrieved employee may take up the grievance in writing with the immediate manager, who must try to resolve the grievance at that level within 5 working days.
- In case the employee is not satisfied with the redressal of the grievance he/ her may submit the grievance, in writing, to the Head of department within 2 working days

STAGE– II

- In case the employee is not satisfied with the decision communicated to him/ her at Stage-I or if she/he fails to receive the reply within the stipulated period, she/he may submit the grievance to CEA who must give a personal hearing to the grievance and a brief of same should be documented.
- The CEA will examine the grievance in detail including discussions with the aggrieved employee, as necessary. The CEA will give his /her reply to the aggrieved employee within 10 working days from the date of receipt of the grievance. CEA may consult an expert neutral consultant or committee before taking final decision on the grievance.
- Grievances pertaining to PMP such as Promotion, Compensation & Benefits or Performance Management Process on whole, the normalization process followed in the business will be invoked subject to there being a strong prima facie case for review as decided and recommended by CEA.

STAGE– III

- The aggrieved employee who is not satisfied with the decision of the CEA will have an option to appeal to BCM with the detailed reasons for the appeal.
- The BCM will take a decision and communicate the same within 7 working days from the receipt of the appeal and the decision will be final and binding.

GROUP CHAIRMAN'S OUTSTANDING ACHIEVEMENT AWARD

Purpose

- To foster high performance culture across GMCAC, covering individuals and work teams:
- To recognize significant and outstanding value-added contributions, while performing the duties inspite of various constraints.
- To create "role models" for others to emulate.
- To set standards of high performance and to encourage a team-oriented work culture.
- To encourage innovation and creativity.

Policy & Procedure

THE AWARD

Individual Awards

- Cash award of Php15,000/- for Group Chairman's Outstanding Individual Achievement Award
- Cash award of Php 15,000/- for the Outstanding Emerging Talent Award
- The award shall also carry a Citation and a Silver Memento

Team Awards

- Cash award of Php10,000/- per member subject to a maximum of Php50,000/- per team for Outstanding Achievement Award (Business/Sector).
- Cash award of Php 10,000/- per member subject to a maximum of Php 50,000/- per team for Outstanding Team Achievement Award (Shared Services).
- The award shall also carry a citation, a silver plate to each member and a "Rolling Cup" for the team.

COMMUNICATION AND COORDINATION

Purpose

- To establish a process for you to effectively communicate and coordinate across GMCAC.

Policy & Procedure

- You will be communicated on business matters for your better understanding of the organization performance related to business, competition, business strategies and future plans.
- You will get the communication regarding new policies, OD initiatives, training initiatives, etc.
- You will receive communication about the financial performance of the company.
- You will be provided with the procedure for grievance resolution.
- Your interpersonal conflicts will be resolved by your HOD, provided you communicate your problems to him/her.
- You will have different intradepartmental and interdepartmental meetings.

WORK ENVIRONMENT POLICY

Purpose

- To create a healthy and secure work environment for you at all times in accordance with the technical and social advancement of the society.

Policy & Procedure

You will be provided with Workstation, PC, Access Card, ID card, Stationary, extension, etc. based on your Grades.

- Facilities are provided to you as per set Time Lines and Availability, depending on grades.
- You will be having 24/7 network connectivity.
- You can avail first aid and ambulance facility, in case on any medical problem.
- Lunch room and cafeteria is there for you, where you can have your lunch and snacks.

PERFORMANCE MANAGEMENT PROCESS (PMP)

Purpose

- Continually monitor and evaluate your performance as a feedback mechanism.
- Develop your skills through Training & Development Programs
- Reward you at different levels based on your performance.

Policy & Procedure

- You will make your goal sheet in line with the AOP through a formal dialogue with your superior.
- You will be given Training for the goal setting process.
- You shall formalize your goal-sheet duly signed-off by your supervisor within 45 days from the date of your joining the Organization.
- The performance will be reviewed twice a year, i.e, half yearly & annual (Jan – June) (July – December)
- Half yearly dialogue is a pre-requisite to become eligible for a rating at EE or FEE in the annual appraisal.
- You will be provided with opportunity to address your performance gaps which would be identified during PMP.

Your performance will be assessed on a four level rating as shown below:

Ratings Scale
FEE-Far Exceeds Expectations
EE- Exceeds Expectations
ME- Meets Expectations
BE*- Below expectations

* Individuals rated BE will be on 6 months Performance Improvement Plan (PIP)

GUIDELINES ON USE OF SOCIAL MEDIA

Guidelines

Following should be kept in mind while sharing GMCAC–related information:

- Don't post anything that could reflect negatively on GMCAC or otherwise cause embarrassment to the organization.
- Don't indulge in ethnic slurs, personal insults, obscenity, or do anything which would not otherwise be acceptable in your workplace at GMCAC
- Respect people's privacy and refrain from expressing controversial comments about governments, politicians, bureaucrats, competitors, partners, etc. and /or objectionable or inflammatory comments on religion.
- Respect the law, including those laws governing defamation, discrimination, harassment, and copyright and fair use.
- Don't use the GMCAC logo, unless specifically authorized to do so.
- Refrain from disclosing GMCAC (or anyone else's) confidential and proprietary information, such as current or anticipated projects, software, research, patents, processes, techniques, designs, or other technical data.
- Don't refer GMCAC employees, partners or vendors without their prior approval.
- In case you want to post content on any website which is not internal to GMCAC use a disclaimer.
- If your post pertains to GMCAC official business, be sure that that you are authorized to make such statements on behalf of the organization.
- Ensure that your social networking conduct is consistent with the all policies contained in the GMCAC Employee Handbook and GMCAC Code of Business Ethics.
- Make sure that your online activities do not affect your job performance adversely.

EMPLOYEE RECOGNITION

Objective

- To recognize specific contribution / achievement during the working hours (same day)
- To promote recognition amongst employees at workplace leading to employee bonding, teamwork and building a culture of mutual appreciation.
- To recognize and reward an employee for their initiatives taken / endeavor to contribute substantially towards the organizational objectives.

Thank you card

- Can be issued by all the employees
- To be issued to colleagues who have helped you or made your life a bit easier
- You can say thank you to your boss also
- Only one thank you card for one particular instance / event
- Any number of cards can be issued by the employees.

Well done card

- Issued by Managers and above who are not HOD's
- To be given to employees who have gone the extra mile, achieved a tight timeline or did a task that needs recognition but not as much as SOM nomination
- Managers / AM with reporting needs to approach the HOD of their team, in case they want to give the well-done card to their team members.

Gold Card

- Issued by GM and above who are HOD's
- Similar to well Done Card expect that it's distributed by the HOD hence more valuable.

Diamond Card

- Issued by CEA
- Similar to Well Done Card expect that it's distributed by CEA the most valuable value card.

EMPLOYEE RECOGNITION

Redeem cards for attractive prizes:

- 10 thank you & 3 well done cards: Gift Voucher worth PHP 100/–
- 5 Well done cards : Gift Voucher worth PHP 200/–
- 2 Golden cards : Gift Voucher worth PHP 400/–
- 1 Diamond card : Gift Voucher worth PHP 750/

STAR OF THE MONTH

Objective

- To recognize good performance
- To promote positive behavior
- To foster a culture of Improvement and Employee Involvement

Procedure

- Details of the nomination should be filled in the format
- In the form Immediate superior / reporting Manager or HOD shall explain the reason for nomination
- Attendance also plays a major role in selection
  a) Nominees' sick leave should not exceed more than 2 days during the nominated month.
  b) Nominees' should not have an 'absence' during the nominated month.
- From the Nominations Star of the Month and Employee of the month are selected
- A Certificate and a gift voucher worth PHP 500/– will be given for STAR's OF THE QUARTER and PHP 1000/– for EMPLOYEE OF THE YEAR WITH A LUNCH WITH CEA.

ANNEX 8:

WORK ENVIRONMENT MEASURE REPORT

Republic of the Philippines
Department of Labor and Employment
Occupational Safety and Health Center
North Avenue Cor. Agham Road,
Diliman, Quezon City

WORK ENVIRONMENT MEASUREMENT REPORT

ECD-12-109-W

COMPANY PROFILE

Name of Establishment: ***Mactan-Cebu International Airport Authority***							
Address: *Airport Rd., Lapu-lapu City*						Date of WEM: *July 3, 2012*	
Nature of Business or Type of Industry	*Airport Administration*					Time of Measurement: *8:00 a.m. – 5:00 p.m.*	
Number of Workers / Personnel:						No. of Work Shifts: *One (1)*	No. of working hours/shift: *Eight (8)*
Total:	*588*	Male:	*528*	Female:	*60*		
Name of Requesting Official	*Mr. Zoe Achilles Villordon*					Position: *Safety Officer*	Tel : *(032) 340-2486* Fax : *(032) 340-5233*
Purpose of the Request For WEM	*In compliance with the Occupational Safety and Health Standards (OSHS), Department of Labor and Employment (DOLE) on Work Environment Measurement for the purpose of providing safe and healthy work environment.*						

GENERAL CONDITIONS AND OBSERVATIONS DURING MEASUREMENT

Baggage Area - Domestic	
Parameters Measured	Dust, Noise and General Ventilation
Description of Workarea	Enclosed and not air conditioned; five (5) condensers of air conditioning units at Waiting Lounges 7 and 8 installed inside the area.
Area Air Temperature (AT) and Relative Humidity (RH)	31°C and 60%
Type and Source of Noise	Continuous-type noise from condenser, conveyors and forklift.
Ventilation Equipment used	Industrial ventilating fans (provided at PAL Area only)
Number, Gender and Activities of Workers	One (1) female and thirty-three (33) males engaged in loading and unloading of baggage from conveyors.
Other Observation	Diesel-operated forklift used inside the area

Collection Area	
Parameters Measured	Dust, Carbon Dioxide and Illumination
Description of Workarea	Enclosed and air-conditioned
Area AT and RH	28°C and 54%
Type of Lighting	General lighting using 2x36 watts (T8) fluorescent lamps
Number, Gender and Activities of Workers	Seven (7) females and three (3) males engaged in routine computer and office desk works and accounting.
Other Observation	Some lights were turned off

Cashiering Area	
Parameters Measured	Dust, Carbon Dioxide and Illumination
Description of Workarea	Enclosed and air-conditioned
Area AT and RH	27°C and 55%
Type of Lighting	General lighting using 2x36 watts (T8) fluorescent lamps
Number, Gender and Activities of Workers	Nine (9) females engaged in routine computer and desk works and accounting.
Other Observation	Some lights were turned off

Property Department	
Parameters Measured	Dust, Carbon Dioxide and Illumination
Description of Workarea	Enclosed and air-conditioned
Area AT and RH	27°C and 54%
Type of Lighting	General lighting using 2x36 watts (T8) fluorescent lamps
Number, Gender and Activities of Workers	Two (2) females and three (3) males engaged in computer works
Other Observation	Only 1 bulb per set of lightings was turned on

Civil Works Area	
Parameters Measured	Carbon Dioxide and Illumination
Description of Workarea	Enclosed and air-conditioned
Area AT and RH	27°C and 52%
Type of Lighting	General lighting using 2x36 watts (T8) fluorescent lamps
Number, Gender and Activities of Workers	Three (3) females and six (6) males engaged in routine office desk and computer works
Other Observation	Only 1 bulb per set of lightings was turned on

Accounting Dept.	
Parameters Measured	Dust, Carbon Dioxide and Illumination
Description of Workarea	Enclosed and air-conditioned
Area AT and RH	28°C and 51%
Type of Lighting	General lighting using 2x36 watts (T8) fluorescent lamps
Number, Gender and Activities of Workers	Ten (10) females and one (1) male engaged in routine office desk and computer works

RESULTS OF WORK ENVIRONMENT MEASUREMENT

I. DUST MEASUREMENT

A. Equipment and Sampling Method

Measuring Equipment: ***High Volume Sampler***	Collection Method: ***Filtration Method***	Pump Suction Flow rate: ***410 L/min.***
Type of Sampling: ***Area Sampling***	Analytical Method / Analytical Equipment: ***Gravimetric Method*** ***Electronic Analytical Balance AE240, Mettler Brand***	

B. Results of Measurement

Workarea	Area Concentration, mg/m^3		Evaluation
	Total	Respirable	
1) **Collection Office** (middle area)	0.08	0.02	Passed
2) **Property Department** (front of Ms. Evangeline Garcia's table)	0.08	0.01	
3) **Cashier Area** (middle area)	0.052	0.011	
***IAQ) Standards - Minimum Risk Level (MRL), based on ASHRAE**	**0.26 mg/m^3**	**0.15 mg/m^3**	
4) **Baggage Area, Domestic** (middle area - between Conveyors 1 and 2)	0.58	0.13	Passed
** **TLV based on OSHS, DOLE**	**10 mg/m^3**	**5 mg/m^3**	

Definition of Terms:

Indoor Air Quality (IAQ) Standards – In non-industrial settings such as offices, schools, hospitals and stores, occupants may be exposed to low levels of many contaminants at the same time, without personal protective equipment. In these situations, stress and discomfort are normally the main concerns (not occupational disease). General guidelines for IAQ are used instead of specific occupational exposure limits. The ***American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) and American Conference of Governmental Industrial Hygienists (ACGIH) Standards*** are widely used as guides.

Threshold Limit Value-Time Weighted Average – the time weighted average concentration for a normal 8-hour workday and a 40-hour workweek, to which nearly all workers may be repeatedly exposed, day after day without adverse effects.

Dust - a small solid particles created by the breaking up of larger particles with aerodynamic diameters ranging from 0.005 to 100 micrometer (*um*).

Respirable Dust – that fraction of total dust which pass through a selector whose size is 7 microns or less in diameter which can be inhaled or deposited in the lungs.

Total Dust – all dust particles in the workarea.

mg/m^3 – milligrams of particulate per cubic meter of air.

C. Recommendations

- Maintain high standard of cleanliness in the areas and conduct proper housekeeping.
- Use battery-operated forklift inside the Domestic Baggage Area to reduce dust and gas emission in the area.

II. CARBON DIOXIDE MEASUREMENT

A. Measuring Equipment: Multiple Gas Detector, Industrial Scientific Brand, Model TMX 412

B. Results of Measurement:

Area / Measuring Points	Carbon Dioxide Area Concentration, ppm	Evaluation
1) Collection Area ▪ Middle Area	1600	Passed
2) Cashiering Area ▪ Middle Area	1600	Passed
3) Accounting Dept. ▪ Middle Area	1100	Passed
4) Property Dept. ▪ Middle area	200	Passed
5) Civil Works Area ▪ Middle Area	1000	Passed
TLV based on OSHS, DOLE	**5000 ppm**	

ppm – parts of vapor per million parts of air plus vapor by volume at STP.

C. Recommendations

- Regularly maintain ventilation systems including cleaning of air handling units.
- Ensure that air supply and intake openings are not obstructed.

III. NOISE MEASUREMENT

A. Measuring Instrument: Sound Level Meter, Rion Brand, Model NL-10A

B. Unit of Measurement: Decibels, dB(A)

C. Results of Measurement

Area / Measuring Points	Noise Level, dB(A)	Evaluation
1) Chiller No. 4 (1 hour exposure per day)		
- at control panel	92-93	Action Level
- front, Chiller controller 2	85-86	
- near door	69-70	Passed
Permissible Noise Exposure Level (PNEL) for 1-hour working exposure per day, based on OSHS, DOLE	**105 dB(A)**	
2) Control Room		
- front, control panel	70-71	Passed
- near outside door	82-83	
3) Baggage area		
- Front of Conveyor 1 (without luggage)	80	Passed
- Front of Conveyor 1 (with luggage)	86	Action Level
- Near Guards' working table	81	Passed
- Near luggage carrier	87	Action Level
- At dropped-off of luggage carrier metal hook	87	
PNEL for an 8-hour working exposure per day, based on OSHS, DOLE	**90 dB(A)**	

PNEL Table indicating the different sound levels and its corresponding allowable hours of exposure.

Duration per day, hours	**Sound Levels, dBA** (slow response)
8	90
6	92
4	95
3	97
2	100
1-1/2	102
1	105
½	110
¼	115*

**Ceiling value: No exposure in excess of 115 dBA is allowed*

D. Recommendations

- Provide regular maintenance of equipment such as by cleaning, applying oil and grease on rotating parts, etc. to reduce the noise generated by the machines.
- Post warning signage requiring the use of hearing protectors at the entrance of noisy areas to inform workers on the hazards of excessive noise exposure.
- Strictly implement the use of hearing protectors particularly in areas where noise levels reached the action level of 85 decibel and where noise level exceeded the PNEL.
- Develop and implement a continuing hearing conservation program with the following components: annual audits, engineering and administrative controls, use of hearing protectors, education and motivation, etc.
- As part of the annual medical examination, conduct audiometric evaluation to workers regularly exposed to excessive noise. Comparison of annual results from the baseline can provide safety and health personnel measures to prevent further hearing loss of affected workers.

Prolonged exposure of workers to excessive noise can lead to noise induced hearing loss (NIHL), considered an occupational illness. Since its progression is gradual, hearing ability decreases over the years. Hearing impairment usually depends on the level of noise, the duration of exposure and the susceptibility of the workers concerned. Unfortunately, though preventable, NIHL is irreversible. It should also be noted that even at normal noise levels, exposed workers should take precautions since their daily exposure to noise may have cumulative effects.

IV. ILLUMINATION MEASUREMENT

A. Measuring Instrument: Digital Light Meter, Extech Brand, Model 401025

B. Unit of Measurement: lux

C. Results of Measurement

Area / Measuring Points	Illumination Level, lux	Prescribed Minimum Illumination Level, lux	Evaluation
1) Chiller No. 4			
▪ At control panel	150	300	Failed
▪ Chiller Controller 2	103		
▪ Walkway	97	50	Passed
▪ PH-1	320	300	Passed
▪ CPI	234		Failed
▪ CHWP	220		
▪ CD4	138		

Area / Measuring Points	Illumination Level, lux	Prescribed Minimum Illumination Level, lux	Evaluation
2) Control			
▪ front of control panel Chiller 1	253	300	Failed
▪ front of control panel Chiller 2	260		
▪ worktable	305		Passed
3) Electronics Room			
▪ Arnel Etang VDT	173	*200 – 500	Failed
▪ At PABX VDT operator	144		
At working tables:			
▪ Rodman Branzuela	271	300	Failed
▪ Claville ruiz	251		
▪ Wilfredo Castro	287		
▪ Jeremiah Cabacus	251		
▪ At center table	263		
4) Repair Room			
▪ Kim Eric Saluma (wt)	101	300	Failed
▪ Repair table	173		
5) Collection Department, at working tables:			
▪ Alma Ambagay	211-212	300	Failed
▪ Evelyn Chacon	177-178		
▪ Rebecca Pepito	199		
▪ Victor Buwaya	297-298		
▪ Diana Blanco	329		Passed
▪ Cynthia Hermosisma	182	300	Failed
▪ Helen Banate	330		Passed
▪ Henry Garcia	285		Failed
▪ Xander Pecson	214		
6) Cashiering, at working tables:			
▪ Era Borinaga	363	300	Passed
▪ Judalyn Cesar	274		Failed
▪ Clarissa Mansica	384		Passed
▪ Maria Martinez	356		
▪ Luz Cosejo	317		
▪ Charito De Gamo	384		
▪ Catherine Sepulbida	345		
▪ Dehlia Paciercia	448		

Area / Measuring Points	Illumination Level, lux	Prescribed Minimum Illumination Level, lux	Evaluation
7) Accounting, at working tables:			
▪ Thelma Manyakap	391	500	Failed
▪ Ma. Venus Casas	369		
▪ Consuelo De Gracia	379		
▪ Lara Mae	472		
▪ Nelma Gonzaga	310		
▪ Vivian Belonio	344		
▪ Herminia Viagedor	327		
▪ Elizabeth Lopez	214		
8) Mechanical Division, at working tables:			
▪ Sammy Visitacion	156	300	Failed
▪ Manuelito Nostro	220		
▪ Sergio Borres	184		
▪ Christopher Digno	213		
▪ Center table	288		
9) Civil Works/ Procurement/ Records/ Manager's Office, at working tables:			
▪ Eduardo Ginete	425	300	**Passed**
▪ Rey Rolebea	123		Failed
▪ Arnel Carolipio	122		
▪ Patrick Solatorio	184		
▪ Josephine Oppus	88		
▪ Pilar Alca	65		
▪ Helen Misa	120		
▪ Office manager	77		

D. Illumination Standards

Rule 1075 of the OSHS, DOLE prescribes the following minimum lighting intensity for specific activities or operations in the work environment.

- ✓ A minimum of ***50 lux*** shall be provided where discrimination of detail is not essential, such as handling coarse materials, coal or ashes, rough sorting or grinding of clay products, for passageway, corridors, stairways, warehouses, storerooms for rough and bulky materials.

- ✓ A minimum of ***100 lux*** to be provided where slight discrimination of detail is essential such as for the production of semi-finished iron and steel products, rough assembling, milling of grains, opening, picking and carding of cotton, or other primary operation in most of the industrial processes; and for engine and boiler rooms, passenger and freight elevators, crating and boxing of departments, receiving and shipping rooms, storerooms, and stockrooms for medium and fine materials, locker rooms, toilets, and washrooms.

- ✓ A minimum of ***300 lux*** shall be provided where close discrimination of details is essential such as for medium bench and machine work, medium inspection, fine testing, leather finishing and weaving cotton goods or light-colored cloth/goods, or for office desk work with intermittent reading and writing and other related activities.

- ✓ A minimum of ***500 to 1,000 lux*** shall be provided where discrimination of fine details is involved under conditions of a fair degree of contrasts for long assembling, fine bench and machine work, fine inspection, fine polishing and beveling of glass, fine wood-working and weaving dark colored cloth/goods, or for accounting, bookkeeping, drafting and other prolonged closed office desk work.

* However, for computer or Visual Display Terminal (VDT) works, an internationally recommended guideline of ***200 to 500 lux*** is adopted in the absence of a Philippine standard.

E. Recommendations

- Install additional lightings (localized general or local lighting) in areas where the illumination levels did not meet the prescribed minimum lighting requirement.
- Clean lamps, reflectors and diffusers regularly since dirt and grime on luminaires can result in the loss of about 10 - 20% of light.
- If feasible, reposition or rearrange workstations such that light (both artificial and natural lighting) falls directly at the working surface.
- Include regular eye examination of workers as part of their annual medical examination to prevent the development of eye diseases and conditions such as strain in the nerve of the eye.

Company doctors and safety officers should share an important role in the prevention of eye injuries and diseases through regular examination, dissemination of relevant information on eye care and periodic monitoring of the illumination levels in the workplace.

V. HEAT MEASUREMENT

A. Equipment Used: Thermal Environment Monitor, QUESTemp Brand, Model QT-32

B. Results of Measurement

Work Area / Measuring points	Workload	Allocation of Work in a Cycle of Work and Recovery	Wet Bulb Globe Temp. Index, ^{0}C	Screening Criteria for Heat Stress Exposure, ^{0}C	Evaluation
Chiller Area ▪ Near glass window of control room and front of CH-4 control	Moderate	25% - 50%	27.9	32.0	**Passed**

***SCREENING CRITERIA FOR HEAT STRESS EXPOSURE**

	---------- Acclimatized ----------		
Allocation of Work in a Cycle of Work and Recovery	**Light**	**Moderate**	**Heavy**
75% to 100%	31.0°C	28.0°C	-
50% to 75%	31.0°C	29.0°C	27.5°C
25% to 50%	32.0°C	30.0°C	29.0°C
0 to 25%	32.5°C	31.5°C	30.5°C

These TLVs are based on the assumption that nearly all acclimatized, fully clothed workers with adequate water and salt intake should be able to function effectively under the given working conditions without exceeding a deep body temperature of 38°C (100.4° F). They are also based on the assumption that the WBGT of the resting place is the same or very close to that of the workplace. Where the WBGT of the work area is different from that of the rest area, a time-weighted average should be used.

Metabolic Rate Categories with Example Activities	
Category	**Example Activities**
Rest	Sitting
Light	Sitting with light manual work with hands and arms, and driving. Standing with some light arm and occasional walking.
Moderate	Sustained moderate hand and arm work, moderate arm and leg work, moderate arm and trunk work, or light pushing and pulling. Normal walking.
Heavy	Intense arm and trunk work, carrying, shoveling, manual sawing; pushing and pulling heavy loads; walking at a fast pace.
Very Heavy	Very intense activity at fast to maximum pace

C. Recommendations

- Provide potable water for workers such that they can drink small volumes of cool water about every 20 minutes to replenish lost fluids and electrolytes in the body.

Reference: 2007 TLVs and BEIs – American Conference of Governmental Industrial Hygienist.

VI. GENERAL VENTILATION MEASUREMENT

A. Measuring Equipment Used:
- Thermoanemometer, ISA 20N, Sibata Brand
- Air Flow Indicator, Kitagawa Brand Smoke Tubes

B. Unit of Measurement
meter per second (m/s)

C. Results of Measurement:

Area/ Measuring Point	Air Velocity, m/s	Evaluation
1) Chiller Area		
▪ Near entrance door	0.1 - 0.3	Passed
▪ Middle area	0 - 0.1	Failed
▪ Near washing area	0 - 0.1	
2) Domestic Baggage Area		
▪ Front of guard's table near Conveyor 1	0 - 0.1	Failed
▪ Near left door area (Air Philippines)	0.1 - 0.2	
▪ Middle area, between Conveyors 1 and 2	0.2 - 0.3	Passed
▪ Left end of Conveyor 2 (PAL)	0.1 - 0.4	
▪ Front of guard's table near Conveyor 2 (PAL)	0.1 - 0.2	Failed
▪ Left end of Conveyor 1 (Air Philippines)	0 - 0.1	
General Ventilation Standards (Air Movement) for enclosed workplace, based on OSHS, DOLE	**0.25 to 0.75 m/s**	

D. Recommendations

- Since the condenser of the airconditioning units of Waiting Lounge 7 and 8 are inside the Domestic Baggage Area that emits heat causing discomfort to workers in the area, it is recommended that these condensing units be relocated.
- Provide supply of potable water for workers such that they can drink small volumes of cool water about every 20 minutes to replenish lost fluids and electrolytes in the body.
- Install additional industrial ventilating fans at the Domestic Baggage Area.

Measurement Conducted by:

Anna Lissa C. Malapitan
Asst. Industrial Hygienist

Maria Elena L. Diez
Industrial Hygienist III

Evelyn C. Tandayu
Senior Industrial Hygienist

Noted by:

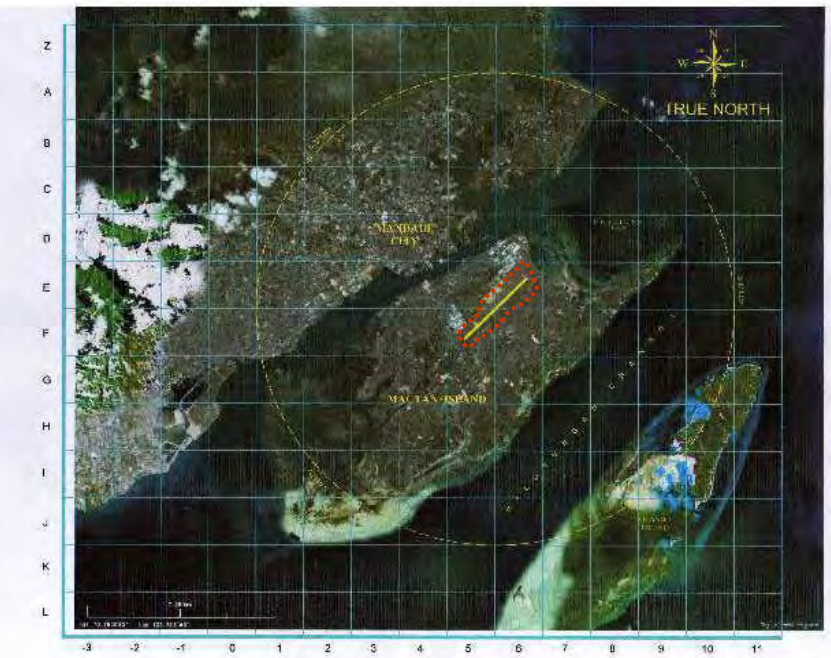
Nelia G. Granadillos
Chief, Environment Control Division

ANNEX 9:

AIRPORT SECURITY (BY MCIAA)

Mactan-Cebu International Airport Authority (MCIAA)

A preview on airport security



Airport Geographic Location

General Outline

The Mactan-Cebu International Airport Authority (MCIAA), by virtue of Republic Act 6958, is mandated, among others, to regulate the over-all operations of Mactan-Cebu International Airport. This includes the implementation of security measures which are aimed primarily to safeguard lives and properties in the airport.

Through Section 5 of this Act, the authority shall have the power to exercise such Police Authority, as may be necessary, within its premises or areas of operation, to carry out its functions and attain its purpose and objectives.

General Outline

Sec 5, R.A. 6958

Police Authority - The Authority shall have the power to exercise such police authority as may be necessary within the premises of areas of operation to carry out its functions and attain its purposes and objectives: Provided, that the Authority may request the assistance of law enforcement agencies including request for deputation as may be required. Such police authority shall be exercised in connection with the following among others:

(a) Maintenance of security to passengers, cargoes, aircraft, airport equipment, structures, facilities, personnel, funds and documents;

(b) Regulating the entry to, exit from and movement within the airports;

(c) Maintenance of peace and order within the premises of the authority;

(d) Regulation and supervision of private security agencies operating in the airports

(e) Enforcement of rules and regulations promulgated by the Authority pursuant to law; and

(f) In case of emergencies or imminent danger involving national security within the airport premises, the Philippine Air Force Security Command shall take charge.

- Airport Security -

- International Legal References

ICAO Annex 17 –Security, 8th ed.

3.2.1 Each Contracting State shall require each airport serving civil aviation to establish, implement and maintain a written airport security programme appropriate to meet the requirements of the national civil aviation security programme.

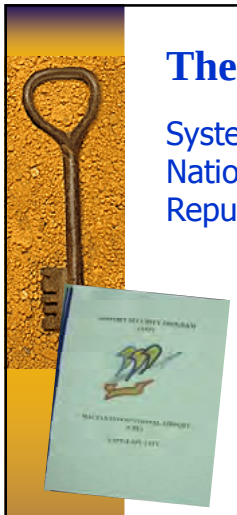
3.2.2 Each Contracting State shall ensure that an authority at each airport serving civil aviation is responsible for coordinating the implementation of security controls.

- Airport Security -

- National Legal References

The National Civil Aviation Security Program (NCASP)

4.5.2 Each Airport Manager as the Chairman of the Airport Security Committee (ASC) is the responsible authority for implementing security controls at their respective airports.



The Airport Security Program (ASP)

Systems & Procedures to Comply With Provisions of National Civil Aviation Security Program of the Republic of the Philippines

- prevent acts of unlawful interference
- maintenance of peace and order
- contingency plans for incidents & accidents
- address different levels of security threats
- airline cargo, ticketing, and screening procedures.

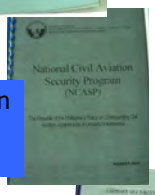
*** **Designed to meet requirements of ICAO Annex 17 Security Standards and Recommended Practices (SARPs)**

In summary …

Airport Security Requirements – cascades from …

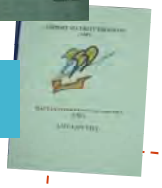
ICAO
(Int'l. Conventions)

Chicago Convention
Annex 17 -Security



Contracting States
(PHI/OTS)

National Civil Aviation Security Program (NCASP)



Airport Authorities
(MCIAA)

Airport Security Program (ASP)

Airport Tenants/Concessionaires

Airline Operator's/Concessionaires' Security Program

MCIA Office tasked with security responsibilities:

Emergency and Security Services Department

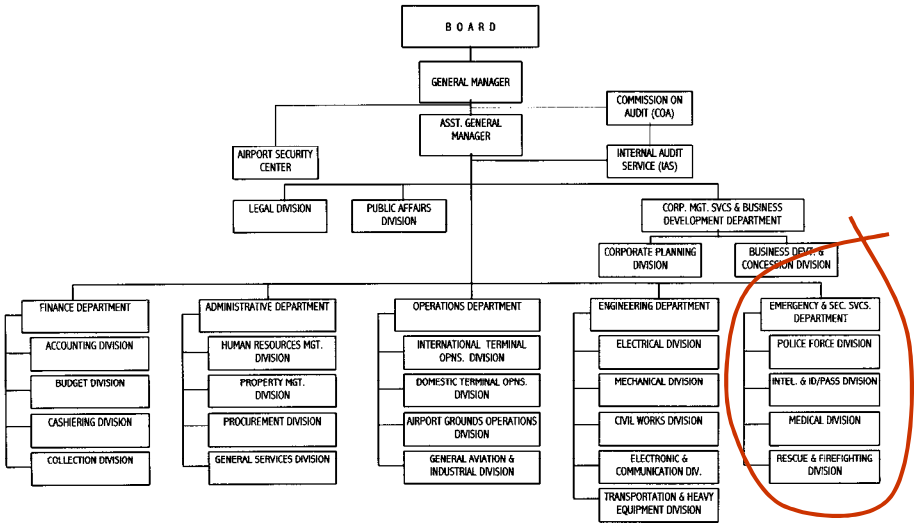
(ESSD)

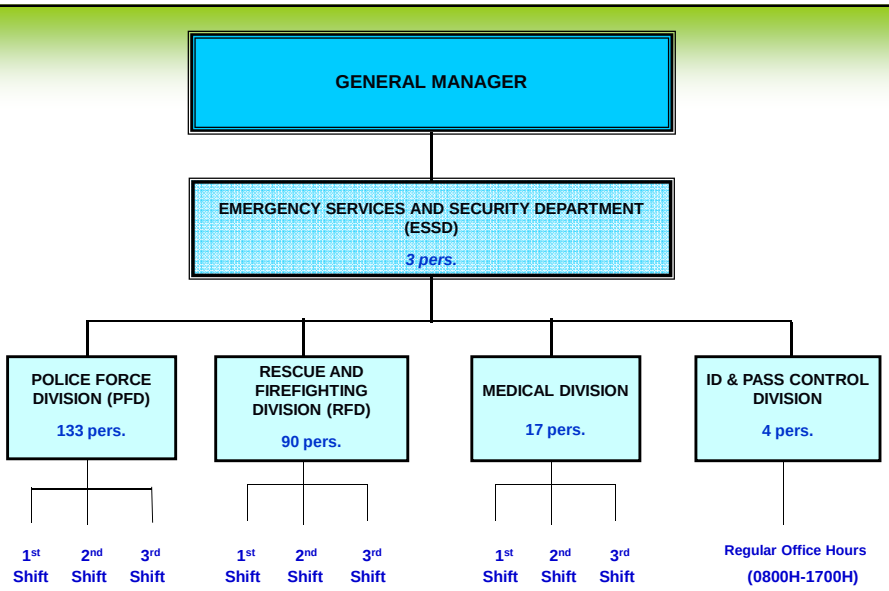
EMERGENCY AND SECURITY SERVICES DEPARTMENT

Provides security to passengers, cargoes, aircrafts, airport equipment, structures, facilities, personnel funds, documents and other emergencies within the airport in accordance with existing international requirements, standards and convention.

ESSD Function

The Emergency and Security Services Department (ESSD) in the MCIAA Organizational Structure





ESSD ORGANIZATIONAL CHART

EMERGENCY AND SECURITY SERVICES DEPARTMENT

ESSD Offices directly involved in airport security

ESSD Offices directly involved in airport security:

1. **AIRPORT POLICE DIVISION (APD)**

   Provides security and maintains peace and order within the premises of the Authority in coordination with local police authorities and other authorized peace keeping entities within the airport.

ESSD Offices directly involved in airport security:

2. ID and PASS CONTROL DIVISION (IDPCD)

Regulates the entry to and exit within the airport through the administration of the security access pass system - a system of coded passes that facilities the identification and apprehension of unauthorized person in the restricted areas of the airport.

ESSD Offices directly involved in airport security:

3. Tactical Response Unit (TRU) –

a select group of Airport Police Officers with SWAT training to provide immediate response to emergencies in the airport.

4. CCTV Monitoring Office –

in charge of the operation of the CCTV.

Other Agencies with Security Functions in the Airport.

- **The 7th Police Aviation Security Unit (7th PAVSEU)**

  - **Republic Act 6975, otherwise known as the PNP Law which was enacted on 13 December 1990. This act created the Aviation Security Group (ASG) which is mandated to secure all airports nationwide against offensive and terroristic acts that threaten civil aviation.**

Other agencies with security functions in the Airport.

- **Contracted Security Guards**

  - **MCIAA Contracted Guards**
  - **CAAP Contracted Guards**
  - **Airline Contracted Guards**
  - **Other Tenants/Concessionaires Contracted Guards**

- Airport Security -

THREATS

- Acts of Unlawful Interference
- Maintenance of peace and order

Acts of Unlawful Interference

An act of:

a. violence against a person on board an aircraft in flight if that act is likely to endanger the safety of that aircraft.

b. destroying an aircraft in service or causing damage to such an aircraft which renders it incapable of flight or which is likely to endanger its safety in flight.

c. placing or causing to be placed on an aircraft in service, by any means whatsoever, a device or substance which is likely to destroy that aircraft, or causing damage to it which is likely to endanger its safety in flight.

d. destroying or damaging air navigation facilities or interfering with their operations, if any such act is likely to endanger the safety of aircraft in flight; or

e. communicating information which is known to be false, thereby endangering the safety of an aircraft in flight; or

f. unlawfully and intentionally using any device, substance or weapon:

1. performing an act of violence against a person at an airport serving international civil aviation which causes or is likely to cause serious injury or death.

2. destroying or seriously damaging the facilities of an airport serving international civil aviation or aircraft not in service located thereon or disrupting the services of the airport.

If any such act endangers or is likely to endanger safety at that airport.

Maintenance of peace and order

- Police visibility, deterrence of crimes, crowd control, etc.
- Enforcement of airport rules & regulations (traffic rules, access control, etc.)
- Response action to breaches in security (emergency response team, crowd control, arrests, investigation)

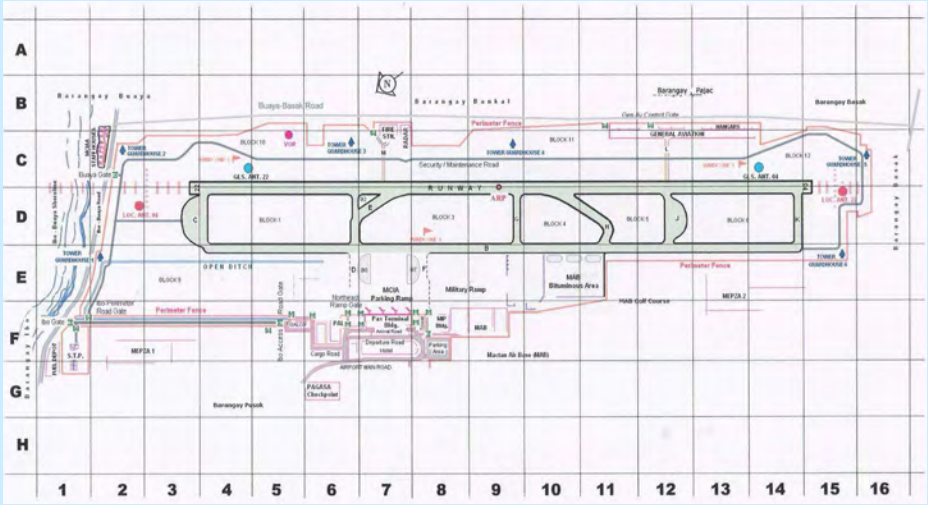
Addressing Threats

- Physical barriers
  - Fence, perimeter roads
  - Gates
  - Checkpoints
- Electronic machines
  - X-ray machines
  - Metal detectors
  - CCTV
- K-9 sniffers
- Human resources

Addressing Threats

I. Physical Barriers

Perimeter fence, guardhouses, gates, security roads



Addressing Threats

Perimeter fence, guardhouses, gates, security roads

Perimeter Clear Zone

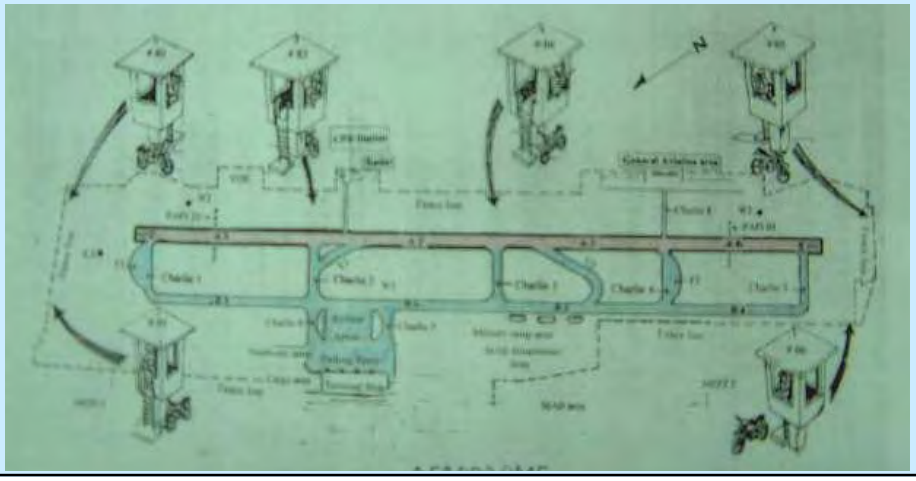
- A clear zone is established alongside the fence for security enhancement.
- A 6-meter wide asphalt road serves as a perimeter road for the fence maintenance and for security patrols.

Addressing Threats

Perimeter fence, guardhouses, gates, security roads

Elevated Guardhouses

Six (6) elevated concrete guardhouses are strategically located along the perimeter fence.



Increased Perimeter Security

- MCIAA contracted security guards provide 24 hour manning of these guardhouses.
- The Airport Police, with the coordinated augmentation from the Phil. Air Force, provides additional manning of these guardhouses during upgraded security threat level.
- Increased frequency of APD's random roving patrols at the Aircraft Movement Area (AMA).

Passenger Terminal Security

- Prohibition of unattended parking along the departure and arrival roads.
- Traffic management and crowd control by the Airport Police.

Addressing Threats

Gates and Checkpoints

- Initial challenging procedures conducted by 7th PAVSEU personnel and security guards at initial gates.
- Redundant challenging and documents checking by APD personnel at the Pre-departure area.

Addressing Threats

- **Electronic machines**
  - Screening checkpoints conducted by the OTS Security screeners using Walk-Through Metal Detectors (WTMD) and X-ray Machines

Addressing Threats:

Human Resources

- Emergency and Security Services Department (ESSD)
  - ID and Pass Control Division (IDPCD)
  - Airport Police Division (APD)
    - CSOs and ISGs
    - Tactical Response Unit (TRU)
- 7th PAVSEU
- Contracted Security Guards

Ramp Security:

A perimeter fence shall be maintained as a physical barrier to separate the ramp/apron area from the adjacent land side areas.

All access gates located along the land side/air side boundaries shall be manned by security personnel and locked when not in use.

Access to the ramp/apron area by vehicles from the land side during normal situations shall only be at either the AMA Gate 1 (Northeast Ramp Gate) or at the AMA Gate 2 (General Aviation Gate).

Security personnel manning the gates shall ensure that only vehicles with valid vehicles passes/stickers and persons with valid RAB/ID are allowed entry.

An Airside Composite Patrol Team to be composed of elements of the Airport Police, 7th PAVSEU, and Airline Security in coordination with the MCIAA Operation Center or Control Tower shall implement ramp safety and rules and regulations as formulated by the General Manager.

7th PAVSEU personnel shall be primarily responsible for providing security and ensure sterility of the ramp/apron area. Roving security personnel of the Airport Police shall assist in monitoring and controlling activities within the ramp/apron area.

Airline contracted security guards assigned as aircraft guards should enhance security at the immediate areas by conducting challenging procedures when necessary.

• Other security measures implemented at the Terminal areas

- ➢ Paneling conducted daily by the K-9 units.
- ➢ MCIAA Contracted security guards man all access points in the Terminal.
- ➢ 7th PAVSEU personnel man the entrance doors to the departure areas and the doorways leading to the ramp.
- ➢ Plain-clothes APD personnel are dispatched within the public areas for monitoring.
- ➢ Conduct of Security Awareness Seminars to airport employees and workers.
- ➢ Installing security signage and reminders to Pax regarding LAGs, bomb jokes, etc.
- ➢ Regular paged reminders are made to discourage passengers from leaving their baggage unattended.


Security is the key to the airport’s success.
ThankYou!

ANNEX 10:

MINUTES OF GMCAC COMMUNITY CONSULTATION

Mactan Cebu International Airport Project
Rehabilitation, Expansion and Operation
GMR-Megawide Cebu Airport Corporation (GMCAC)

MINUTES OF MEETING

Date:	November 26, 2014	**Prepared by:**	Woodfields Consultants, Inc
Venue:	Gloria Maris1&2, Waterfront Hotel, Airport Road, LapuLapu City	**Time Start**	10:15 AM
		Time End	12:45 PM
Subject:	Community Consultation Meeting		

No.	Name	Contact No.	Association	
			Office	Position
1	Maria Mitze B. Zagales	09334070758	STEC – ES DepEd	School Principal
2	Joel P. Duarte	09435816452	STEC – ES DepEd	School President Faculty
3	Adelino S. Padilla Sr.	340-6166	CENRO LLC	Agricultural Technologist
4	Pascual P. Dente	340-4952	CENRO LLC	Solid Waste Inspector
5	Jose P. Dungog	340-4661	Association of Barangay Council	President
6	Abner Maghanoy	09336208585	UP Cebu	Student
7	Jimmy A. Ybanez	09228309878	Brgy. Pajac	Brgy. Chairman
8	Anita M. Jumail	09325392445	Brgy Basak	GAD
9	Rowena C. Sebial	09062255837	Brgy. Bankal	Women
10	Mario C. Inot		Brgy. Bankal	Brgy. Captain
11	Estrella C. Doyohia	09153336893	Brgy. Bankal	Senior Citizen Representative
12	Benito M. Ybanez	09164900715	Brgy Basak	Kagawad
13	Caridad P. Dawat	340-7721	Brgy. Pusok	Punong Barangay
14	Lorna P. Soroño	09423713963	Brgy. Buaya	Kababayin-an President
15	Ricardo C. Abing	09331888739	Brgy. Buaya	Brgy. Councilor
16	PelagiaBuico	494 1393	Brgy. Buaya	President, Buaya Homeowners' Association
17	Mary Jane Cahilog	09173220216	Brgy. Ibo	Chairman
18	Merlin Revelijio	0916567985	Brgy. Ibo	Brgy. Councilor
19	ElvieMasapequina	09339403942	Brgy. Ibo	Pantawid PL
20	Alvin Olalo	09176211897	Helenville Subdivision Homeowners Association Inc.	President
21	Ivan Allego	09225851925	UP Cebu	Student
22	Lucia Zapanta	09237356876	DepEd	ERS Coordinator
23	VenancioOyan	09326598475	Brgy. Pajo	Consultant
24	Junard Chan	09177010908	Brgy. Pajo	Brgy. Chairman
25	Dr. Retchie Martinez	09328655525	Brgy. Pajo	Brgy. Secretary
26	Ermel H. Ompad		Brgy. Pajac	Brgy Councilor
27	Mary Ann M. Dimabayao	09399157110	MCIAA	OIC-Public Affairs Division
28	Ella Inso	09282720170	Urban Poor	Office Staff
29	Meriam Tadlip	09333379158	Urban Poor	Office Staff
30	Dr. Bolivar Minoza	09162396861	Lapu-Lapu	Chief of Staff
31	Alicia O. Abing	09277236305	Lapu-Lapu City Hospital	Admin. Officer IV
32	Ermelita C. Degamo	340-0963	CSWDO	Dept. Head
33	Villarino, Cleofe	09323551452	PantawidPamilya Pilipino Program (4Ps)	Citylink
34	Aguirre, Glycel Gay		PantawidPamilya Pilipino Program	Citylink

No.	Name	Contact No.	Association	
			Office	Position
			(4Ps)	
35	PerlyPactol	09395238995	PantawidPamilya Pilipino Program (4Ps)	Citylink
36	Engr. Perla T. Amar	09064395755	City Planning and Development Office (CPDO)	CPDC
37	Engr. Allan S. Pedrigal	09176339207	City Engineer's Office-Lapu Lapu City	City Engineer
38	Mary Glare ChyranArong	09326850038	Ibo Elementary School	Teacher III
39	Dr. Herminia N. Leyson	09196318996	Ibo Elementary School	Principal - III
40	Engr. Christopher C. Bancale	09205393559	City Engineer's Office-Lapu Lapu City	Engineer II
41	Teodulo N. Ybanez	09158109664	City Administrator's Office	City Administrator
42	Marietta T. Layaguin	09176255930	Barangay Pusok	Kagawad
43	Henry Booc	09266125058	Barangay Pusok	Kagawad
44	Dr. RodulfoBenhale	09179647768	City Health Office	City Health Officer II
45	Jerome Uyao	09472522888	MCIAA	AGM's Office
46	Hemblen Mendoza	09158460403	Tourism Office	Tourism Officer
47	Marcelita S. Dignos	09231690789	DepEd Division Office	ASDS
48	Donna F. Paculaba	340-0748	Office of the Congresswoman Lone District of Lapu-Lapu City	District Staff

Issues and Discussion		Details
1.	**Agenda of the Meeting**	• Presentation of project description and updates • Discussion of project impact and mitigation measures • Disclosure of grievance mechanism • Discussion CSR Action Plans
2.	**Program Proper**	• Welcome remarks given by Ms. EsteePatiño-Plunket • Project Description/Status by Mr. SridharJayati • Environmental and Social Impact/Mitigation Measures by Dr. Ricardo T. Villavert • Grievance Mechanism and CSR Action Plans by Ms. EsteePatiño-Plunket • Open Forum, facilitated by Ms. AvigailManingo • Closing Remarks by Mr. GUG Sastry
3.	**Open Forum**	

		Name of Speaker	Response/s
	Question and Answer 1:	Engr.PerlaAmar City Planning Office	**Q:** For the terminal 2 construction, will there be any residential area or anybody that is affected by your construction and what will be your plan?
		Mr. Sridhar Jayati	**A:**Within our construction area, there is no residence, only occupied by Project Affected Families (PAF) and their facilities. The offices of PAF will be relocatedto the area designated by MCIAA-DOTC.
	Question and Answer 2:	Engr. PerlaT. Amar City Planning Office	**Q:**Based on the presentation, there is an increase volume of waste; is the capacity of existing STP

			enough to accommodate this increase in volume of waste?
		Mr. Sridhar Jayati	**A:**As of today, the current STP can handle wastewater of 900 cubic meters, which is enough to handle the projected increase in volume of wastewater since current operations is only around 300 cubic meters. But as we grow,MCIAA will assess again the capacity of STP and augment as per the requirements.
		Mr. Junard Chan Brgy Chairman of Barangay Pajo	**Q:**What's the plan of the proponent with regards to the clearance of the cutting of the trees in the military base which falls under Barangay Pajo?
	Question and Answer 3:	Mr. Sridhar Javati	**A:**We will get permission from DENR for the cutting of the trees. We will definitely follow the recommendations and guidelines given by the DENR.
		Dr. RicardoVillavert	**A:**Based on googlemap, the project location is in Barangay Pusok. We will check this information and If the cutting of the trees falls in your barangay, we will consult and coordinate with you about the permits for the tree cutting. We will also do this with Barangay Pusok.
		Dr. Retchie Martinez Barangay Secretary, Barangay Pajo	**Q:**We anticipate that there will be trucks moving to the airport loaded with materials needed for construction. How are you going to manage the traffic flow?
	Question and Answer 4:	Dr. Ricardo Villavert	**A:**We have developed a traffic management scheme. The routes are established for the domestic, international, departure and arrival.
		Mr. G.U.G. Sastry	**A:**Also, when the construction starts, we will try to transport the construction materials during non-peak to the airport to avoid traffic and disturbance.
		Mr. Venancio Oyan Consultant, BrgyPajo	**Q:**In the event when the trucks started to transport construction materials to the airport through the main gate of the airbase which also part of our community, how will you minimize the disturbance most especially to the senior citizens?
	Question and Answer 5:	Mr. G.U.G. Sastry	**A:**We will take steps to have the least disturbance to the nearby communities. We will also consult the traffic department of Lapu-Lapu City and the communities. If there are any concerns on the traffic and disturbance at a particular time, we will handle that.
		Dr. Ricardo T. Villavert	**A:**In the evening, we will try to limit the movement of the vehicles if ever they will be passing by Barangay Pajo.
	Question and Answer 6:	Mr. TeoduloYbanez City Administrator	**Q:**Overtime, the roads will be damaged because of transporting of materials and heavy equipment. Do you also take responsibility in repairing the roads?
		Mr. G.U.G. Sastry	**A:**I really don't think that the trucks will do any damage on the roads.
	Question and Answer 7:	Mr. TeoduloYbanez City Administrator	**Q:**With the labor, will you take consideration to employ primarily our local residents and constituents? And how would we know that you are

			doing that?
		Ms. Estee Patiño-Plunket Mr. G.U.G. Sastry	**A:**Our job applications will be open to all local residents and they are our priority. But they must be qualified and shall have skill set in their respective jobs through our screening. **A:**We can give you a statistical report from our HR Department on how many local residents have come forward for applications and how many were found fit and employed for the job.
	Question and Answer 8:	Mr. Hembler Mendoza City Tourism	**Q:**Where will the trucks loaded with construction materials come in and out from the airport?
		Mr. G.U.G. Sastry	**A:**We haven't gone through the details of the Construction routes and schedule yet since this will be by next year. We'll go to the city administrators and city planners to consult on the best route to be taken.
	Question and Answer 9:	Mr. Hembler Mendoza City Tourism	**Q:** Is it okay with you to come up with a job fair to the city and announce it to the barangays?
		Mr. G.U.G. Sastry	**A:** We will consider your suggestion of organizing a job fair but when it comes to construction, most of the work will be contracted out and the contractors will be the one to recruit the workers. But we will definitely work with them and encourage them to hold job fair.
	Question and Answer 10:	Ms. Mary JaneCahilog President Kababayin-an	**Q:** As president of Kababayin-an, I would like to ask how will you intend to do about the livelihood? Will you consider the Kababayin-an to cater your parties and other events?
		Ms. Estee Patiño-Plunket	**A:** We identify the women in the Kababayin-and in each barangay depending on the skills they have like sewing, crafts, guitar making, etc. Based on the conversations we had in the city, we are mostly in need of catering services. We will consider get the Kababayin-an to cater our parties and events.
	Question and Answer 11:	Mr. Allan Pedrigal City Engineer's Office	**Q:** My concern is about the building permit. Considering that MCIA has its own Office of the Building Official, my question is will you apply for a building permit?
		Mr. Sridhar Jayati Mr. G.U.G. Sastry	**A:** We will follow all the procedures and get all the permits before our construction starts. We will try to get permission to have an OBO of our own in due course of time
	Question and Answer 12:	Mr. VenancioOyan Consultant BrgyPajo	**Q:** Since we will be affected by the construction and operation of the airport, what can the barangay expect from GMCAC with regards to the barangay's problems such as school buildings and incentives?
		Ms. Estee Patiño-Plunket	**A:** As mentioned earlier, we already have established different plans on social responsibilities. We are using a three-pronged approach wherein we prioritize Education, Health and Livelihood.But as far as you can expect, we will implement the plans on Health and education within a year. We will be conducting a lot of research and data gathering in each barangay to know more of the

			needs of the people.
	Question and Answer 13:	Mr. Mario Inot, Barangay Captain, Barangay Bangkal	**Q:** In 2039, will the expansion of the runway reach the barangay? The project might affect us for it would take the whole barangay entirely. No space might be left for us.
		Mr. G.U.G. Sastry	**A:** As of now, there is no requirement of additional runway. The existing runway should be able to accommodate the projected traffic flow.
	Question and Answer 14:	Ms. Rowena Sebial, Barangay Bangkal	**Q:** I would like to ask if we are part of the affected area during the project implementation because there was an air sampling conducted in our barangay but nobody came yet to consult with us
		Ms. Estee Patiño-Plunket, Corporate Affairs	**A:** Yes. You're barangay is definitely part of the affected area during the project implementation. Were really taking time to deal with each of the barangay to understand how we can assist them. We'll definitely go to your Barangay as well
	Question and Answer 15:	Engr. Perla T. Amar City Planning Office	**Q:** If there is a proposed expansion of the runway, is the existing area enough for the expansion?
		Mr. G.U.G. Sastry	**A:**The existing area may not be sufficient to have an additional independent runway. However, we will be able to increase the runway handling capacity through ACDM (Airport Collaborative Decision Making). We will be working with all the stakeholders concerned to achieve the same.
	Question and Answer 16:	Mr. ErmelOmpad, Barangay Pajac	**Q:** What is the assessment of the Civil Aeronautics Board (CAAP) on your proposal of expanding the terminal?
		Mr. G.U.G. Sastry	**A:** The concession agreement was signed between DOTC and MCIAA on the one hand and GMR, and Megawide on the other. The CAAP guidelines are part of the concession and we shall follow the same in development and operational procedures

Item No.	Name of Speaker	Suggestions
Suggestion Number 1	Engr. Perla Amar, City Planning Office	I would like to request the proponent to furnish us a written recommendation on any possible restrictions or land use considerations for us to be guided in our land use planning in the future because right now, we are currently updating our comprehensive land use plan. It would be a worry for us as to the noise pollution that would result in the construction and operation of the airport.
Suggestion Number 2	Dr.RodulfoBenhale City Health Officer of Lapu-Lapu	I have to suggest that if you have concerns in public health, just refer all these problems to our office.
Suggestion Number 3	Mr. TeoduloYbanez City Administrator	One way of referring local residents for the jobs needed in the construction and operation of the airport is coordinating with local barangays to find qualified workers.
Suggestion Number 4	Dr. Retchie Martinez Barangay Secretary Barangay Pajo	Please don't forget to secure all the clearances from each barangay.
Suggestion	Mr. Jimmy Ybanez,	You have mentioned earlier about the environmental and

Number 5	Barangay Pajac	social impact of the construction and operation of the new airport. I would like to suggest that the proponent should lay down their safety program involving occupants' health standards. Secondly, I hope you could visit and help our school.

ANNEX 11:

GMCAC PRESENTATION FOR COMMUNITY CONSULTATION

GMR
Creating tomorrow today

MEGAWIDE

Program Schedule

Time	Activity
10:00 – 10:20	Opening Address
10:20– 10:40	Project Description/Status
10:40 – 11:15	Environmental and Social Impact
	Mitigation Measures
11:15 – 11:40	CSR Action Plans
	Grievance Mechanism
11:40 –12:20	Open Forum
12:20 – 12:30	Word of Thanks & Future Engagement Plans
12:30 – 13:30	Lunch

Mactan Cebu
INTERNATIONAL AIRPORT
GMR MEGAWIDE CEBU AIRPORT CORPORATION

GMR MEGAWIDE CEBU AIRPORT CORPORATION (GMCAC)

Community Consultation

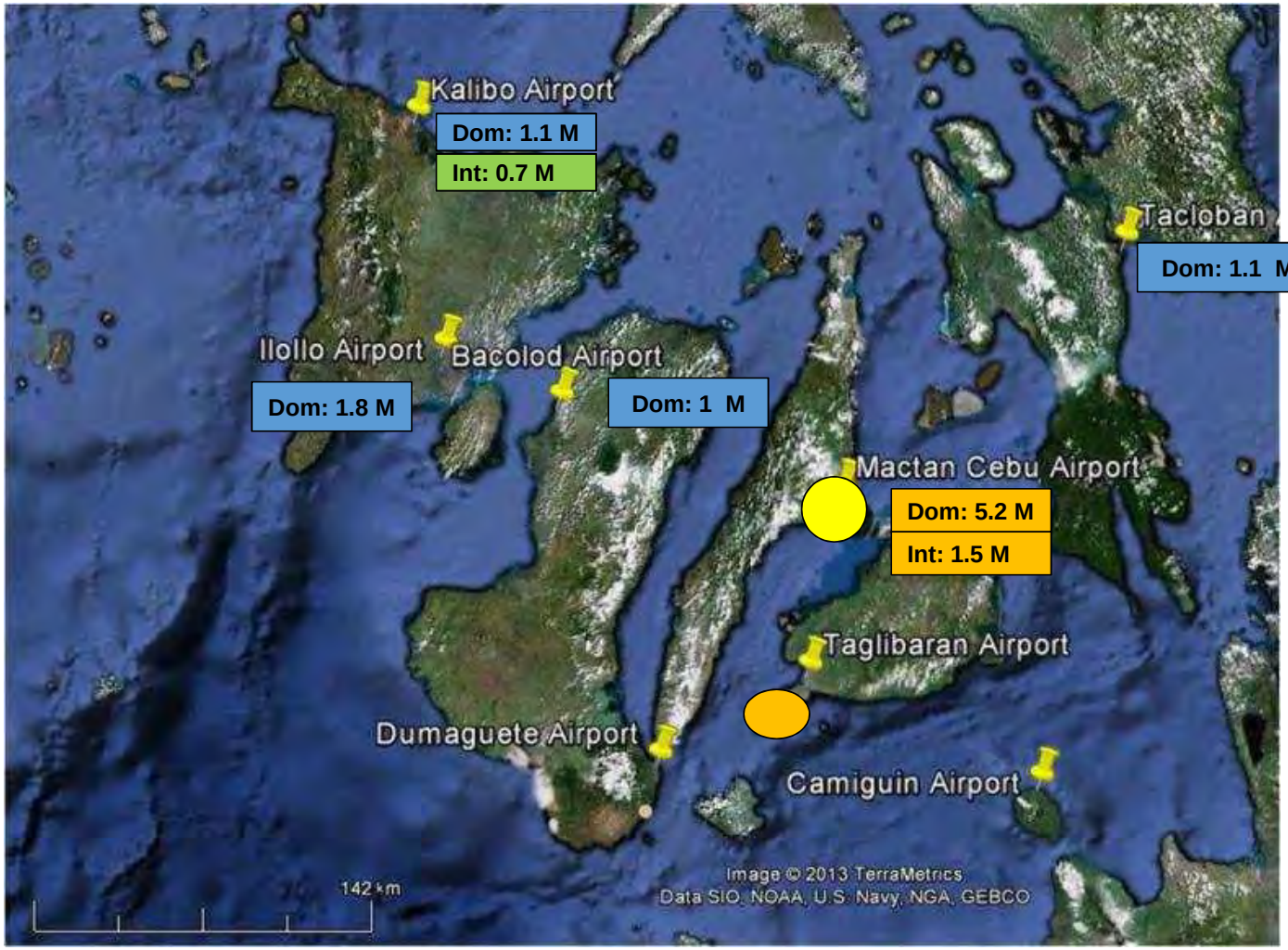
Mactan-Cebu International Airport Operation, Maintenance, and Expansion Project

Public-Private Partnership Project

DOTC-MCIAA
&
GMCAC

April 22, 2014 – Signed 25-year Concession Agreement (CA)
Nov 1, 2014 – Handover from MCIAA to GMCAC

2nd Busiest in the Philippines, Major Hub in the Visayas



Mactan Cebu
INTERNATIONAL AIRPORT
GMR MEGAWIDE CEBU AIRPORT CORPORATION

Source: CAAP

Plays important role in the economic development of the region

Gateway for

- Tourism-related activities.
- IT & Business Process Outsourcing
- Manufacturing industries
- Trade and commerce

Current Mactan Cebu International Airport Profile

Start of Operations	▪ 1960s
Total Area	▪ 797 Hectares
Runway	▪ 3,300 x 45 m full parallel taxiway
Apron	▪ 11 wide body or 25 small body aircrafts
Terminal Area	▪ Domestic: 18,575 m^2 ▪ International: 19,950 m^2
Aero Bridges	▪ 6 newly installed, operational

Operating Airlines

Philippine Airlines	Korean Air
Cebu Pacific	Cathay Pacific
Zest Air - Air Asia	Asiana Airlines
Tiger Airways	Busan Air
Jin Air	Silk Air

Major Destinations

Domestic	International
Manila (>50% of Dom. traffic)	Seoul
Davao	Hong Kong
Iloilo	Tokyo
Cagayan De Oro	Singapore

Design capacity

4.5M passengers/year

6.9M passengers in 2013

expected to further grow due to the potential growth of the region

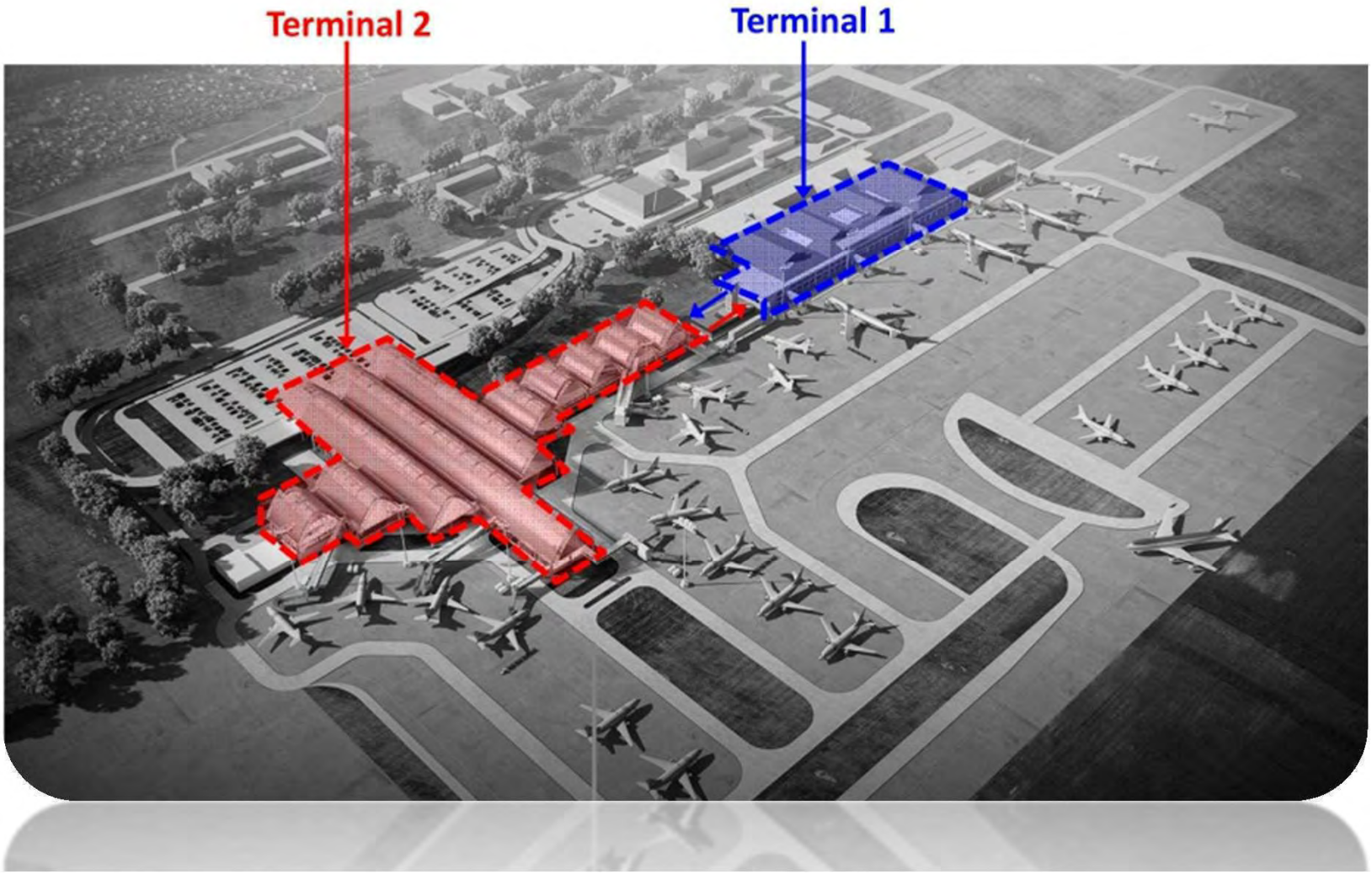
Current Airport Layout

Project Scope

- Construction of new Terminal (T2) and associated facilities;
- Renovation & expansion of existing terminal (T1) & associated facilities;
- Construction of new apron (T2 Apron) after demolition of PAF Apron;
- Capacity Augmentation for landside facilities (including terminals), aprons and associated facilities as and when necessary
- Development of adequate vehicle parking lots;
- Development of Commercial Assets (Real Estate except residential);
- Planning, designing and developing of all utility systems (power, water, high-pressure firewater, sanitary sewer, storm drainage, & telecommunication systems)
- Operation and Maintenance of the existing terminals, New terminals, aprons, landside facilities and associated facilities
- Financing the above and collecting the revenues.

Proposed Developments in MCIA

Mactan Cebu
INTERNATIONAL AIRPORT
GMR MEGAWIDE CEBU AIRPORT CORPORATION



The scope of Concessionaires Responsibilities are limited to the **Ramp side and Landside Facilities only.**

GMCAC

- Construction and operation of Passenger terminals (existing & new)
- Construction and operation of aprons (existing and new)
- All landside facilities including car park
- Development and Operation of commercial assets
- Providing security to all the areas under concessionaire's control excluding anti-sabotage, anti-hijacking and law & order
- Utilities for the areas under concessionaire

MCIAA

- Airside Services (Runways, Taxiways, etc.)
- Fuel Farm
- ARFF, Search & Rescue
- Cargo Operations
- General Aviation Ops
- Airside Security
- Security for Anti-Sabotage, Anti High-Jacking, Maintenance of Law & Order
- ATC
- Utilities for the areas under Government

Spread over 2 phases

Phase 1 (2015 - 2024)			Phase 2 (2025-2039)
Aprons in front of T2	**Construction of T2**	**Renovation and expansion of T1**	**Capacity Augmentation**
18 months from Construction start Date	*36 months from Construction start Date*	*48 months from Construction start Date*	*As per pax growth*
• Construction of Aprons in front of T2 after modification of PAF Apron. • Designed to serve at least 90% of the annual international flights through contact stands	• Design to ensure Service Level C for International Traffic for 10th Year of Contract • Total area planned of 43,938 sqm • 6 contact gates	• Renovation & expansion to ensure Service Level C for Domestic Traffic for 10th Year of Contract • New floor area planned of **~6,700** sqm to reach total of 45,226 sqm	• As and when required to meet service standards in line with traffic growth • As per current plans, only capex for phase 1 will be required – from 8th to 10th year

This investment plan will be complimented by the efforts of the Govt. to ensure adequate capacity for airside facilities (including runways)

Phase 1 investment plan: create a world class airport

Terminal 1

- Floor area will be increased by ~6,700 sqm to reach total of 45,226 sqm
- Significant revamp of passenger areas – relocation of offices, toilet relocation and expansion, centralized security, common single gate hold area, replacement and repair of many other facilities
- standalone goods screening system
- Significant revamp of Baggage Handling System; 1 new elevators and 1 new escalator planned
- Forecourt area at Arrival level will be developed as an 'Airport Village' with Canopy cover

Terminal 2

- New terminal of 3 levels spread over 43,938 sqm adequately planned for earthquake zone and wind speeds
- contact gates – to service 90% of international flights through boarding bridges on T2 Apron
- in-line baggage screening system; standalone goods screening system
- 4 Baggage Carousels, escalators and elevators planned
- 2-level curbside access to Terminal 2
- Target for LEED Silver rating

Integrated Systems

- A centralized AOCC will be the nerve centre of all operations
- State-of-the-art MEPF integrated with a Building Automation System; Energy efficient equipment
- Highly scalable and reliable IT systems will be installed in T2 with features like CCTV coverage, Access Control System, Information Kiosks, CUSS, EPOS, AODB, BRS, Master clock System etc…
- IT systems of Terminal 1 will also be significantly upgraded

Phase 2 investment plan: ensure adequate capacity

Terminal 1

- Floor area will be increased by ~5,500 sqm to reach total of ~**50,717** sqm
- Additional facilities of Check-In, security processing, seating areas, lounges
- Reconfiguration of T1 apron to add 5 more contact stands

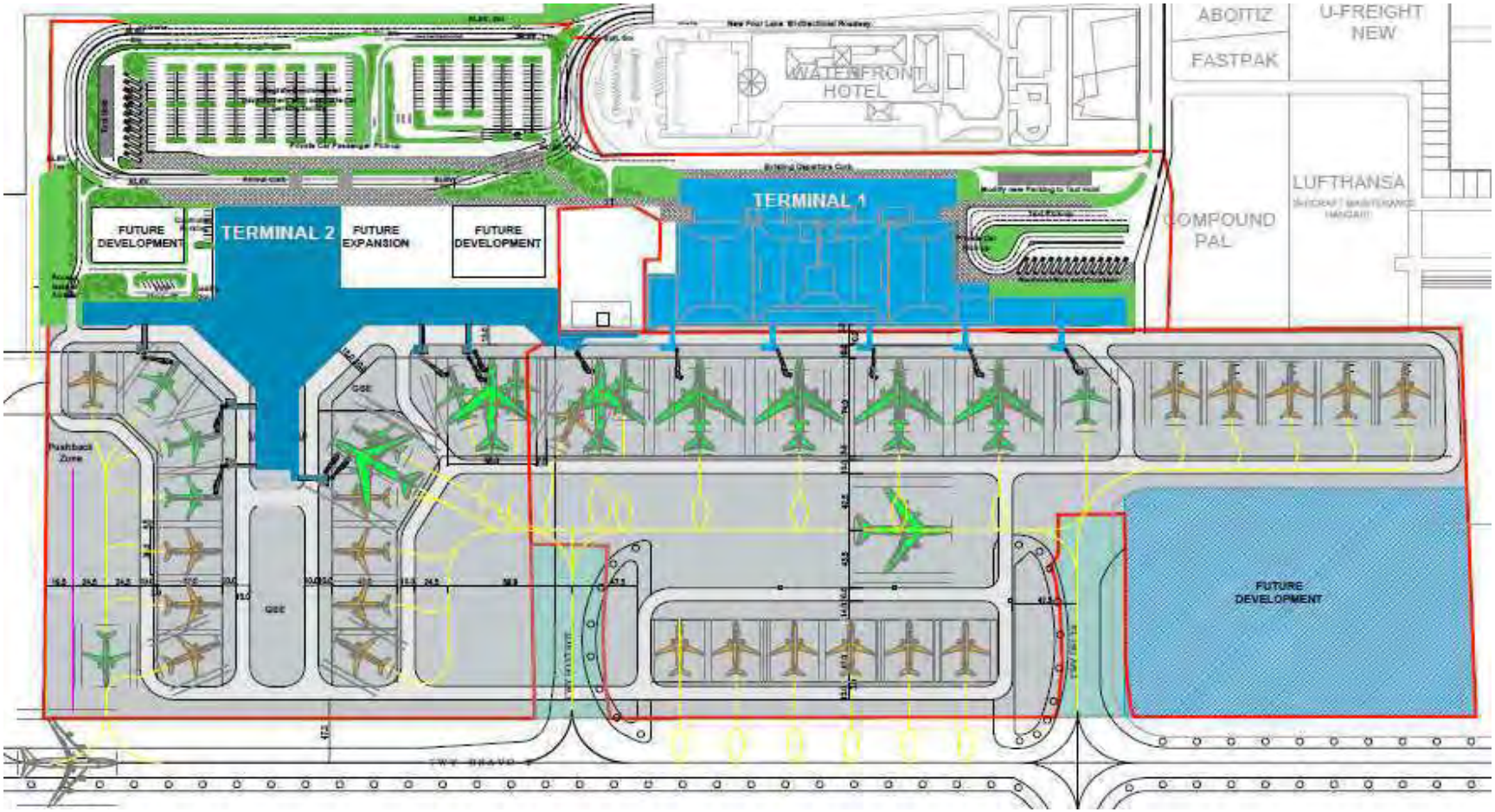
Terminal 2

- Extension of main processing area by 11,205 sqm to a total area of 55,143 sqm
- 6 additional contact stands will be added
- 5 remote apron stands will be constructed opposite Cargo terminal
- 2 additional baggage carousels on arrivals
- 1 additional check-in island (24 counters) on departures
- Augmentations of other systems
- Swing between T2 & T1 for contact stands , baggage reclaim carousal, & gate hold area

PPP CA Boundary and Project Scope

Operate and Maintain the Project Scope for 25 years as per the MPSS stated in the Concession Agreement

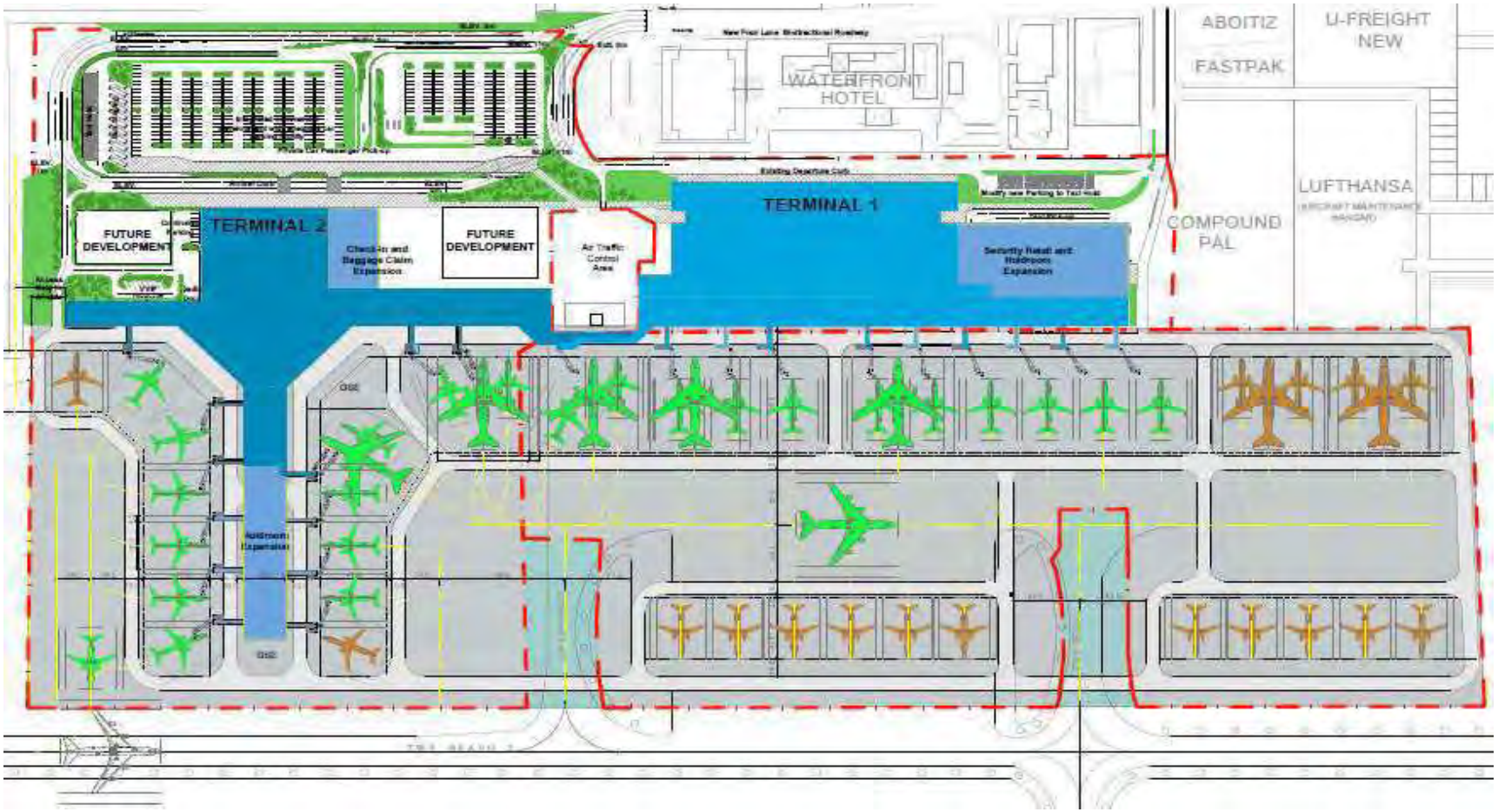
2024



Mactan Cebu INTERNATIONAL AIRPORT

Project Land Boundary

2039



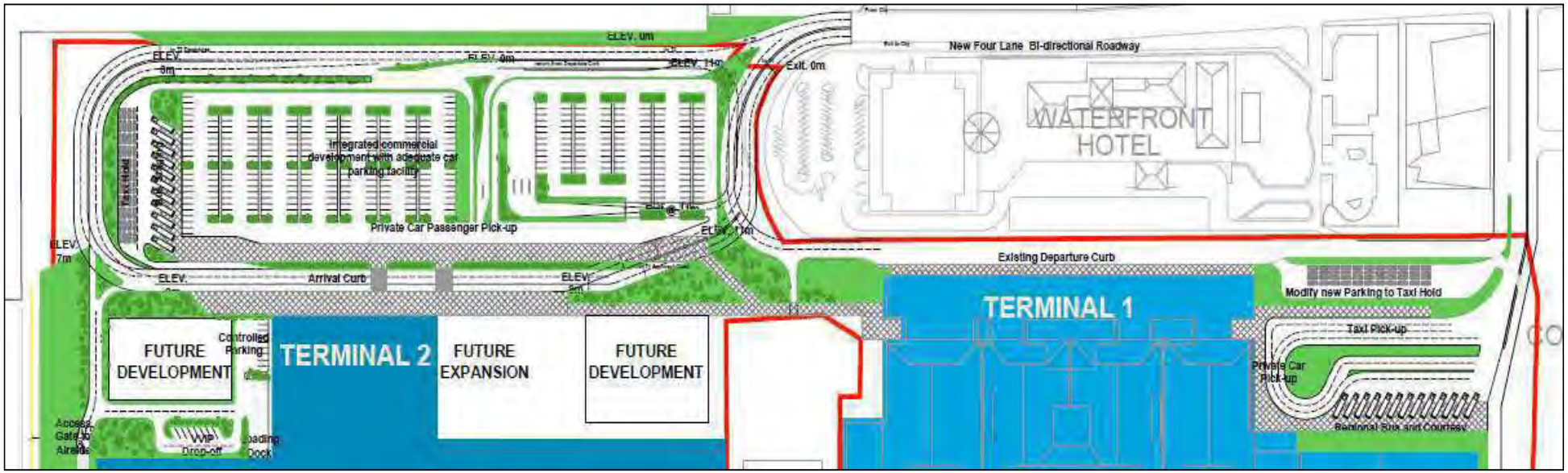
Mactan Cebu INTERNATIONAL AIRPORT

Project Land Boundary

	2013		2024		2039	
Passengers	**Int.**	**Dom.**	**Int.**	**Dom.**	**Int.**	**Dom.**
Millions/year	1.5	5.2	4.13	11.65	8.07	20.24

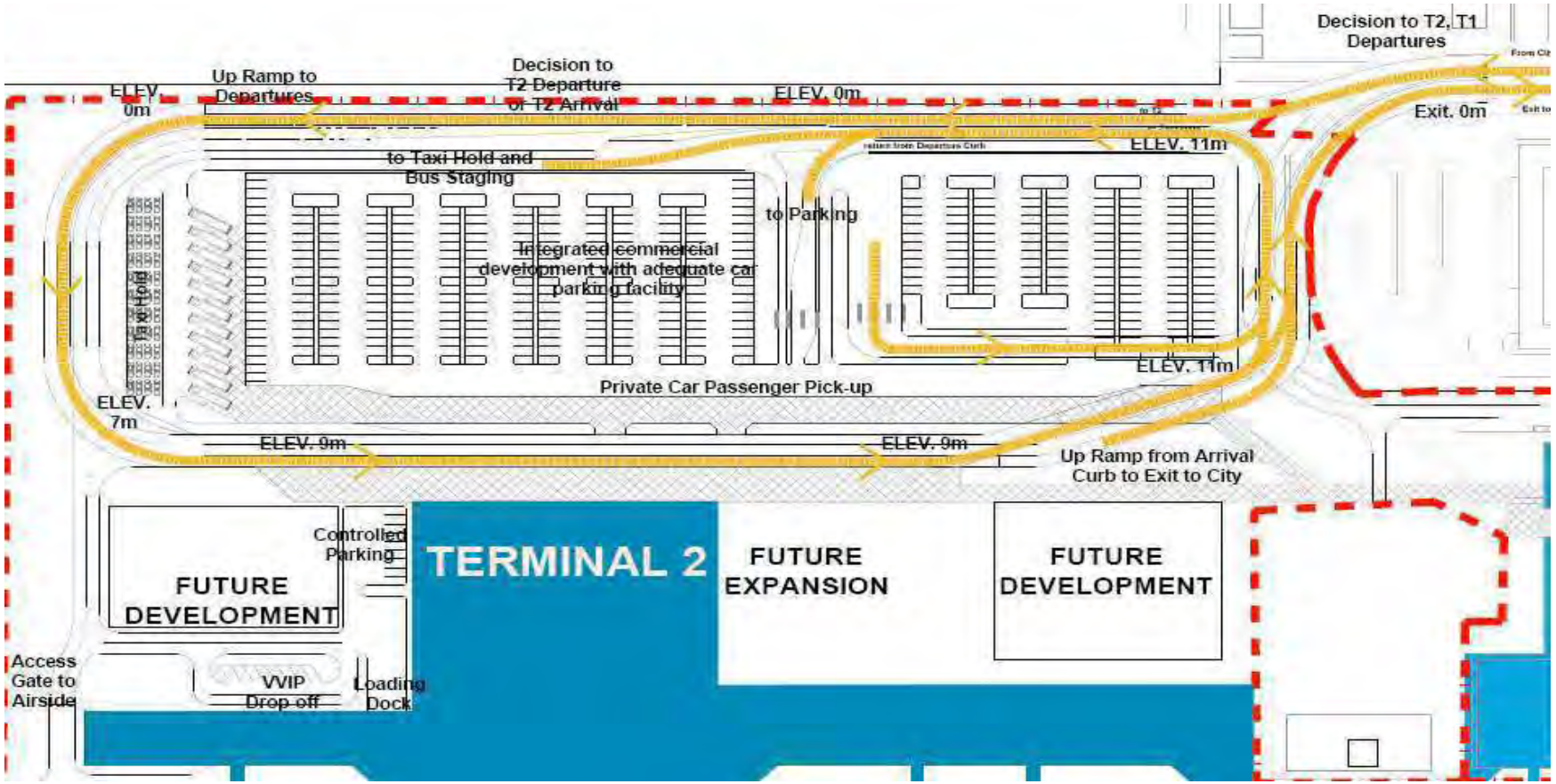
		Terminal 2		Terminal 1	
Features planned	Unit	2024	2039	2024	2039
Terminal Area (approx.)	Sqm	43,938	55,143	45,226	50,717
Check-in Counters	Nos	48	72	42	54
Departure Immigration Counters	Nos	10	16	NA	NA
Security Check Points	Nos	5	8	5	9
Arrival Immigration Counters	Nos	20	29	NA	NA
Baggage Reclaim Carousals	Nos	4	6	5	6
Contact Stands	Nos	3C + 2E (MARS)	6C + 2E (MARS)	6C or 5E+1C	5C + 3E (MARS)

Parking Provisions

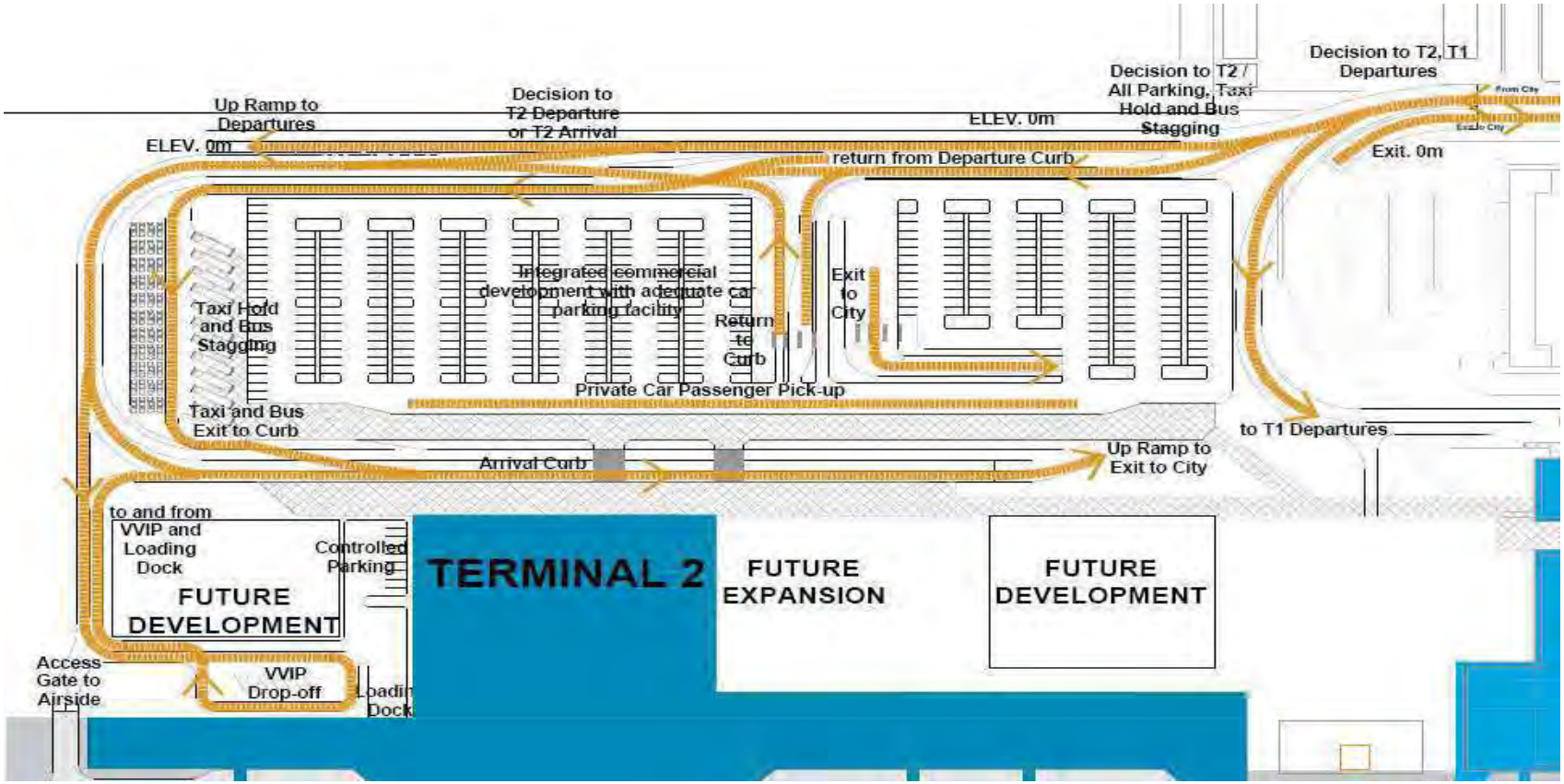


	2024	2039
Car Park (Surface / MLCP)	550	650
Access Roads	New Road Network on the Landside that can cater both phases	

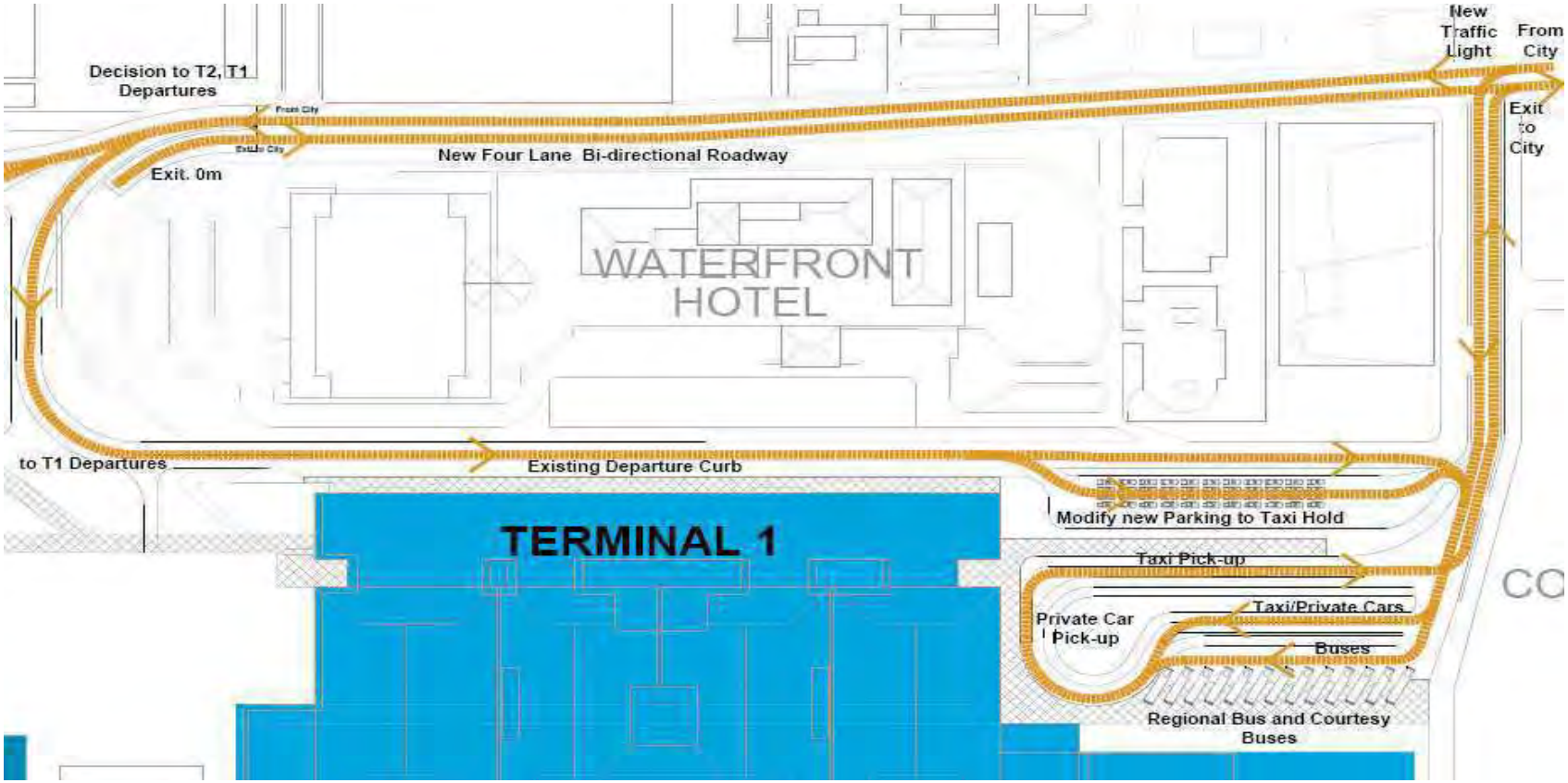
Terminal 2 Traffic Flow (Departure)



Terminal 2 Traffic Flow (Arrival)



Domestic Terminal Traffic Flow (Departure/Arrival)



Architectural concept design

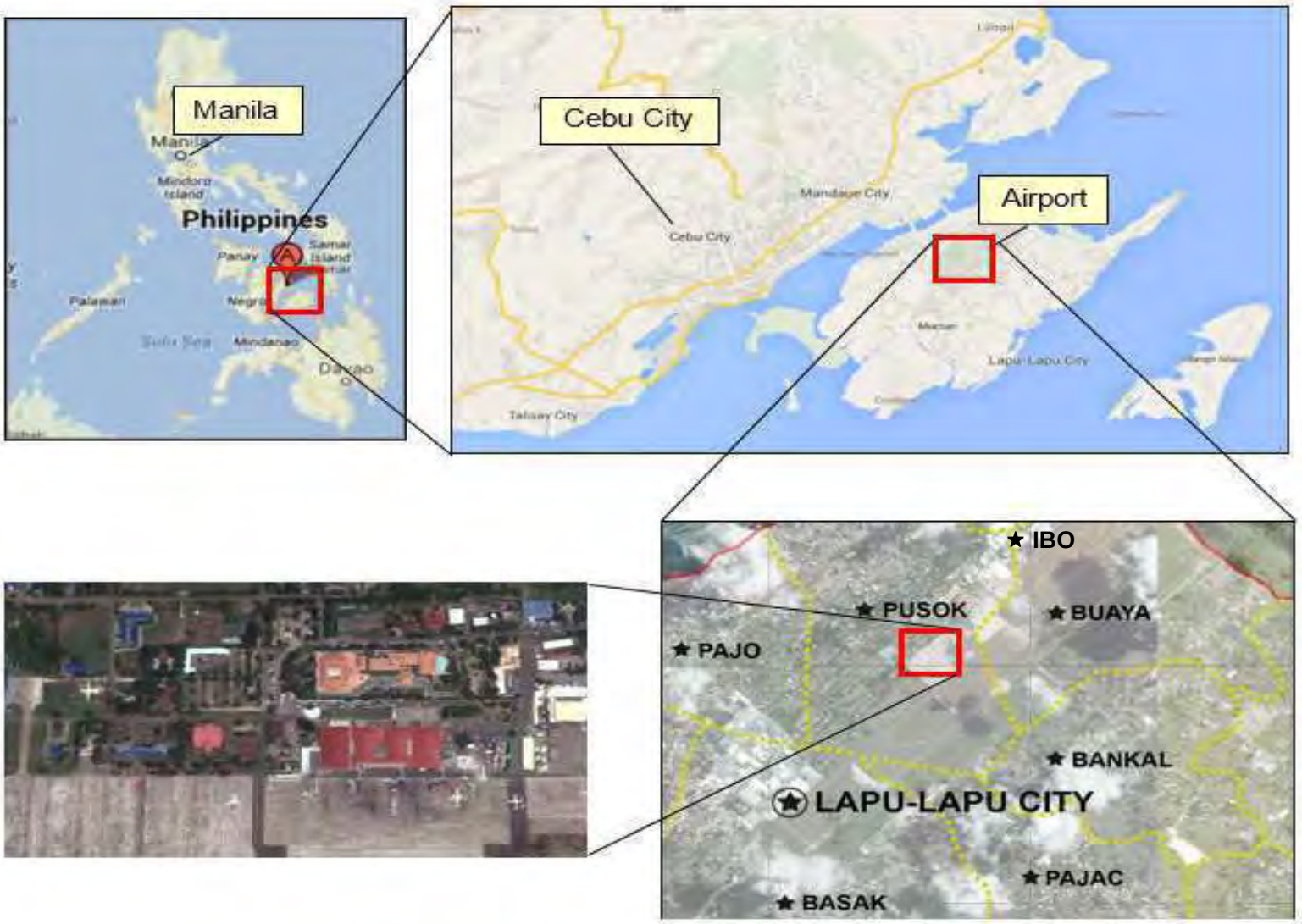
Mactan Cebu
INTERNATIONAL AIRPORT
GMR MEGAWIDE CEBU AIRPORT CORPORATION

Project Location

- Lapu Lapu City

Barangays:

- Pusok
- Ibo
- Buaya
- Bankal
- Pajac
- Basak
- Pajo



Environmental and Social Impact

- Construction of Terminal 2
- Renovation of Terminal 1
- Reconstruction of Apron (T2)
- MCIA Operation & Maintenance

- Land
- Water
- Air
- People

Environmental and Social Impact

Land

Air

Water

People

Construction → Operation

Environmental and Social Impact (Construction Phase)

- Construction of T2
- Renovation of T1
- Apron (T2) Reconstruction

Land

1. Solid Waste
2. Hazardous Waste
3. Landscape Character
4. Terrestrial Biology

1. Scrap wood, packaging materials, scrap metal, building rubble, gypsum wall board, asphalt, and concrete will be accumulated through time.
2. Paints, solvents, batteries, and fluorescent lamps will be used.
3. Earthworks and site clearance operations will have a temporary and localized impact to the landscape character of the area.
4. Some trees will be cut in T2 construction.

Mitigation Measures for the Environmental & Social Impact (Construction Phase)

Land

1. Solid Waste
2. Hazardous Waste
3. Landscape Character
4. Terrestrial Biology

- ✓ Solid waste management plan will be implemented, will give hierarchy to recycling and reuse concept.
- ✓ All fuel, motor oil, and chemical solvents must be sited on an impervious base within a suitable bund and properly secured.
- ✓ Appropriate wall screens will be used to envelope constructions sites to mitigate the visual impact.
- ✓ DENR permits will be obtained for all trees that will be removed, either by tree cutting or earth-balling.

Environmental and Social Impact (Construction Phase)

- Construction of T2
- Renovation of T1
- Apron (T2) Reconstruction

Water

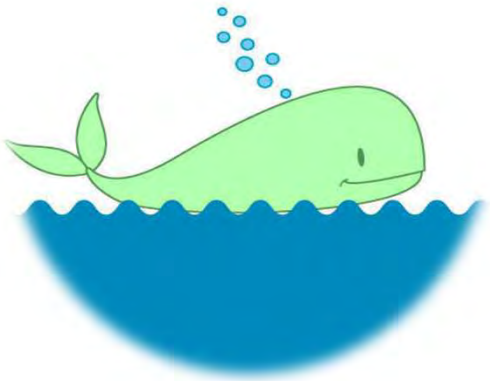
1. Surface Water
2. Ground Water
3. Marine Water
4. Water Supply

1. During rainfall events, sediments coming from exposed ground surfaces, stockpiles of excavated areas, and concrete and cement products reach surface water via runoff.
2. Use, transport, and storage of fuels, motor oils, and solvents may affect groundwater if these accidentally reach the land surface.
3. Wastewater from the terminal buildings does not go directly to Mactan Bay, it is being sent to the STP of MCIAA for treatment.
4. Water will be supplied by MCWD and Mactan Rock.

Mitigation Measures for the Environmental & Social Impact (Construction Phase)

Water

1. Surface Water
2. Ground Water
3. Marine Water
4. Water Supply



- ✓ Energy dissipating areas (sediment traps/ basins) will be provided to control movement of sediments that can affect surface water quality.
- ✓ Chemicals will be properly used, transported, and stored. Washings from concrete mixers, paint utensils will not be allowed to flow into the ground.
- ✓ Wastewater will be treated by MCIAA STP prior to discharge to Mactan Bay.
- ✓ Water conservation plan will be implemented

Environmental and Social Impact (Construction Phase)

- Construction of T2
- Renovation of T1
- Apron (T2) Reconstruction

Air

1. Air Quality
2. Noise

1. Construction equipment and vehicles emit air pollutants such as CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. Vehicles passing by dry, unpaved, and windy areas will generate dust which can increase the ambient Total Suspended Solids (TSP).
2. Noise will most likely be associated with the movements of heavy equipment, transport of construction materials, and renovation activities which will be low in magnitude, localized and temporary.

Mitigation Measures for the Environmental & Social Impact (Construction Phase)

Air

1. Air Quality
2. Noise

- ✓ Vehicles and equipment to be used must first pass mandatory emissions testing. Areas considered vulnerable to dust – generation will be sprayed with uncontaminated water on a periodic basis.
- ✓ Noise generating activities will be minimized during night time (10PM – 5AM). During T1 renovation, passenger movement will be designed in such a way that noise will be far from the people. Delivery of materials will be properly scheduled such that traffic is minimized during night time.

Environmental and Social Impact (Construction Phase)

- Construction of T2
- Renovation of T1
- Apron (T2) Reconstruction

People

1. Labor
2. Public Health
3. Public Safety
4. Traffic

1. About 300-400 workers are expected to be employed during the construction period.
2. Influx of workers from other towns/provinces may increase incidence of communicable diseases
3. If safety policies will not be observed, there is a high possibility that accidents may occur within and the surrounding construction site.
4. There will be an increased road usage coming from construction vehicles that may result to short-term increase in vehicular traffic, inconvenience to other road users.

Mitigation Measures for the Environmental & Social Impact (Construction Phase)

People

1. Labor
2. Public Health
3. Public Safety
4. Traffic

- ✓ GMCAC to ensure contractors/subcontractors compliance with the national labor laws, will give priority to local labor from nearby barangays
- ✓ Contractors to conduct seminar awareness/trainings on communicable diseases
- ✓ A safety management program will be implemented to reduce construction accidents.
- ✓ Proper planning and scheduling of the use of heavy construction vehicles will be implemented to alleviate traffic volume.

Environmental and Social Impact (Operational Phase)

Operation and Maintenance of MCIA

- Land
- Water
- Air
- People

Environmental and Social Impact (Operational Phase)

Operation and Maintenance of MCIA

Land

1. Solid Waste
2. Hazardous Waste
3. Landscape Character
4. Terrestrial Biology

1. There will be an increase in the quantity of solid wastes with an increase in passengers.
2. Used batteries, busted fluorescent lamps, and obsolete computers will be generated.
3. Project area will be visually enhanced with the well-designed new terminal building and Airport Village Mall at the landside.
4. More trees will be planted at designated areas according to landscape design befitting a resort Airport.

Mitigation Measures for the Environmental & Social Impact (Operational Phase)

Land

1. Solid Waste
2. Hazardous Waste
3. Landscape Character
4. Terrestrial Biology

- ✓ GMCAC to ensure efficiency/capacity of hauler to segregate, recycle, and dispose solid wastes; to promote 3-R (reuse, reduce, and recycle) concept.
- ✓ Environmental officer to monitor generated hazardous wastes; will be treated/disposed by a DENR accredited contractor.
- ✓ Terminal buildings and landscaped area will be regularly maintained.
- ✓ Mature and a mix of native & non-native trees will be planted at specific areas to provide biodiversity to flourish at the landside of the airport.

Environmental and Social Impact (Operational Phase)

Operation and Maintenance of MCIA

Water

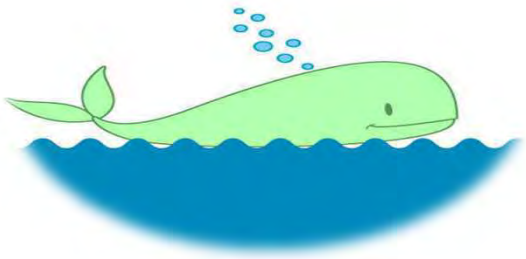
1. Surface Water
2. Ground Water
3. Marine Water
4. Water Supply

1. Mactan Island, based on flood simulation, is at low to moderate risk.
2. Use and storage of fuel and solvents may affect groundwater if accidentally spilled to ground soil.
3. Wastewater from airport will not go directly to Mactan Bay, it will be first treated by the STP of MCIAA.
4. There will be an increase in water demand due to an increase in the number of passengers.

Mitigation Measures for the Environmental & Social Impact (Operational Phase)

Water

1. Surface Water
2. Ground Water
3. Marine Water
4. Water Supply



1. GMCAC will ensure that the final design of T2 will be resilient to unusual weather events to mitigate flood risks that affect surface water quality.
2. Proper use, transport, and storage of fuels will be observed to avoid spillage; leaking/empty containers of these materials will be removed from site and properly disposed of by a accredited contractor.
3. GMCAC to monitor performance of the STP
4. Require a number of water meters in the different sections of the airport terminal buildings and landside facilities to monitor water usage and adopt appropriate water conservation measures.

Environmental and Social Impact (Operational Phase)

Operation and Maintenance of MCIA

Air

1. Air Quality
2. Noise

1. There is an anticipated increase in the number of passenger vehicles going to/leaving the airport that may emit air pollutants such as CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. Areas considered vulnerable to dust – generation such as un-vegetated areas may increase the ambient TSP.
2. More passengers would mean increase in flight frequency that can be the source of aircraft noise. Ground service equipment (GSE), auxiliary power units (APU), and landside vehicles will all also contribute to the ground noise of the airport.

Mitigation Measures for the Environmental & Social Impact (Operational Phase)

Air

1. Air Quality
2. Noise

- ✓ Vehicles entering/leaving the airport will be monitored in compliance with emission standards. Trees and shrubs will be planted to enhance airport air quality. Areas vulnerable to dust – generation will be covered with grass.
- ✓ Noise reduction strategies such as use of quieter aircrafts, land-use planning and management, noise abatement operational procedures, and aircraft operating restrictions, following the ICAO “balanced approach”, will be brought for discussion with MCIAA, airline operators, Lapu-Lapu City Planning and Development Office and other appropriate bodies for a more concerted effort in reducing the airport noise. For ground noise, appropriate noise control device/s will be installed as applicable.

Environmental and Social Impact (Operational Phase)

Operation and Maintenance of MCIA

People

1. Labor
2. Public Health
3. Public Safety
4. Traffic

1. There is an expected increase in labor force with the airport expansion.
2. More passenger needs especially for women, elderly, and disabled persons to be addressed while in transit. The anticipated increase in tourist influx may also result in increased activities that might compromise their health.
3. There will be an increase in risk to public safety with more passengers entering the airport.
4. There will be an increased road usage coming from passengers vehicles.

Mitigation Measures for the Environmental & Social Impact (Operational Phase)

People

1. Labor
2. Public Health
3. Public Safety
4. Traffic

- ✓ GMCAC to comply with national labor laws, will give hiring priority to qualified local residents.
- ✓ GMCAC to implement design features that will cater to the needs of women, disabled, and elderly. GMCAC to organize, in collaboration with relevant government agency, orientation/ training programs on sensitive health topics and anti-trafficking of women and children.
- ✓ Safety management manual to be always updated and strictly implemented.
- ✓ Traffic management plan to be implemented to alleviate traffic volume.

GMCAC - VISION & MISSION

VISION

The friendliest gateway to your destination.

MISSION

Transform our guests' experience through innovation, efficiency and profitability in a safe and secure environment defined by Filipino hospitality.

GMCAC SCOPE VISIT FINDINGS & CSR ACTION PLANS

Both GMR and Megawide have a strong commitment towards **Corporate Social Responsibility**

- **After signing of the Concession Agreement**, the airport management has spent considerable time in meeting relevant stakeholders and understanding the challenges faced by the people of Cebu
- Some of the stakeholders we have met include:
  - Barangay Buaya
  - Barangay Basak
  - Sudtunggan Elementary School
  - Ibo Elementary School
  - Lapu-Lapu City Hospital
  - Courtesy Call to Honorable Mayor Paz Radaza

SCOPE VISIT FINDINGS

EDUCATION

- **Education:** Only elementary school facility available. High school students go to other barangays to enrol for secondary education.
- **Inadequate infrastructure inside classrooms**: Insufficient tables and chairs.
- **Low teacher-student ratio**: 1:60
- **Inadequate text books**: Ratio of books to student is 1:3.
- **Insufficient number of notebooks**: One notebook used for two subjects.

LIVING CONDITIONS & LIVELIHOOD

- **Houses:** Makeshift arrangement with no electricity, assured drinking water or toilets.
- **Drinking Water:** Assured potable drinking water is a problem.
- **Livelihood:** Dependent on seasonal jobs - Fishing, factory workers, construction, auto-rickshaw drivers, etc. and below minimum wages.

YOUTH & SOCIAL BENEFITS

- **<u>Government Schemes:</u>** Social benefit schemes of the Government for eligible people not reaching adequately.

- **<u>Youth:</u>** Most of the youth loiter around and involve in gambling. Some of the youth who have graduated in high school and have reached college, still have challenges in communicating using the English language.

HEALTH / HOSPITAL

- **Facilities:** The only government hospital in Lapu-Lapu City with 75 beds
- **Manpower:** Has 7 doctors with rotating schedules
- **Ward Condition:** Wards do not have enough ventilation (most of the patients bring their own electric fans)

CSR ACTION PLANS

CSR ACTION PLANS: EDUCATION

Education

- Build a specified number of schools
- Supply notebooks and textbooks to Elementary and High Schools
- Supply extra teaching volunteers for sustained interaction
- Capacity building for school teachers
- Scholarships for selected students

CSR ACTION PLANS: LIVELIHOOD

- **Livelihood**
  - Organizing women and specific groups towards self-help groups, to promote savings, to provide skills and give a fillip to micro-enterprises
  - Tie-up/Sponsorship with TESDA in their training center
  - Training of women in handicrafts and value-addition in existing skills and marketing support

CSR ACTION PLANS: HEALTH

Health

- Build a specified number of clinics
- Engage the communities in basic personal hygiene and environmental sanitation through demonstrative activities.
- Conducting monthly/quarterly health camps among the communities to cover dental hygiene (for children), seasonal diseases (children & adults), diabetes and blood pressure (for adults above 40 years of age)

GRIEVANCE MECHANISM

- GMCAC will create an email address to receive and promptly respond to grievances from the public.

- All responses will be published online or through a newsletter.


SIGHTINGS Start here
Mactan Cebu
THANK YOU!
GMR
Creating tomorrow today
MEGAWIDE