付属資料

付　　属　　資　　料

1. 要　請　書
2. 対処方針
3. Implementing Arrangement (I/A)
4. Minutes of Meetings (M/M)
5. 質疑書及び回答
6. 収集資料リスト
7. ローカルコンサルタントリスト
8. Airport Development Requirements
   Based on Pal Air Service Upgrading Plan

要　　請　　書

PROJECT PROFILE

For Official Development Assistance

A. PROJECT SUMMARY

1. TITLE	:	MASTER PLANNING PROJECT OF SELECTED NATIONAL AIRPORTS
2. PROJECT LOCATION	:	Regions V, VI, VIII
3. PROJECT SECTOR	:	Transportation
SUB-SECTOR	:	Air Transport
4. CONCERNED AGENCY/IES	:	DOTC/ATO
PROPONENT AGENCY	:	DOTC/ATO
IMPLEMENTING AGENCY	:	DOTC/ATO
5. OBJECTIVES	:	

Development Objective(s):

To prepare a master plan for four (4) selected major airports namely: Bacolod, Iloilo, Tacloban and Legaspi

Strategic Objective(s):

To provide an effective graphic presentation of the ultimate development of the airport and of anticipated land uses adjacent to the airport;

To describe the various concepts and alternatives which have been considered in the establishment of the proposed airport masterplan;

To establish a schedule of priorities and phasing for the various improvements proposed in the plan; and

To provide a concise and descriptive report so that the impact and logic of its recommendations can be clearly understood by the authorities and public agencies concerned.

6. PROJECT DESCRIPTION

The project involves the preparation of a masterplan that will identify the present and future development requirements of the four selected airports: Bacolod, Iloilo, Taclohan and Legaspi.

B. TOTAL PROJECT COST

Total	:	P4,566
Local	:	P4,566

Forex

C. PROJECT SCHEDULE

Project Start	:	1995
Project End	:	1995
Project Duration	:	1 year

D. STATUS OF PREPARATION (As of December 1993)

Project profile submitted to NEDA for possible foreign funding assistance.

Attachment 2

SELECTED AIRPORTS MASTER PLANNING PROJECT
TERMS OF REFERENCE

1. BACKGROUND

The Philippines is an archipelago, composed of 7,107 islands with a total land area of 115,739 square miles, stretches 1,143 miles from north to south on its two largest island, Luzon and Mindanao, with the Visayas Islands in the middle. Because of geographical features, it is logical that development and improvement of the national airport system of the country be given special attention.

In line with this, the recently completed Civil Aviation Master Plan (CAMP) Project was conceptualized with the end in-view of strengthening the air transport sub-sector by providing, through a Civil Aviation Master Plan, a management tool for a more effective, efficient and sustained aviation programme planning and implementation. The CAMP report has recommended among others, the preparation of a detailed master plan for individual airports which will serve as basis for the present and future development requirements.

For this purpose, a master plan for each of the selected study airports shall be prepared and shall consider all the factors necessary to develop the airports at their present location, determine if there is a need to identify alternative sites, analyze their relationship with other national airports and determine the preferred developmental pattern for each of the airports and their facilities.

2. OBJECTIVES

The overall objective of the subject master plan is to provide guidelines for future development which will satisfy aviation demand and be compatible with the airport environment, community development, other modes of transportation and other airports. The specific objectives within this broad framework are as follows:

2.1 To make an overall assessment of the country's commercial airports and identify the major airports for master planning study;

2.2 To provide an effective graphic presentation of the ultimate development for the selected airports, taking into consideration the fact that these airports shall operate as secondary gateways. In view of the increasing demand for space at the present site, the detailed requirements for facilities and utilities, and the phasing of development shall be determined.

2.3 To establish a schedule of priorities and phasing for the various improvements proposed in the plan;

2.4 To present the data and pertinent information in support of the various concepts and alternatives which have been considered in the establishment of the proposed master plan;

2.5 To provide a concise, comprehensive, and descriptive report so that the impact and logic of its recommendations may be clearly understood by the authorities and public agencies which are charged with the promotion, funding, and approval of the improvements suggested in the plan;

2.6 To determine if there is a need to identify alternative sites to meet future demand ; and

2.7 To assess possible financing options to cover the costs of the implementation of the plan. Some possibilities include official development assistance funds from foreign institution. An alternate mode of financing specific components of the project may also be through privatization or the Build-Operate-Transfer (BOT)/Build- Transfer (BT)scheme;

3. METHODOLOGY

The Department of Transportation and Communications (DOTC) and the Air Transportation Office (ATO) shall coordinate with whoever will be contracted to prepare the master plan of these airports. Hereunder are the activities that shall be undertaken and the information/data that shall be gathered in connection with the conduct of the master planning study.

3.1 DATA COLLECTION AND INVENTORY

3.1.1 Socio-Economic Data

3.1.1.1 Economic Statistics
- Gross National Product and
- Gross Domestic Product
- Industrial Statistics
- Income

3.1.1.2 Transport Statistics
- Sea, Air and Land Transport

3.1.1.3 Air Transport System
- Air Route Structure
- Origin/Destination Data
- Purpose of Travel
- Airlines Timetable and Airfare
- Operational/Financial Statistics of Airlines

3.1.2 Inventory of Existing Airport

3.1.2.1 General
- Airport Location
- General background of airport vicinity, such as topography, climate, population, industry, and land use
- Area Planning Activities which may affect the redevelopment of the airport
- Airport Access

3.1.2.2 Historical Information on Airport

- Date of Initial Construction and its Extent
- Dates and Dimensions of Major Expansions

- Airport Ownership and Management Body
- Specific Legislative Efforts

3.1.2.3 Current Airport Traffic

- Aircraft Movements by Types of Aircraft
- Number of Passengers
- Volume of Air Cargo by Category
- Number of Visitors
- Volume of Ground Traffic

3.1.2.4 Existing Facilities and Infrastructures

- Aircraft Movement Areas (runway, taxiway and apron)
- Buildings and Structures (passenger and cargo terminals; control tower and

other ancillary buildings)
- Utilities (water supply, electric power supply, communications and control systems, storm drainage and sewage systems)
- Navigational Aids (location, function, back-up system and year of installation)

3.1.2.6 Airspace Data

- Airspace Structure
- Aviation Communications Facilities
- Artificial/Man-Made or Natural Obstructions

3.1.2.7 Financial and Management Tariffs

- Airport Fees and Charges
- Airport Operating Cost
- Airport Operating Revenues and Revenue Generator
- Airport Organization

3.2 AIR TRAFFIC FORECAST

3.2.1 Forecasts of air traffic shall be made for the next twenty years (1995, 2000, 2005, 2010 and 2015). These forecasts (micro and macro) shall be done based on the analyses of air transport demand for the affected regions as well as for the whole country. Items of the air transport demand forecast shall be as follows:

- Domestic Air Passenger and Air Cargo
- General Aviation Air Traffic

3.2.2 Forecast of Aircraft Movements

The following categories shall be considered in the forecasting of aircraft movements:

- Domestic Commercial Aircraft Movements
- General Aviation Aircraft Movements
- Military Aircraft Movements

3.3 DEMAND/CAPACITY ANALYSIS AND FACILITY REQUIREMENTS STUDY

A demand/capacity analysis and facility requirements study shall be carried out for at least two (2) stages of the airport's development, as follows:

Phase I - Facilities to be serviceable up to CY 2000
Phase II - Facilities to be serviceable up to CY 2015

The optimum requirements shall be identified for the following facilities, considering the aforementioned phasing of development of the airport:

- Runway Strip
- Runway
- Taxiway
- Aircraft Apron
- Passenger Terminal Building
- Cargo Terminal/Handling Facilities
- Administration/Operation Office with Control Tower
- Crash, Fire and Rescue Facilities
- Electric Power (main and stand-by) System
- Airport Lighting System (approach, landing, apron taxiway, vehicular parking, buildings and grounds)
- Fuel Storage
- General Aviation Areas
- Vehicular Parking Area
- Airport Service/Maintenance Road
- Airport Access Road
- Airport Security System

3.4 MASTER PLANNING

3.4.1 Geographical and Geological Survey

The following geographical and geological data/information on the existing site shall be prepared by the consultants:

- Aerial Photograph
- Topographical Map
- Geo-Technical Survey

3.4.2 Airport Master Planning

3.4.2.1 Airport Layout Plan

The consultant shall prepare the airport layout plans for the Phase I facilities which will answer air traffic demand up to CY 2000, and for the Phase II facilities, up to CY 2015. The airport layout plan

shall include the runway, taxiway, apron, terminal area and the location of the navaids. The plan shall be prepared for the use in the obstacle clearance study, environmental study, land use planning and for coordinating with other development planners of the surrounding area.

3.4.2.2 Environmental Assessment/Environmental Impact Statement (EA/EIS) and Land Use Plan

An environmental impact assessment shall be made concerning the probable effects of aircraft noise in the light of the environmental quality standards of the Philippines. Projected noise contours shall be drawn based on the forecast aircraft movements for CY 2000 and CY 2015. The recommended on-airport and off-airport land use plans shall be prepared based on the results of the environmental impact assessments.

The purpose of the (EA/EIS) is to determine the extent of environmental impacts and to identify measures to mitigate those impacts, where they are significant. The list below represents the topics to be addressed in the EA/EIS:

- Land Use and Planning
- Economics and Employment
- Displacement and Housing
- Transportation
- Air Quality/Climate and Meteorology
- Noise
- Energy
- Water Quality and Supply
- Coastal and Marine Ecology/Oceanography
- Terrestial Ecology
- Aesthetics and Glare
- Archaeological and Cultural Resources

3.4.2.4 Airport Terminal Area Plan

This plan shall be evolved from the airfield configuration and land use criteria established in the airport layout and land use plans. At the same time, this plan should provide an overall view of the terminal area and should permit the drafting, in the scale of 1:1000, of the terminal/cargo building area, hangar area, fuel depot, commercial and service areas, as well as airport service and access roads. This plan should also indicate the staged development of the airport from Phase I to Phase II.

3.4.2.4 Terminal Building Plans

Plans shall be prepared for the following buildings:

- Passenger Terminal Building
- Cargo Terminal Building
- Crash, Fire and Rescue Station
- Control Tower/Flight Operations Building
- Other Airport Building Floor Plan (Scale as required)

3.4.2.5 Utilities Plan

Pertinent system plans shall be prepared for the following facilities aside from alternative plans which shall be recommended for purposes of comparison:

- Baggage/Cargo Handling
- Electrical Power Supply System
- Water Supply System
- Fuel Storage and Distribution
- Sewerage (Treatment) System

3.4.2.6 Airspace Use Plan

Instrument approach and departure procedures shall be established and plans (Approach and Clear Zone Plans and Profiles in the scale of 1:50,000) shall be prepared in accordance with the criteria contained in the ICAO PANSOPS and the FAA TERPS. Results of analyses of meteorogical data shall be used to determine the precision approach runways, when such runways shall be required .

3.4.2.7 Airport Access Plan

The airport access plan shall be made in to two parts; one shall indicate the proposed routing of the airport access road to the city center taking into account the related urban plans of the government, while the other shall deal with the design of connections to existing and/or planned highways. A design standard shall be chosen that will provide a satisfactory operating level of service within the framework of standard traffic engineering practices and principles. The design parameters for the access plan should consider the peak-hour traffic generated by passengers, well-wishers, cargo forwarders, airport employees and visitors as well as the types of vehicles used in coming and going to the airport.

3.4.2.8 Security Plan

The consultants shall prepare the security plan for the airport in accordance with the provisions of the latest edition of ICAO Annex 17, "International Standards and Recommended Practices on Security".

3.5 INVESTMENT PROGRAM AND COST ESTIMATES

The investment cost shall be estimated based on the facility plans and broken down into foreign and local components. The investment program for the project shall be prepared, taking into account the volume and sequence of each work item of airport construction and the phasing of airport development (Phase I and Phase II).

3.6 MANAGEMENT ANALYSIS

An analysis of the present management and organizational structure of the selected study airports shall be undertaken and recommendations for their improvement shall be submitted. Based on the findings/results of said analysis, an Airport Operations and Procedures Manual for the newly developed airport/s shall be prepared, taking into account the following matters:

- Airport Organizational Set-up
- Airport Operating System and Procedures
- Management Information System
- Operating Records System
- Manpower Development and Training Program
- Airport Regulations and Proximity Prohibition; and
- Administrative and Technical Policies and Guidelines.

3.7 FINANCIAL ANALYSIS

A financial analysis shall be undertaken by the consultants to examine the financial feasibility of the selected study airports based on the assumption that the airports will be administered on a self-supporting accounting principle. The analysis shall be made in terms of the financial internal rate of return (FIRR) of the project derived from the financial cost-benefit analysis of the cash flow of the financial costs and the financial benefits. In addition, the following financial performance information on the project shall be prepared:

- Return on Investment Schedule
- Cash Flow Statements
- Profit and Loss Statements; and
- Balance Sheets

3.8 ECONOMIC ANALYSIS

A comprehensive evaluation of the economic worth brought about by the development of the selected study airports shall be undertaken by the consultants. The economic evaluation shall be made in terms of the economic internal rate of return (EIRR) of the project and the net present value (NPV) identified through an economic cost-benefit analysis made from the viewpoint of the national economy.

4. WORK PLAN AND PROJECT ORGANIZATION

4.1 WORK PLAN

A work plan complete with a schedule of the various tasks/activities called for in the scope of consulting services and methodology, shall be submitted by the consultants.

4.2 PROJECT ORGANIZATION

The consultants shall submit the consultants organization set-up, accompanied by a detailed description of the duties and responsibilities of its members, and the timing/schedule of their assignment.

A Steering Committee shall be established by the DOTC to monitor the progress of the different activities of the project and to provide the direction and guidance among the members of the team. A Technical Working Committee shall be created for the project to be composed of DOTC and ATO staff.

5. FUNDING PLAN

The project is proposed to be financed through a grant assistance in the estimated amount of US$2,000,000.00 and local counter funds in the amount of P4,000,000. Grant assistance shall include funding for the purchase of a computer and a copying machine for the efficient processing of data. Provisions shall also be made for the purchase of at least two (2) service vehicles which shall be required during coordination with other offices in the study airports. Purchased equipment shall become the property of the Government upon completion of the project.

An office space, including furnitures and office equipment, shall be provided for the project team by the Government, which shall also be responsible for the maintenance and operating cost of the project vehicle and equipment.

6. PROJECT DURATION

The consultants are expected to prepare/submit the total development plan for the four selected airports within a period of ten (10) months from the date of effectivity of the contract.

7. PERIOD AND PLANS

The Documentation of this study shall be accomplished through the publication of a series of reports and a set of airport drawings. These documents shall thoroughly present the procedures, methodologies, analyses, recommendations and supporting information of all work accomplished by the consultants. All reports and plans shall be prepared in the English language and all requirements shall be made in the metric system.

7.1 INCEPTION REPORT

Ten (10) copies are to be submitted within one (1) month after effectivity of the contract.

7.2 INTERIM REPORT

Fifteen (15) copies are to be submitted within four (4) months after effectivity of the contract.

7.3 DRAFT FINAL REPORT

Fifteen (15) copies shall be submitted within seven (7) months after the effectivity of the contract. The Philippine Government shall submit comments of the Draft Final Report, if any, within one month after receipt of the Draft Final Report.

7.4 FINAL REPORT

Twenty(20) copies are to be submitted within ten (10) months after effectivity of the contract.

対　処　方　針

フィリピン国主要地方空港整備計画
事前調査対処方針（案）

項　　目	対　処　方　針	備　　考
Ⅰ．事前調査の目的	フィリピン国の要請に基づき、地方空港の整備に係るマスタープランを策定し、短期優先プロジェクトに対してフィージビリティー調査を実施する。今回は、要請の内容・背景を確認し、実施調査のためのI/Aの協議・署名を行うことを目的として事前調査（I/A協議を実施するものである。 具体的な作業内容は以下のとおり。 a. 先方政府の意向確認 b. 要請背景・内容の確認 c. 現地踏査 d. 関連資料・情報の収集 e. 環境予備調査 f. I/A協議・署名	
Ⅱ．協議機関	運輸通信省	（I/Aのサイナー）
Ⅲ．具体的作業内容		
1．先方政府の意向確認	a. 事業実施時の財源等、先方政府の意向を確認し、当方の本件調査協力に関する考え方を説明する。 b. 当ミッションと比側政府機関との合意事項については先方と事前調査団とがI/A,M/Mに署名し、確認する。	T/R;（要請書） I/A;（実施細則） M/M;（協議議事録）
2．要請背景、内容の確認	本件調査の要請に至るまでの経緯とその内容を確認する。	
（1）調査対象	a. 調査対象となる空港の確認 現地踏査、実施機関との協議を踏まえ,Iloilo, Legaspi, Tacloban, Bacolod, Dumaguete　空港の中から実施調査の対象となる空港を決定する。 ただし、Legaspi空港の拡張は困難であると判断した場合には、Naga空港が代替空港になりうるかを検討する。 その他の追加要請のあった空港については次の理由から調査対象としない。 (Puerto Princesa)・・・北部ﾊﾟﾗﾜﾝ持続可能型観光開発計画の中で同空港の位置付けが先に検討されるべき。 (Panglao)・・・観光拠点とのことだがsecondary空港を本件の対象とするには根拠が不十分。 b. 調査対象となる地域の確認 上記で決定される空港とする（ただし、需要予測に際しては、接続している地域も対象とする）。 c. 目標年次の確認	調査対象空港の追加要請あり(Naga, Panglao,Puer-to Princesa) F/S;2005年 M/P;2015年
（2）調査実施上の問題点	調査実施に際して問題となる、治安状況、気象状況、連絡／交通手段、宿泊施設等の確認	

項　　目	対 処 方 針	備　　考
（3）受入体制	a. 先方政府の実施すべき事項 b. 先方カウンター機関 c. 調整等を目的とする委員会（Steering Committee 及びTechnical Working Committee）の必要性及びメンバー	
3．現地踏査	調査対象地域の現況把握及び実施調査の実施計画作成に必要となる現地情報を入手する。 a. 現空港現況 ・施設及び機器の老朽度、 ・施設及び機器の維持管理状況 ・施設配置等 b. 空港周辺の土地利用 c. アクセス交通手段とその利用状況	
4．情報収集	Q/Nに基づき関連報告書、比側の調査実施能力、大学／研究機関等の保有データ等の情報収集及び協議を行う。 a. 社会／経済データ b. 関連開発計画 ・運輸セクターの開発計画（空港、道路、鉄道、港湾） ・都市開発計画 ・観光開発計画等 c. 空港一般 ・航空行政・法令 ・航空路線体系 ・航空運賃、空港使用料 ・航空輸送実績 ・設計基準 ・環境基準 d. 航空会社 ・今後の路線及び機材配置計画 e. 調査対象空港 ・航空輸送実績 ・主要機器リスト ・施設規模 ・施設及び機材の維持管理、運営体制 ・収支状況 f. 調査対象周辺地域 ・アクセス交通手段及び手段別交通量 ・周辺土地利用および土地所有権 g. 自然条件 ・土質／地質 ・気象／水文 ・地形	Q／N；質問事項

項　　目	対　処　方　針	備　　考
	h. ローカルコンサルタント（自然条件調査、環境調査分野） ・業者リスト（含む実績、調査にかかる経費）	
5．環境予備調査	環境影響に関する資料の収集／分析を行うと共に環境ｶﾞｲﾄﾞﾗｲﾝ（空港編）に基づき環境予備調査を実施する。	関連資料収集・分析、ｽｸﾘｰﾆﾝｸﾞ/ｽｺｰﾋﾟﾝｸﾞ
6．I/A協議・署名	下記の項目について協議を行い、その結果をI/AまたはM/Mで確認する。 a. 協議内容に基づくI/A,M/Mの締結 b. 協力の内容及び範囲 c. 調査の内容 d. 調査期間及び工程 e. 報告書 f. 比側が取るべき措置 g. 日本側が取るべき措置 h. その他協議	I/A
（1）協議内容に基づくI/A, M/Mの締結	署名者 日本側：事前調査団長 比側：運輸通信省次官	
（2）協力の内容及び範囲	a. 空港の整備に係るM/P及び優先ﾌﾟﾛｼﾞｪｸﾄのF/Sの実施 b. 調査業務を通じてのC/Pに対する技術移転	
（3）調査の内容 1）調査の対象	事前調査において現地踏査、実施機関との協議を踏まえ、Iloilo, Legaspi, Tacloban,Bacolod,Dumaguete 空港の中から実施調査の対象となる空港を決定する。 ただし、Legaspi空港の拡張は困難であると判断した場合には、Naga空港が代替空港になりうるか検討する。	
2）現状分析	a. 既存資料の収集・分析 次の分野についての資料収集／分析を行う。 ・社会／経済データ ・運輸／交通データ ・土質／地質データ ・気象／水文データ ・地形データ ・その他 b. 関連開発計画の検討 調査対象地域の将来像を把握するため、以下の分野の開発計画のレビューを行う。 ・運輸セクター（空港、道路、鉄道、港湾）の開発計画 ・都市開発計画 ・観光開発計画	

項　　目	対　処　方　針	備　　考
	c. 航空一般に関する資料の収集・分析 航空一般に関する以下の資料を収集分析する。 ・航空行政・法令 ・航空路線体系 ・航空運賃、空港使用料 ・航空輸送実績 ・設計基準 ・環境基準 d. 航空会社の動向 航空会社の今後の動向を把握するため、以下の情報を収集する。 ・今後の路線計画 ・今後の機材配置計画 ・各空港の問題点 e. 航空輸送実態調査 航空及びその他の運輸交通に関する以下の資料・情報を収集・分析する。 ・航空路（路線構成／路線数） ・航空機（発着機数／駐機数／就航機材） ・航空旅客（出発／到着／乗り継ぎ客数） ・航空貨物（出発／到着／通過／検疫／回転率） ・来港者（就業／送迎／見学／商用者数） ・アクセス交通機関 （利用交通機関別交通量／駐車台数） f. 自然条件調査 空港及び周辺地区の現況を把握するため、以下の自然条件調査を行う。 ・地勢 ・気象／水文 （風向／風速／雲高／視程／気流／気温／降雨量等） ・土質／地質 g. 現空港施設調査・評価 現空港の状況を把握するため、以下の諸施設に関する資料／情報を収集／分析し、機能評価を行うと共に、施設規模原単位の算定に資する。 ・航空旅客流動／取扱能力調査 ・航空貨物流動／取扱能力調査 ・航空機地上支援業務／機器現況調査（航空管制／　保安、気象観測、整備、給油、機内食ｻｰﾋﾞｽ等） ・安全管理業務現況調査 （税関／出入管理／検疫／救難／警備等） ・供給処理施設現況調査 （電力／水／ガス供給、電話、給油、汚水／廃棄物処理施設等） ・空域利用現況調査 ・制限表面内障害物調査 ・周辺土地利用現況調査	

項　　目	対　処　方　針	備　　考
3）ﾏｽﾀｰﾌﾟﾗﾝの策定	a. 需要予測 ・全国航空輸送の需要予測 ・対象空港の航空輸送需要予測 b. 需要分析・機能分担 ・路線構成 ・旅客／貨物需要 ・発着機数、就航機材及び駐機数 ・ピーク時集中率 c. 長期整備方針の策定 需要分析・機能分担の検討結果に基づき整備計画の基本方針を策定する。 ・計画目標年次 ・空港別機能分担 d. 空域利用計画 航行の安全を確保し得る空域を設定をする。 ・障害物件の検討（制限表面抵触物件等） ・空域の検討（出発／到着経路、滞空旋空圏等 ・航行援助施設の検討 （VOR/DME/ILS/ASR等） ・管制方式の検討 （飛行場／ﾀｰﾐﾅﾙﾚｰﾀﾞｰ／航空路管制） e. 運行計画 空域利用計画と共に飛行方式を設定し、気象条件等から就航率の検討を行う。 f. 整備計画代替案の設定 航空需要と空港容量を分析し、全体計画として必要な施設の規模、位置、寸法、間隔等の代替案を設定する。 ・所要規模／施設配置 （滑走路、誘導路、エプロン、ターミナル、管制塔、管理／航空保安／整備施設等） ・供給処理施設との接続 ・アクセス交通施設との接続 g. 初期環境評価（IEE） 開発計画による環境への影響を予測し、環境影響評価の予測項目を選定する。 ・社会環境（住民移転、経済活動、地域分断等） ・自然環境（動植物、景観等） ・公害（騒音／振動、大気汚染）	

項　目	対　処　方　針	備　考
	h. 予備的概略設計 　設定された代替案に対して、事業費の算出に必要な予備的概略設計を行う。 　・設計基準の検討 　・土木施設（土工／排水／舗装等） 　・建築施設（旅客／貨物等） i. 予備的概略事業費の算出 　予備的概略設計の結果を基に、事業実施に必要な経費を年度別に算出する。 　・建設事業費 　・運営管理費 j. 予備的経済／財務分析 　代替案の実施に伴う概略の経済的費用／便益を計測し、資金投入の有用性、財務的裏付けの検討を行う。 k. 最適案の検討 　設定された代替案に対し、初期環境評価、予備的経済／財務分析の結果等を踏まえ、最適案を検討する。 l. 事業実施計画 　計画案を実施に移す手順を具体的かつ段階的に示し、組織／制度の改善案を提案する。 m. 事業評価及び短期優先ﾌﾟﾛｼﾞｪｸﾄの選定 　各分野の検討結果を総合的に評価し、最も優先すべき事項を選定する。	

項　目	対　処　方　針	備　考
4）実行可能性調査 (ﾌｨｰｼﾞﾋﾞﾘﾃｨｰｽﾀﾃﾞｨ)	a. 自然条件補足調査 選定された短期優先ﾌﾟﾛｼﾞｪｸﾄに対して必要な補足自然条件調査を行う。 ・地勢 ・気象／水文 ・土質／地質 b. 施設計画 選定された短期優先ﾌﾟﾛｼﾞｪｸﾄに対して必要な施設の規模、位置、寸法、間隔等を設定する。 ・所要規模／施設配置 ・供給処理施設との接続 ・アクセス交通施設との接続 c. 概略設計 設定された施設計画に対し技術的、社会的な検討を加え、概略設計を実施する。 ・土木施設（土工／排水／舗装等） ・建築施設（旅客／貨物等） ・アクセス交通施設 ・航空保安施設 ・供給処理施設 ・消火救難施設 d. 環境影響評価（ＥＩＡ） 環境へのｲﾝﾊﾟｸﾄを予測し、その影響の度合を把握することで、設定された施設計画を評価する。 ・社会環境（住民移転、経済活動、地域分断等） ・自然環境（動植物、景観等） ・公害（騒音／振動、大気汚染） e. 施工計画 設定された施設計画に対して技術面から実行可能性の検証を行い、施工計画を立案する。 f. 概略事業費の算出 設定された施設計画に対して経済／財務分析に必要な事業費の算出を行う。 g. 維持・管理・運営計画 設定された施設計画に対して必要な維持／管理／運営部門の組織及び人員の配置／訓練計画について提言を行う。 h. 経済／財務分析 計画案の実施に伴う経済的費用／便益を計測し、資金投入の有用性、財務的裏付けの検討を行う。	

項　目	対　処　方　針	備　考
	i. 実施計画 　計画案を実施に移す手順を具体的かつ段落的に示し、組織／制度の改善案を提案する。 J. 総合評価と提言	
（4）調査期間及び工程	期間は概ね13ヵ月程度 調査開始時期については、1996年2月を目処とするが、明言しない。	I/A工程表参照
（5）報告書	報告書は英文とする。 a. ｲﾝｾﾌﾟｼｮﾝﾚﾎﾟｰﾄ（10部） 　調査実施方針／スケジュールを記載 b. ﾌﾟﾛｸﾞﾚｽﾚﾎﾟｰﾄ(15部) 　現地調査結果等を記載 c. ｲﾝﾃﾘﾑﾚﾎﾟｰﾄ(15部) 　M/P, 短期優先ﾌﾟﾛｼﾞｪｸﾄの最終案を記載 d. ﾄﾞﾗﾌﾄﾌｧｲﾅﾙﾚﾎﾟｰﾄ(15部) 　M/P, F/Sの最終案を記載 e. ﾌｧｲﾅﾙﾚﾎﾟｰﾄ(20部) 　d.に対するコメントを踏まえた最終案を記載	本格調査開始時 調査開始後 3ヵ月 調査開始後 6ヵ月 調査開始後 10ヵ月 ｺﾒﾝﾄ受領後 2ヵ月
（6）比側が取るべき措置	比側に内容を説明し、異議がないことを確認する。	請訓事項等参照
（7）日本側が取るべき措置	比側に内容を説明し、異議がないことを確認する。	請訓事項等参照
（8）その他協議	協議内容／結果を協議議事録としてとりまとめ、双方が確認／署名する。	協議議事録（M/M）
Ⅳ．実施調査の実施に必要な確認事項	a. 調査の実施規模、必要期間 b. 気象データの観測状況 c. 新規気象観測の必要性 d. 既存地形図の取得／持出し e. 新規地形図作成の必要性 f. 地質／土質データの取得／持出し g. 新規地質／土質調査の必要性	
Ⅴ．請訓事項等	a. Undertakings（とるべき措置）の内容に係る事項については必要に応じて請訓する。 b. 調査内容における大幅な変更については請訓する。	

項　目	対　処　方　針	備　考
Ⅵ. 事前調査団員の担当事項		
（1）団長 総括／空港計画	・調査業務全般の総括 ・先方政府の意向確認 ・要請の背景及び内容の確認 ・現空港の現況把握 ・比側の航空開発計画についての内容　確認（含む需要予測） ・I／A協議／署名 ・I／A（案）、対処方針、質問事項の検討 ・実施調査の基本方針、提言の取りまとめ ・事前調査報告書（総括／空港計画）の作成	
（2）施設計画	・現空港の現況把握 ・施設計画に関する現状分析（設計／施工に影響する制約条件）、情報収集 ・実施調査内容（施設計画）の検討 ・I／A協議 ・I／A（案）、対処方針、質問事項の検討 ・事前調査報告書（空港施設）の作成	
（3）航空保安施設	・現空港の現況把握 ・管制／空域計画に関する現状分析、情報収集 ・保安施設に関する現状分析、情報収集 ・本格調査内容（航空保安施設）の検討 ・I／A協議 ・I／A（案）、対処方針、質問事項の検討 ・事前調査報告書（航空保安施設）の作成	
（4）調査企画	・調査業務全般の企画／調整 ・関連機関、在外公館等の調整 ・I／A協議 ・I／A（案）、対処方針（案）、質問事項（案）の作成 ・事前報告書（調査企画）の作成 ・事前調査報告書の取りまとめ ・事前報告書、実施調査への提言の取りまとめ	

項　目	対　処　方　針	備　考
（5）自然条件／環境	・環境予備調査及び環境・自然条件の質問事項の事前検討 ・現空港の現況把握 ・環境調査・自然条件調査に関する相手国側の調査実施能力の把握 ・相手国のIEE/EIA実施体制／法制度の調査 ・環境予備調査の実施 ・その他、環境／自然条件に関する現地踏査／情報収集（積算資料等） ・本格調査内容（環境／自然条件）の検討 ・事前報告書（環境／自然条件）の作成	
Ⅶ．議事録等	a. あらかじめ作成したI/A（案）を基に説明／協議し、合意の後、双方の代表が署名する。 b. I/A及び調査の実施に関する協議内容を協議議事録として取りまとめ、双方の代表者が署名し、確認する。	
Ⅷ．報告書	事前調査報告書目次（案）に従って、各担当により作成する。	
Ⅸ．研修員受け入れ	研修員受け入れに係る要請があった場合、内容を検討の上、適当と認められれば、日本側に伝達する旨M/Mに記載する。	
Ⅹ．調査用機材	調査用機材の要請については、必要と判断されるものについては、日本側に伝達する旨M/Mに記載する。なお、コピー機、パソコン、車両等の調達に関しては、現地調達、本邦調達の２ケースそれぞれについて購入とレンタルの経済性を調査し、妥当な調達方法を提案する。	
Ⅺ．使用言語	英語	

Implementing Arrangement（I／A）

IMPLEMENTING ARRANGEMENT

OF

THE TECHNICAL COOPERATION

FOR

THE STUDY ON SELECTED AIRPORTS MASTER PLANNING PROJECT

IN

THE REPUBLIC OF THE PHILIPPINES

AGREED UPON BETWEEN

THE DEPARTMENT OF TRANSPORTATION AND COMMUNICATIONS

AND

THE JAPAN INTERNATIONAL COOPERATION AGENCY

MANILA, PHILIPPINES

NOVEMBER 16, 1995

PRIMITIVO C. CAL
Undersecretary
Department of Transportation and
Communications

荒尾和文

KAZUHITO ARAO
Leader
Preparatory Study Team
Japan International
Cooperation Agency

I. INTRODUCTION

In response to the request of the Republic of the Philippines (hereinafter referred to as "GOP"), the Government of Japan (hereinafter referred to as "GOJ") has decided to conduct the Study on Selected Airports Master Planning Project in the Republic of the Philippines (hereinafter referred to as "the Study"), and exchanged the Notes Verbales with GOP concerning the implementation of the Study.

Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of GOJ, will undertake the Study in accordance with the relevant laws and regulations enforced in Japan.

On the part of GOP, Department of Transportation and Communications (hereinafter referred to as "DOTC"), shall act as the counterpart agency to the Japanese study team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

The present document constitutes the implementing arrangement between JICA and DOTC under the above-mentioned Notes Verbales exchanged between the two governments.

II. OBJECTIVE OF THE STUDY

The objectives of the Study are:

1) to formulate a master plan of each of the following airports for the year 2015:
   Bacolod Airport
   Iloilo Airport
   Tacloban Airport
   Legaspi Airport

2) to conduct a feasibility study on selected airport project for the year 2005.

III. STUDY AREA

The Study area will cover the above-mentioned airports.

IV. SCOPE OF THE STUDY

In order to achieve the objectives mentioned above, the Study shall cover the following items;

1. Study on existing conditions

   (1)Socio-economic conditions
   (2)Existing study and developments plans related to the Study
   (3)Air transport network and air transport demand, including the relations to other airports
   (4)Airport facilities and their utilization

(5)Airspace use, air traffic control system and aircraft operation procedures
(6)Operation and management system of airport facilities
(7)Financial management system
(8)Access transport
(9)Natural and environmental conditions

2. Formulation of a master plan

(1)Forecast of future demand for air transport
(2)Analysis of facility requirements
(3)Initial environmental examination (IEE)
(4)Preliminary cost estimates
(5)Formulation of development strategies
(6)Formulation of a staged implementation plan
(7)Recommendation on management and operation systems for airport facilities

3. Feasibility study on selected airport project

(1)Preliminary design
(2)Environmental impact assessment (EIA)
(3)Cost estimates
(4)Implementation programs
(5)Economic and Financial analysis
(6)Formulation of operation and management plan for airport facilities
(7)Overall evaluation and recommendation

V. STUDY SCHEDULE

The study will be carried out in accordance with the attached tentative schedule as shown in the appendix.

VI. REPORTS

JICA shall prepare and submit the following reports in English to GOP.

(1) Inception Report (20 copies)
This report is to describe the overall approach and implementation program of the Study and to be submitted at the commencement of work in the Philippines.

(2) Progress Report (20 Copies)
This report will be submitted within three (3) months after the commencement of the Study and will contain the preliminary outcome of the first field survey.

(3) Selection Report (20 copies)
This report will be submitted within five (5) months after commencement of the Study and will contain the recommendations on the airport to be selected for feasibility study.

(4) Interim Report (20 copies)
This report will be submitted within six months (6) after the commencement of the Study and will include the master plan.

(5) Draft Final Report (20 Copies)
This report will be submitted within ten (10) months after the commencement of the Study and will contain a draft of all the results of the Study.
DOTC will send comments to JICA within one (1) month after the receipt of Draft Final Report.

(6) Final Report (30 Copies)
This report will be submitted within two (2) months after receipt of the comments on the Draft Final Report from DOTC.

VII. UNDERTAKING OF GOP

In accordance with the Notes Verbales exchanged between GOJ and GOP, GOP shall accord privileges, immunities and other assistance to the Japanese study team and, through the authorities concerned, take necessary measures to facilitate the smooth conduct of the Study.

1. GOP shall be responsible for dealing with claims which may be brought by third parties against the members of the Japanese study team and shall hold them harmless in receipt of claims and liabilities arising in the course of, or otherwise connected with the discharge of thier duties in the implementation of the Study, except when such claims or liabilities arise from gross negligence or willful misconduct of the above-mentioned members.

2. DOTC shall, at its own expense, provide the Japanese study team with the following, if necessary, in cooperation with other agencies concerned;

(1)Available data and information related to the Study;
(2)Counterpart personnel;
(3)Suitable office space with necessary equipment in Metro Manila and the study areas; and
(4)Credentials or identification cards to the members of the Japanese study team.

3. DOTC shall make necessary arrangements with other governmental and non-governmental organizations concerned for the following;

(1) to secure the safety of the Japanese study system;
(2) to permit the members of the Japanese study team to enter, leave and sojourn in the Philippines for the duration of their assignment therein;
(3) to exempt the members of the Japanese study team from taxes, duties, fees and other charges on equipment, machinery and other materials brought into the Philippines for the conduct of the Study;

(4) to exempt the members of the Japanese study team from income tax and charges of any kind imposed on or in connection with any emolument or

allowance paid to the members of the Japanese study team for their services in connection with the implementation of the Study;

(5) to provide necessary facilities to the Japanese study team for remittance as well as utilization of the funds introduced into the Philippines from Japan in connection with the implementation of the Study;

(6) to secure permission for entry into private properties or restricted areas for the conduct of the Study;

(7) to secure permission to take all data and documents (including photographs) related to the Study out of the Philippines to Japan by the Japanese study team; and

(8) to provide medical services as needed and its expenses will be chargeable on members of the Japanese study team.

VIII. UNDERTAKING OF GOJ

In accordance with the Notes Verbales exchanged between GOJ and GOP, through JICA, shall take the following measures for the implementation of the Study;

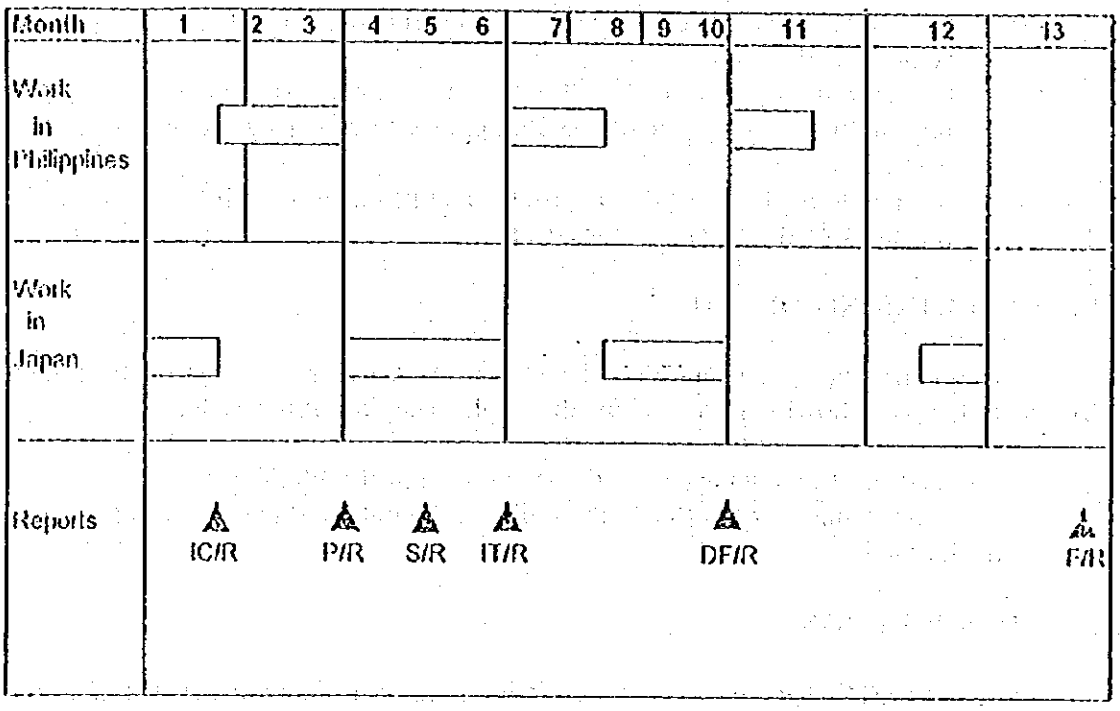
1. to dispatch, at its own expense, the study team to the Philippines;
2. to pursue technology transfer to the Philippine counterpart personnel in the course of the Study.

IX. CONSULTATION

JICA and DOTC shall consult with each other in respect of any matter that may arise from or in connection with the Study.

APPENDIX

TENTATIVE SCHEDULE OF THE STUDY



ABBREVIATION
- IC/R : Inception Report
- P/R : Progress Report
- S/R : Selection Report
- IT/R : Interim Report
- DF/R : Draft Final Report
- F/R : Final Report

Minutes of Meetings (M/M)

MINUTES OF THE MEETING

ON

THE IMPLEMENTING ARRANGEMENT

FOR

THE STUDY ON SELECTED AIRPORTS MASTER PLANNING PROJECT

IN

THE REPUBLIC OF THE PHILIPPINES

AGREED UPON BETWEEN

THE DEPARTMENT OF TRANSPORTATION AND COMMUNICATIONS

AND

THE JAPAN INTERNATIONAL COOPERATION AGENCY

MANILA, PHILIPPINES

NOVEMBER 16, 1995

PRIMITIVO C. CAL
Undersecretary
Department of Transportation and
Communications

荒尾和史

KAZUHITO ARAO
Leader
Preparatory Study Team
Japan International
Cooperation Agency

In response to the request of the Government of the Republic of the Philippines (hereinafter referred to as "GOP"), the Government of Japan (hereinafter referred to as "GOJ") dispatched the Team headed by Mr. KAZUHITO ARAO, from 30 October to 23 November 1995, through the Japan International Cooperation Agency (hereinafter referred to as "JICA"), to discuss a technical cooperation on the proposed Study on Selected Airports Master Planning Project in the Republic of the Philippines (hereinafter referred as "the Study").

The Team conducted field survey and had a series of discussions with authorities of the GOP.

Meetings were held between officials of the Department of Transportation and Communications (hereinafter referred to as "DOTC") and the Preparatory Study Team from 30 October to 16 November 1995. The list of participants is shown in Annex.

As the result of the above, both sides have confirmed the following points:

1. Both sides agreed that the Philippine counterpart agency shall be the DOTC in coordination with the Air Transportation Office and other agencies concerning the implementation of the Study.

2. Philippines side agreed to organize a Steering Committee and a Technical Working Committee among the concerned agencies as the coordinating body of the study in the Philippines.

3. Both sides agreed that the study shall be conducted in accordance with the ICAO standards.

4. Both sides agreed that the study period shall be thirteen (13) months under the following conditions:
   (1) Before the commencement of the study, the DOTC will prepare additional necessary information and data, such as topographic maps and aerial photographs, if available,
   (2) The DOTC will make their best effort to get permissions from the authorities concerned for taking aerial photographs and related procedures as required for the study.

5. It was agreed by both sides that the DOTC shall provide the Japanese Study Team with a suitable office space with necessary equipment to conduct the Study in Metro Manila and the selected sites.

6. The DOTC requested that a counterpart training shall be conducted in Japan. The Japanese Preparatory Study Team expressed that they shall convey the request to the GOJ.

7. The DOTC requested the Japanese Team to convey to the GOJ necessity of computer equipment, copy machine and GPS for the Study.

8. With reference to item 3 of the Section VII, Undertaking of GOP, of the Implementing Arrangement, Japanese side explained that the kind of passport held by the members of the Japanese Study Team shall be changed from official ones to ordinary ones and in this connection it is requested for DOTC to make necessary arrangements on the following:

(1) Issuance of necessary visas for the members of the Japanese Study Team,

(2) Tax exemption procedures on the equipment and materials brought into the Philippines for the implementation of the Study.

APPENDIX

LIST OF PARTICIPANTS

1. Philippine Side

1. JESUS B. GARCIA, JR.	Secretary, DOTC
2. PRIMITIVO C. CAL	Undersecretary, DOTC
3. CESAR T. VALBUENA	Assistant Secretary, DOTC
4. CAPT. PANFILO V. VILLARUEL, JR.	Assistant Secretary, ATO
5. GEORGE D. ESGUERRA	Director III, DOTC
6. LIGAYA S. POSTRERO	Division Chief, ATO
7. RAPHAEL S. LAVIDES	Division Chief, DOTC
8. MA. FILIPINAS Z. CABANA	Supervising Transportation Development Officer, DOTC
9. REYNALDO A. CACATIAN	Asst. Chief, Airport Maintenance Service, ATO
10. AGNES B. UDANG	Engineer III, Airport Maintenance Service, ATO
11. RAUL G. GLORIOSO	Engineer III, Airport Maintenence Service, ATO
12. BRENDO C. ELEGIO	Senior Transportation Development Officer, DOTC

DOTC : Department of Transportation and Communications
ATO : Air Transportation Office

2. Japanese Side

1.KAZUHITO ARAO	Team Leader of Preparatory Study Team
2.SEINOSUKE IWATA	Member, Airport Facilities Planner
3.KINJI SATO	Member, Air Navigation System
4.HIROYUKI KANZAKI	Member, Study Plan
5.TAKAHISA ISOBE	Member, Natural Conditions / Environmental Survey
6.HIDETOSHI KUME	First Secretary, Embassy of Japan
7.EIGI IWASAKI	Philippine Office, JICA

質疑書及び回答

REQUIRED DATA AND QUESTIONNAIRE

FOR

THE STUDY

ON SELECTED AIRPORTS MASTER PLANNING PROJECT

IN

THE REPUBLIC OF PHILIPPINES

Table 1

- Please review Table 1 made by the Preparatory Study on the development plan of DAVAO international airport in 1991.

Table 1

- ◎ mark in the "S.R." (shorting for Strong Request) is the description and data which the Preparatory Study Team Strongly requests to get during the stay in Philippines for the smooth conduct of the Study.
- Please mark ○ in the "AVAILABLE OR NOT" for the description and data which is available.
- Please mark X in the "AVAILABLE OR NOT" for the description and data which is not available.

October 1995
Japan International Cooperation Agency (JICA)

Table 1 INSTITUTIONAL FRAMEWORK OF AVIATION-RELATED ADMINISTRATION
(PLANNING, FINANCING, CONSTRUCTION, AND OPERATION ASPECTS OF THE AIRPORTS BY FACILITIES)

If organization concerned is department or other public organization, please write down the name of the organization.
In case of private body, please write "P.B"

ITEM	ORGANIZATION CHARGED IN			
	PLANNING	FINANCING	CONSTRUCTION	OPERATION
1. Runway, Taxiway, Apron, Holding bay	DOTC	DOTC	DOTC/ATO	ATO
2. Passenger Terminal building	- " -	- " -	- " -	- " -
3. Cargo handling facilities	DOTC P.B.	DOTC P.B.	DOTC P.B.	P.B.
4. Residential Quarter for the Airport Staff	P.B.	P.B.	P.B.	P.B.
5. Operation Tower	DOTC	DOTC	DOTC	ATO
6. Administration Building	DOTC	DOTC	DOTC	ATO
7. Aircraft Maintenance Facilities	P.B.	P.B.	P.B.	P.B.
8. Air Navigational Aids	DOTC	DOTC	ATO	ATO
9. Lighting System	DOTC	DOTC	ATO	ATO
10. Communication System	DOTC	DOTC	ATO	ATO
11. Information System	DOTC	DOTC	ATO	ATO
12. Consession	DOTC/P.B.	DOTC/P.B.	DOTC/P.B.	P.B.
13. Customs	DOTC/DOF	DOTC	DOTC	DOF
14. Immigration	DOTC/CID	DOTC	DOTC/CID	CID
15. Quarantine	DOTC/DOH	DOTC	DOTC	DOH
16. Fire Station	DOTC	DOTC	DOTC/ATO	ATO
17. Rescue Station	- " -	- " -	- " -	- " -

Table 1

ITEM	ORGANIZATION CHARGED IN			
	PLANNING	FINANCING	CONSTRUCTION	OPERATION
18. Car Parking lot	- " -	- " -	- " -	- " -
19. Fuel Supply System	DOTC/P.B.	P.B.	P.B.	P.B.
20. Drainage System	DOTC	DOTC	DOTC/ATO	ATO
21. Water Supply System	- " -	- " -	- " -	- " -
22. Gas Supply	DOTC/P.B.	P.B.	P.B.	P.B.
23. Sewage System	DOTC	DOTC	DOTC/ATO	ATO
24. Electric Power Supply System	- " -	- " -	- " -	- " -
25. Access Road	- " -	- " -	- " -	- " -
26. Perimeter fence	- " -	- " -	- " -	- " -

Table 2

ITEM OF NECESSARY DATA	S.R.	AVAILABLE OF NOT	NAME OF REPORTS AND RESPONSIBLE AGENCY
I. General Information			
(1) Socio-economic condition of the last 10 years			
a) GNP (if unavailable, GDP) by region	◎	NA	NEDA
b) Population by region	◎	NA	- " -
c) Agricultural and marine products by main sort and by region	◎	NA	- " -
d) Industrial and mining products by main sor and by region	◎	NA	- " -
e) Foreign trade (quantity and value)			
f) Income distribution by region			
(2) Development plan			
a) Economic development plan	◎	NA	NEDA
b) Agricultural and fishing development plan	◎	NA	- " -
c) Industrial development plan	◎	NA	- " -
d) Mining development plan			
e) Tourism development plan	◎	NA	DTI
f) Transportation development plan	◎	A	DOTC
g) Forecast of socio-economic indicators	◎	NA	
(3) Tourism resources			
a) Locations and descriptions of major tourism resources	◎	A	DOT
b) The number of tourists of the last 10 years and foecast	◎	A	DOT

Table 2

ITEM OF NECESSARY DATA	S.R.	AVAILABLE OF NOT	NAME OF REPORTS AND RESPONSIBLE AGENCY
(4) Budget and investment			
a) Annual budget with breakdown of the last 10 years		A	DOTC
b) Public investment by sector of the last 10 years	◎	NA	DOTC
c) Public investment plan by sector	◎	NA	
d) Amount of foreign assistance by sector	◎	NA	
II. Authorities and Government Agencies Concerned			
Administrative Organization Chart with Jurisdictional Responsibilities andbrief explanation			
a) Department of Transportation and Communications	◎	A	DOTC/ATO
b) Air Transportation Office	◎	A	- " -
c) Other concerned organization	◎	A	- " -
III. Air Transport			
(1) Airport Development plan			
a) Airport development plan of each airport	◎	A	DOTC
b) Public investment of the last 10 years of each airport			
c) Public investment plan of each airport	◎	A	- " -
d) Foreign assistance of each airport	◎	A	- " -
(2) Air route network			
a) Map of route network (international/domestic)	◎	A	DOTC/ATO
b) Future plan / policy for air route network	◎	A	

Table 2

ITEM OF NECESSARY DATA	S.R.	AVAILABLE OF NOT	NAME OF REPORTS AND RESPONSIBLE AGENCY
(3) Airport in the Philippines			
a) Geographical distribution of airports and their classification	◎	A	DOTC/ATO
b) Major facilities of each airport	◎	A	- " -
c) Function and capacities of each airport	◎	A	- " -
d) Design and planning criteria			
e) International / domestic passengers of each airport (at least last 10 years)	◎	A	- " -
f) International and domestic cargo of each airport (at least last 10 years)	◎	A	- " -
g) Demand forecast of air transport of each airport (passenger/cargo)	◎	A	- " -
h) Military aircraft activities of each airport			
i) Number of takeoffs and landings of each airport (commercial aircraft / general aviation aircraft)	◎	A	- " -
j) Air traffic control area map	◎	A	- " -
k) Air traffic control method	◎	A	- " -
l) Distribution of navigational facilities	◎	A	- " -
m) Aeronautical Information Publication (AIP)	◎	A	- " -
n) Annual report of DOTC	◎	A	- " -
(4) Airline company			
a) Name of airline companies in the Philippines	◎	A	CAB
b) International and domestic route map and timetable (by airline)			
c) Air fleet (actual and future plan)	◎	A	- " -
d) Foreign airline companies desiring to serve the airport in the Philippines			

Table 2

ITEM OF NECESSARY DATA	S.R.	AVAILABLE OF NOT	NAME OF REPORTS AND RESPONSIBLE AGENCY
IV. ILOILO, LEGASPI, TACLOBAN, BACOLOD and DUMAGUETE and NAGA Airport			
1. General Information			
a) Layout of the existing facilities (more than 1/5000 scale)	◎	A	DOTC/ATO
b) Inventory of facilities	◎	A	- " -
c) Construction history of airport	◎	A	- " -
d) Data opened for service, problems (degree of congestion, deterioration through aging, etc) and requests on airport facilities or management made by the users (airline companies, passengers, etc.)			
e) Past aircraft accidents	◎	A	DOTC/ATO
2. Airport facilities			
(1) Runway, taxiway and apron			
a) Weight restrictuion of aircraft	◎	A	DOTC/ATO
b) Actual strength of runway, taxiway and apron pavement	◎	A	- " -
c) Profile and cross section of runways and places where cracks and other defects have arisen			
d) Profile and cross section of taxiways and places where cracks and other defects have arisen			
e) Profile and cross section of aprons and places where cracks and other defects have arisen			
(2) Terminal facilities			
a) Floor plans and sections of each floor level of the terminal building	◎	A	DOTC/ATO
b) Layout plan of terminal facilities (baggage claim, x-ray check, CIQ, etc.)	◎	A	- " -
c) Location of fire station and the number and the size of fire engines			
d) Size, layout and utilization status of parking lots			

Table 2

ITEM OF NECESSARY DATA	S.R.	AVAILABLE OF NOT	NAME OF REPORTS AND RESPONSIBLE AGENCY
(3) Air navigation facilities			
a) List of the following facilities	◎	A	DOTC/ATO
- Lighting facilities			
- Air-to-ground telecommunication facilities			
- Radio navigation facilities			
- Air traffic control radar facilities			
- Meteorological facilities			
(4) Utilities			
a) Actual supply / diaposal volume of following facilities	◎	A	DOTC/ATO
- Water supply			
- Electric power supply			
- Sewage			
- Fuel supply			
b) Drainage facilities	◎	A	DOTC/ATO
- Rainwater drainage system diagram			
- Method of treating sewage generated in the terminal area			
c) Method of fueling (hydrant or refueller)	◎	A	DOTC/ATO
d) Number and distribution of GSE vehicles			
3. Obstacle			
a) Map of obstacle limitation surface	◎	A	DOTC/ATO/PAL
b) Report of obstacles for limitation surface	◎	A	- " -
4. Other information relevant to the Supply			
a) Access transportation volume from the main cities	◎	A	DOTC/ATO
b) Location of residential quarter for airport staff and the number of resident	◎	A	- " -

Table 2

ITEM OF NECESSARY DATA	S.R.	AVAILABLE OF NOT	NAME OF REPORTS AND RESPONSIBLE AGENCY
5. Natural condition			
(1) Natural condition			
a) Meteorogical conditions	◎	A	PAGASA
- Wind direction and speed			
- Visibility and cloud height			
- Temperature and precipitation			
- Earthquakes (year of occurrence, magnitude, etc.)			
- Tyhoon (maximum wind speed, year of occurrence)			
b) Topographical map (more than 1/100,000 scale)	◎	A	NAMRIA
c) Aerophotograph (airport and its surrounding area)	◎	NA	
d) Geological map	◎	NA	
e) Boring data	◎	NA	
(2) Local consultants			
a) List of local consultants for boring, soil investigation, topographic survey and aerial photographic mapping	◎	A	DOTC
b) Unit cost of survey (boring, soil laboratory test, soil field test, topographic survay, photographic mapping)	◎	A	Local Consultants
6. Environmental condition			
(1) Environmental condition			
a) Present aircraft noise level	◎	A	DENR
b) Vegetation map (1/10,000)	◎	NA	
c) Endangered species of flora and fauna around the site	◎	A	DOTC/DENR
d) Existence of archological, histrical of cultural remnant site	◎	A	- " -

Table 2

ITEM OF NECESSARY DATA	S.R.	AVAILABLE OF NOT	NAME OF REPORTS AND RESPONSIBLE AGENCY
(2) Local consultants			
a) List of local consultants for environmental survey	◎	A	DOTC
b) Unit cost of environmental survey	◎	A	Local Consultants
(3) Condition of the district around the airport			
a) Socio economic data	◎	A	DOTC/City Hall
- Population			
- Industrial products			
- Community / villages distribution data			
- Existing land use map (1/10,000)			
- City or regional plan (zoning or land use) (1/10,000)			
b) Development plan	◎	A	DOTC/DOT/CITY Hall
- Industry			
- Tourism			
- Transportation (other than air)			
V. Laws and Regulations			
a) Civil aviation laws and related regulations	◎	A	DOTC
b) Environmental laws, regulations and standards	◎	A	DENR
c) Aircraft noise standards	◎	A	DENR
d) Tariff structure	◎	A	DOTC
e) Agreement on the use of airport by the other organization			
f) Building standard law			
g) Fire code			

収集資料リスト

様式第1号

資料リスト（収集資料）

平成7年12月20日作成

主管部長	文書管理課長	主管課長

情報管理課長	技術情報課長

地域	東アジア	調査団名又は専門家氏名	フィリピン国主要地方空港整備計画（SW）	調査の種類又は指導科目	事前調査	作成部課	社会開発調査部社調一課
国名	フィリピン	配属機関名		現地調査期間又は派遣期間	平成7年10月30日～ 平成7年11月23日	担当者氏名	神崎博之

番号	資料の名称	形態	版型	ページ数	オリジナルコピーの別	部数	収集先名称又は発行機関	寄贈・購入（価値）の別	取扱区分	利用表示	利用者所属氏名	納入予定日	納入確認欄
1	MEDIUM AND LONG-TERM TRASPORTAION FRAM WORK PLAN	ホチキス	A4	13	コピー	1	DOHC	寄贈	JR				
2	SUMMARY OF TRAFFIC PERFORMANCE AND PROJECTIONS (PASSENGER MOVEMENT BY MAJOR AIRPORT)	シート	A4	1	コピー	1	DOHC	寄贈	JR				
3	NATIONAL AIRPORT INVENTORY FORM	ホチキス	A4	8	コピー	1	DOHC	寄贈	JR				
4	PASSENGER MOVEMENT YEAR 1988. 1989 1990. 1991. 1992	ホチキス	A4	15	コピー	1	DOHC	寄贈	JR				
5	CARGO MOVEMENT YEAR 1983, 1984. 1987. 1988. 1993. 1994	ホチキス	A4	18	コピー	1	DOHC	寄贈	JR				
6	COMPARATIVE FIGURERS ON AIRCRAFT MOVEMENT 1990～1994	シート	A4	3	コピー	1	DOHC	寄贈	JR				
7	COMPARATIVE FIGURERS ON CARGO (kg) MOVEMENT (人) 1990～1994	シート	A4	3	コピー	1	DOHC	寄贈	JR				
8	PASSENGER MOVEMENT (人) 1988～1994	シート	A4	3	コピー	1	DOHC	寄贈	JR				

様式第1号

資料リスト（収集資料）

平成7年12月20日作成

主管部長	文書管理課長	主管課長

情報管理課長	技術情報課長

地域	東アジア	調査団名又は専門家氏名	フィリピン国主要地方空港整備計画（SW）	調査の種類又は指導科目	事前調査	作成部課	社会開発調査部社調一課
国名	フィリピン	配属機関名		現地調査期間又は派遣期間	平成7年10月30日～平成7年11月23日	担当者氏名	神崎博之

番号	資料の名称	形態	版型	ページ数	オリジナルコピーの別	部数	収集先名称又は発行機関	寄贈・購入（価値）の別	取扱区分	利用表示	利用者所属氏名	納入予定日	納入確認欄
9	ARCRAFT/PASSENGER/CARGO MOVEMENT [MANILA INTERNATIONAL AIR PORT] 1990～1994	シート	A4	2	コピー	1	DOHC	寄贈	JR				
10	ARCRAFT/PASSENGER/CARGO MOVEMENT [CEBU INTERNATIONAL AIRPORT] 1989～1994	シート	A4	2	コピー	1	DOHC	寄贈	JR				
11	AIRCRAFT MOVEMENT BY AIR PORT [COMMERCIAL, GEN, MILITARY) 1983, 1984, 1985, 1986, 1987, 1989, 1990, 1992, 1993, 1994	ホチキス	A4 B4	32	コピー	1	DOTC	寄贈	JR				
12	AIRPORT EXISTING FACILITTIES (3/10/95)	ホチキス	B4	5	コピー	1	DOTC	寄贈	JR				
13	LONGITUDINAL PROFILE ILOICO, L LEGASPI, BACOLODO, TACLOBAN	ホチキス	A4	27	コピー	1	DOTC	寄贈	JR				
14	THE STREET FINDERE	製本	A4	4	オリジナル	1		購入	JR				
15	CIVIL AVIATION TRAINING CENTER カタログ	製本	A4	30	オリジナル	2	CATC	寄贈	JR				
16	バコロド空港平面図	シート	ロール	1	コピー	1	バコロド（ATO）	寄贈	JR				

様式第1号

資料リスト（収集資料）

平成7年12月20日作成

主管部長	文書管理課長	主管課長	情報管理課長	技術情報課長

地域	東アジア	調査団名又は専門家氏名	フィリピン国主要地方空港整備計画（SW）	調査の種類又は指導科目	事前調査	作成部課	社会開発調査部社調一課
国名	フィリピン	配属機関名		現地調査期間又は派遣期間	平成7年10月30日～ 平成7年11月23日	担当者氏名	神崎博之

番号	資料の名称	形態	版型	ページ数	オリジナルコピーの別	部数	収集先名称又は発行機関	寄贈・購入（価値）の別	取扱区分	利用表示	利用者所属氏名	納入予定日	納入確認欄
17	バコロド空港組織図	シート	B5	1	オリジナル	1	バコロド（ATO）	寄贈	JR				
18	BACOLOD AIRPORT. EXISTING FACILITIES	シート	コンピュータ用紙	5	オリジナル	1	DOTC	寄贈	JR				
19	BACOLODO REGION MAP	シート	A3	2	オリジナル	1		購入	JR				
20	ILOILO AIRCRAFT, CARGO, PASENGER MOVEMENT BY CLUSTER	ホチキス	A4	14	コピー	1	イロイロ（ATO）	寄贈	JR				
21	HISTORICAL BACK GRAND	シート	A4	2	コピー	1	イロイロ（ATO）	寄贈	JR				
22	DUMAGUETE ROCAL MAP	シート	A3	1	コピー	1	ドゥマゲッティ（ATO）	寄贈	JR				
23	AIRCRAFT, CARGO, PASSENGER MOVEMENT BY CLUSTER	ホチキス	A4	6	コピー	1	ドゥマゲッティ（ATO）	寄贈	JR				
24	ドゥマゲッティ組織図	シート	A4	2	コピー	1	ドゥマゲッティ（ATO）	寄贈	JR				

様式第1号

資料リスト（収集資料）

平成7年12月20日作成

主管部長	文書管理課長	主管課長	情報管理課長	技術情報課長

地域	東アジア	調査団名又は専門家氏名	フィリピン国主要地方空港整備計画（SW）	調査の種類又は指導科目	事前調査	作成部課	社会開発調査部社調一課
国名	フィリピン	配属機関名		現地調査期間又は派遣期間	平成7年10月30日～ 平成7年11月23日	担当者氏名	神崎博之

番号	資料の名称	形態	版型	ページ数	オリジナルコピーの別	部数	収集先名称称又は発行機関	寄贈・購入（価値）の別	取扱区分	利用表示	利用者所属氏名	納入予定日	納入確認欄
25	ドゥマゲッティ建物レイアウト図	ゼロックス 貼り合わせ	A1	1	コピー	1	ドゥマゲッティ（ATO）	寄贈	JR				
26	DUMAGUETE INCIDENT REPORT	シート	A4	2	コピー	1	ドゥマゲッティ（ATO）	寄贈	JR				
27	NAGA ANNVAL REPORT	ホチキス	A4	48	コピー	1	ナガ（ATO）	寄贈	JR				
28	NAGA AIRPORT DEVELOPMENT PLAN	ホチキス	A4	13	コピー	1	ナガ（ATO）	寄贈	JR				
29	ILOILO ANNUAL REPORT	ホチキス	A4	16	コピー	1	イロイロ（ATO）	寄贈	JR				
30	INVENTORY FORM	ホチキス	A4	8	オリジナル	1	ナガ（ATO）	寄贈	JR				
31	組織図	シート	B4	2	コピー	1	ATO	寄贈	JR				
32	建物レイアウト図	シート	ロール	1	コピー	1	タクロバン（ATO）	寄贈	JR				

様式第1号

資料リスト（収集資料）

平成7年12月20日作成

主管部長	文書管理課長	主管課長

情報管理課長	技術情報課長

地域	東アジア	調査団名又は専門家氏名	フィリピン国主要地方空港整備計画（SW）	調査の種類又は指導科目	事前調査	作成部・課	社会開発調査部社調一課
国名	フィリピン	配属機関名		現地調査期間又は派遣期間	平成7年10月30日～平成7年11月23日	担当者氏名	神崎博之

番号	資料の名称	形態	版型	ページ数	オリジナル・コピーの別	部数	収集先名称又は発行機関	寄贈・購入（価値）の別	取扱区分	利用表示	利用者所属氏名	納入予定日	納入確認欄
33	要望書	シート	A4	2	オリジナル	1	タクロバン（ATO）	寄贈	JR				
34	地形図	ゼロックス又は貼り合わせ	A4	1	コピー	1	ドゥマゲッティ（ATO）	寄贈	JR				
35	ILOILO INVENTORY FORM	ホチキス	A4	8	オリジナル	1	イロイロ（ATO）	寄贈	JR				
36	BACOLOD INVENTORY FORM	ホチキス	A4	8	オリジナル	1	バコロド（ATO）	寄贈	JR				
37	TACIOBAN INVENTORY FORM	ホチキス	A4	8	オリジナル	1	タクロバン（ATO）	寄贈	JR				
38	DUMAGUETE INVENTORY FORM	ホチキス	A4	8	オリジナル	1	ドゥマゲッティ（ATO）	寄贈	JR				
39	LEGASPI INVENTORY FORM	ホチキス	A4	8	オリジナル	1	レガスピー（ATO）	寄贈	JR				
40	CIVIL AERONAUTICS ACT	ホチキス	A5	45	コピー	1	ATO	寄贈	JR				

様式第1号

資料リスト（収集資料）

平成7年12月20日作成

主管部長	文書管理課長	主管課長	情報管理課長	技術情報課長

地域	東アジア	調査団名又は専門家氏名	フィリピン国主要地方空港整備計画（SW）	調査の種類又は指導科目	事前調査	作成部課	社会開発調査部社調一課
国名	フィリピン	配属機関名		現地調査期間又は派遣期間	平成7年10月30日～ 平成7年11月23日	担当者氏名	神崎博之

番号	資料の名称	形態	版型	ページ数	オリジナルコピーの別	部数	収集先名称称又は発行機関	寄贈・購入（価値）の別	取扱区分	利用表示	利用者所属氏名	納入予定日	納入確認欄
41	AIRCRAFT, CARGO, PASSENGER MOVEMTNT MOVEMENT BY CLUSTER	シート	A4	45	コピー	1	DOTC	寄贈	JR				
42	AIRCRAFT, CARGO, PASSENGER MOVEMTNT MOVEMENT BY CLUSTER	シート	コンピュータ用紙	64	オリジナル	1	DOTC	寄贈	JR				
43	AIRCRAFT, CARGO, PASSENGER MOVEMTNT MOVEMENT BY CLUSTER	シート	A4	2	コピー	1	MCIAA	寄贈	JR				
44	AIRCRAFT, CARGO, PASSENGER MOVEMTNT MOVEMENT BY CLUSTER	シート	A4	15	コピー	1	ATO	寄贈	JR				
45	PAL要望書	シート	A4	6	コピー	1	PAL	寄贈	JR				
46	MEDIUM AND LONG-TERM TRANSPORTATION FRAMEWORK PLAN	シート	A4	12	コピー	1	DOTC	寄贈	JR				
47	路線表	シート	A4	2	コピー	1	DOTC	寄贈	JR				
48	AIP	ホチキス	A4	61	コピー	1	PAL	購入	JR				

様式第1号

資料リスト（収集資料）

平成7年12月20日作成

主管部長	文書管理課長	主管課長

情報管理課長	技術情報課長

地域	東アジア	調査団名又は専門家氏名	フィリピン国主要地方空港整備計画（SW）	調査の種類又は指導科目	事前調査	作成部課	社会開発調査部社調一課
国名	フィリピン	配属機関名		現地調査期間又は派遣期間	平成7年10月30日～平成7年11月23日	担当者氏名	神崎博之

番号	資料の名称	形態	版型	ページ数	オリジナルコピーの別	部数	収集先名称称又は発行機関	寄贈・購入（価値）の別	取扱区分	利用表示	利用者所属氏名	納入予定日	納入確認欄
49	CIVIL AIR REGULATION	製本	A5	65	オリジナル	1	ATO	寄贈	JR				
50	障害物図面	シート	ロール	6	コピー	1	PAL	寄贈	JR				
51	CIVIL AVIATION MASTER PALN	折込み	A4	38	コピー	1	UNDP	寄贈	JR				
52	DOMESTIC FLIGHT SCHEDULE	シート	A4	6	コピー	1	PAL	寄贈	JR				
53	PAL機内誌	製本	A4	72	オリジナル	1	PAL	寄贈	JR				
54	PAL AIR CRAFT FLEET	シート	A4	1	コピー	1	PAL	寄贈	JR				
55	レガスピ文図	ゼロックス貼り合わせ	A1	1	コピー	1	レガスピ（ATO）	寄贈	JR				
56	障害物図面	シート	A1	4	コピー	1	ATO	寄贈	JR				

様式第1号

資料リスト（収集資料）

平成7年12月20日作成

主管部長	文書管理課長	主管課長

情報管理課長	技術情報課長

地域	東アジア	調査団名又は専門家氏名	フィリピン国主要地方空港整備計画（SW）	調査の種類又は指導科目	事前調査	作成部課	社会開発調査部社調一課
国名	フィリピン	配属機関名		現地調査期間又は派遣期間	平成7年10月30日～ 平成7年11月23日	担当者氏名	神崎博之

番号	資料の名称	形態	版型	ページ数	オリジナルコピーの別	部数	収集先名称称又は発行機関	寄贈・購入（価値）の別	取扱区分	利用表示	利用者所属氏名	納入予定日	納入確認欄
57	イロイロ建物レイアウト図	シート	A4	2	コピー	1	イロイロ（ATO）	寄贈	JR				
58	イロイロ建物レイアウト図	シート	A1	2	コピー	1	ATO	寄贈	JR				
59	イロイロ建物レイアウト図	シート	A1	2	コピー	1	DOTC	寄贈	JR				
60	BACOLOD 新空港平面図	シート	B1	1	コピー	1	CITY HALL (BACOLOD)	寄贈	JR				
61	新空港平面図	シート	ロール	3	コピー	1	ATO	寄贈	JR				
62	新空港平面図	シート	A1	2	コピー	1	ATO	寄贈	JR				
63	新空港平面図	シート	ロール	1	コピー	1	ククロバン（ATO）	寄贈	JR				
64	新空港平面図	シート	A1	1	コピー	1	DOTC	購入					

様式第1号

資料リスト（収集資料）

平成7年12月20日作成

主管部長	文書管理課長	主管課長

情報管理課長	技術情報課長

地域	東アジア	調査団名又は専門家氏名	フィリピン国主要地方空港整備計画（SW）	調査の種類又は指導科目	事前調査	作成部課	社会開発調査部社調一課
国名	フィリピン	配属機関名		現地調査期間又は派遣期間	平成7年10月30日～ 平成7年11月23日	担当者氏名	神崎博之

番号	資料の名称	形態	版型	ページ数	オリジナルコピーの別	部数	収集先名称称又は発行機関	寄贈・購入（価値）の別	取扱区分	利用表示	利用者所属氏名	納入予定日	納入確認欄
65	AIRPORT DEVELOPMENT REQUIREMENTS BASED ON PAL AIR SERVICE UPGRADING PALN	シート ホチキス	A4	32	コピー	1	DOTC／PAL	寄贈	JR				
66	FIVE YEAR AIR NAVIGATION FACILITIES DEVELOPMENT PROGRAM	本	A4	46	オリジナル	1	DOTC	寄贈	JR				
67	AERONAUTICAL INFORMATION R PUBLICATIONV	本	－	－	オリジナル	1	ATO	寄贈	JR				
68	RURAL INFRASTRUCTURE FUND PROJECT NAVIGATIONAL AID (NAVAIDS) SUBPROJECT	ホチキス	A4	7	コピー	1	USAID	寄贈	JR				
69	LOCATION MAP OF PHASE Ⅲ PROJECT	シート	A4	1	コピー	1	ATO	寄贈	JR				
70	EXISTING AIR NAVIGATION FACILITIES	シート	B4	3	コピー	1	ATO	寄贈	JR				
71	MASTER PLAN FOR AIR NAVIGATION FACILITIES	シート	B4	3	コピー	1	ATO	寄贈	JR				
72	PHASING OF MASTER PLAN FOR IMPLEMENTATION	シート	B4	3	コピー	1	ATO	寄贈	JR				

様式第1号

資料リスト（収集資料）

平成7年12月20日作成

主管部長	文書管理課長	主管課長	情報管理課長	技術情報課長

地域	東アジア	調査団名又は専門家氏名	フィリピン国主要地方空港整備計画（SW）	調査の種類又は指導科目	事前調査	作成部課	社会開発調査部社調一課
国名	フィリピン	配属機関名		現地調査期間又は派遣期間	平成7年10月30日～ 平成7年11月23日	担当者氏名	神崎博之

番号	資料の名称	形態	版型	ページ数	オリジナル・コピーの別	部数	収集先名称又は発行機関	寄贈・購入（価値）の別	取扱区分	利用表示	利用者所属氏名	納入予定日	納入確認欄
73	PRIMER ON THE ENVIRONMENT	製本	A5	31	オリジナル	1	ENVIROMENTAL MANAGEMENT BUREAU(EMB)	寄贈	JR				
74	THE ENVIRONMENAL MANAGEMENT BUREAU	製本	A5	18	オリジナル	1	DEPARTMENT OF ENVIROMENT & RESOURCAS (DENR)	寄贈	JR				
75	A PRIMER ON ENVIRONMENTAL IMPACT ASSESSMENT IN THE PHILIPPINES	製本	A5	16	オリジナル	1	EMB	寄贈	JR				
76	PHILIPPINE EIS SYSTEM POLICIES AND PROCEDURES	製本	A4	86+α	オリジナル	1	EMB	寄贈	JR				
77	BACOLOD CITY PROJILE	シート	A4	82	コピー	1	CITY PLANNING AND DEVELOP-MENT OFFICE	寄贈	JR				
78	BICOL REGION 1995 TOURISM SITUATION REPORT	製本	A4	66	オリジナル	1	DEPARTMENT OF TOURISM REGIONV	寄贈	JR				
79	SOCIO-ECONOMIC PROFILE OF ILOILO CITY	製本	A5	114	オリジナル	1	ILOILO CITY	寄贈	JR				
80	EARTHQUAKE	シート ホチキス	A4	32	コピー	1	VOLCANES OF THE PHILIPPINES	寄贈	JR				

様式第1号

資料リスト（収集資料）

平成7年12月20日作成

主管部長	文書管理課長	主管課長

情報管理課長	技術情報課長

地域	東アジア	調査団名又は専門家氏名	フィリピン国主要地方空港整備計画（SW）	調査の種類又は指導科目	事前調査	作成部課	社会開発調査部社調一課
国名	フィリピン	配属機関名		現地調査期間又は派遣期間	平成7年10月30日～ 平成7年11月23日	担当者氏名	神崎博之

番号	資料の名称	形態	版型	ページ数	オリジナル/コピーの別	部数	収集先名称又は発行機関	寄贈・購入（価値）の別	取扱区分	利用表示	利用者所属氏名	納入予定日	納入確認欄
81	BACOLOOD LAND MANAGEMENT UNIT MAP	シート	A2	3	コピー	1	GOVERNOR PROVINE OF NEGROS	寄贈	JR				
82	PROPOSED SITES FOR NEGROS INTERNATIONAL AIR PORT	シート	A0	1	コピー	1	GOVERNOR PROVINE OF NEGROS	寄贈	JR				
83	DATA ON NEGROS OCCIDENTAL PROPOSED AIRPORT SITES	リング製本	A4	87	オリジナル	1	GOVERNOR PROVINE OF NEGROS	寄贈	JR				
84	ククロバン、レガスピ、バコロド、イロイロ、ドゥマゲッティ、ナガの地形図	シート	A0 A1	11	オリジナル	1	DENR	購入	JR				
85	各地区気象データ	シート	A4	18	コピー	1	気象庁	購入	JR				
86	RAINFALL AND TROPICAL CYCLONE CLIMATOLOGICAL	シート	A	1	オリジナル	1	気象庁	購入	JR				
87	CIVIC AVIATION MASTER PLAN VOLUME III	ホチキス	A3	40	コピー	1	VNDP	寄贈	JR				
88													

ローカルコンサルタントリスト

フィリピンコンサルタント一覧表

	創立年	資本金 1,000P	売上高 1990 1,000P	職員数	土質／地質						測量				水質	気象	海象			交通	環境調査
					ボーリング	室内試験	載荷試験	孔内載荷	海上ボーリング	弾性波探査	航空	地形	路線	用地			海象	底砂	水理模型試験		
ACRE SURVEYING AND DEVELOPMENT	1978	(US) 200.000	5.000	104							○						○				
ADRIAN VINSON INTERNATIONAL ASSOCIATES. INC	1968	4.000	11.460	141	○	○	○	○				○	○	○	○		○		○	○	○
ANGEL LAZARO AND ASSOCIATES	1938	1.200	31.513	270	○	○						○	○		○						○
ASIAN ENGINEERS & SYSTEMS(PHIL)	1986	—	4.460	49																	
BASIC TECHNOLOGY AND MANAGEMENT CORPORATION	1972	2.187	10.011	119	○	○	○					○	○	○	○	○	○			○	○
CERTESA SURVEYING & AEROPHOTO SYS. INC	1924	10.000	45.036	150	○	○	○					○	○	○	○		○			○	○
CEST. INCORPORATED	1988	1.250	6.206	81	○	○			○						○						○
CONSTRICTION CONSULTANTS CORPORATION	1976	5.000	8.500	90	○	○		○	○		○	○	○	○		○	○			○	
CORROSION ENGINEERING SERVICES	1976	1.193	570	16	○	○														○	○
DEVELOPMENT ENGINEERING AND MANAGEMENT CORPORATION	1987	2.100	22.300	71	○	○								○						○	
DESIGN SCIENCE. INCORPORATED	1981	1.000	—	181	○	○	○	○	○		○	○			○	○	○				○
FILIPINAS DRAVO CORPORATION	1987	8.030	23.400	129	○	○	○	○			○	○	○			○	○	○	○	○	○
F.F. CRUZ & CO., INC	1949	5.797	5.797	30								○	○	○	○			○			
GEOANALYTICS	1981	—	—	98																	
JADE ENGINEERING & GEOTECHINICAL SERVICES	1991	200	—	20	○	○															
PERTCONSULT INTERNATIONAL	1981	1.000	10.000	152	○	○						○	○	○	○	○					○
PILIPINAS GEOTECNICA CORPORATION	1978	2.000	3.956	44	○	○	○	○						○	○	○		○			○
PHILIPPS' TECHNICAL CONSULTANT	1981	—	—	270																	
PKII ENGINEERS(PHILKOEI INTERNATIONAL, INC)	1989	9.000	14.258	92											○					○	
PRIMETECH CONSULTANTS INCORPORATED	1985	3.000	27.000	109								○	○								
PROCONSULT. INC.	1986	1.000	12.000	105	○	○						○	○	○	○		○			○	
SOLAR SURVERING CORP.	1973	100	—	200								○	○	○							
SYSTEMS AND MANAGEMENT DYNAMICS. INC	1984	500	4.000	12																○	
TOGI ENGINEERS	1973	—	—	492							○	○								○	
TECHNICS GROUP CORPORATION	1974	4.000	14.962	240	○	○	○					○	○	○	○	○	○			○	
TEST CONSULTANT. INC	1968	1.000	5.046	56	○	○	○						○		○	○		○	○		○
TRANS-ASIA(PHILIPPINES). INC (TAP)	1965	—	23.344	257	○	○	○		○		○	○			○		○			○	○
TRANS/PRO RESOURCES CORP	1984	(US) 30.000	—	11																○	○
UNIVERSAL CORTOGRAPHIC & DEVELOPMENT CORPORATION	1987	7.000	7.500	2							○	○								○	
URBAN INTEGRATED CONSULTANTS. INC	1980	400	18.486	291	○	○	○					○			○					○	○
SOHEMA KONSULT. INC					○	○						○			○						○

Airport Development Requirements Based on Pal Air Service Upgrading Plan

PHILIPPINE AIRLINES
Flight Operations Department
FLIGHT TECHNICAL DIVISION

PRIORITY 1 : 1995 - 1997

AIRPORT DEVELOPMENT REQUIREMENTS BASED ON PAL AIR SERVICE UPGRADING PLAN

FTD Report No. 046
01 October 1995

OBJECTIVES

1. In order to provide adequate air services, it is desired that runway of following airports should be improved or relocated to accommodate operation of A300 or B737 aircraft based on following timetable :

A300 Operations :

I. 1995
   a. Puerto Princesa

II. 1996
   a. Zamboanga
   b. General Santos (Tambler)

III. 1997
   a. Iloilo
   b. Bacolod
   c. Tacloban
   d. Cagayan de Oro

B737 Operations :

I. 1995
   a. Baguio
   b. Virac

II. 1995 - 1996
   a. Surigao
   b. Cauayan
   c. Naga
   d. Tagbilaran
   e. Calbayog

III. 1996 - 1997
   a. Catarman
   b. Masbate
   c. Sanga-sanga
   d. Jolo
   e. Ozamis
   f. Marinduque
   g. Pagadian

2. For flight safety, all man-made obstructions (trees, building, antennas, etc.) on runway approaches must be removed. Adequate Rescue & Fire Fighting facilities should be provided as special means of prompt response to aircraft incident or accident occuring at, or within the immediate vicinity of the aerodrome. Complete security fence should be provided to prevent entry of unauthorized persons and stray animals into the aircraft movement areas.

3. To maximize aircraft utilization, the minimum requirements for night operations must be satisfied for following selected airports utilizing B737 aircraft :

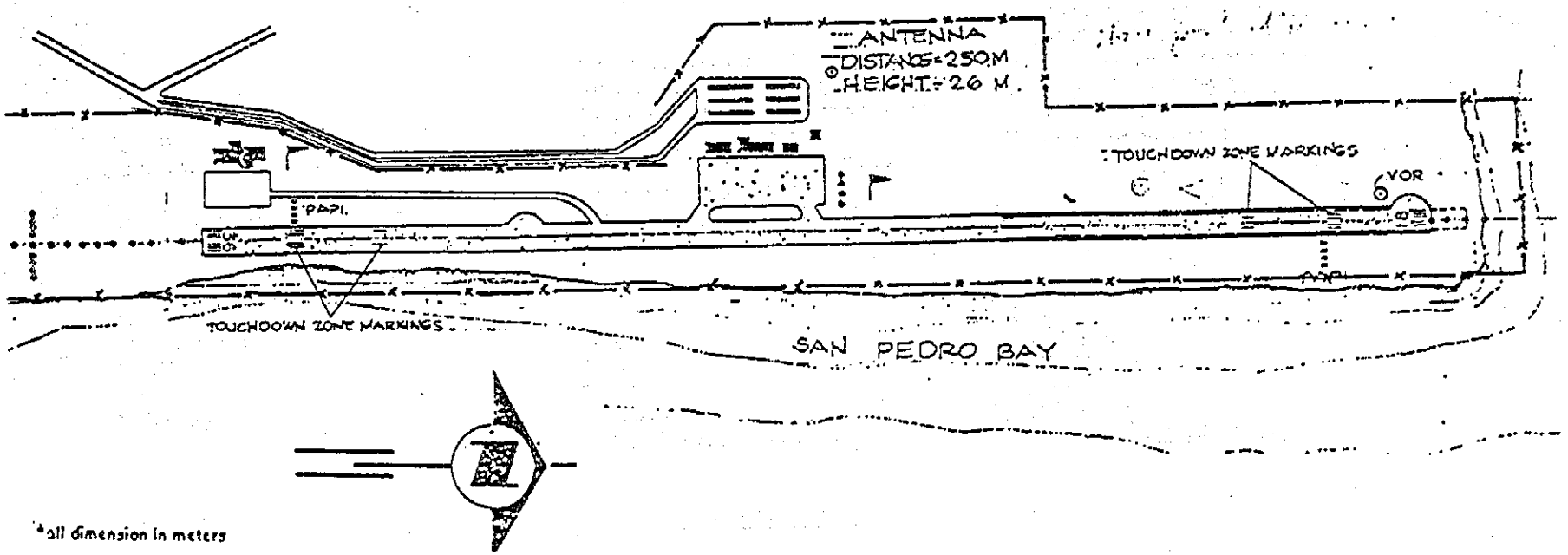
I. 1995
   a. Kalibo
   b. Roxas
   c. Laoag

II. 1996
   a. Butuan
   b. Cagayan de Oro
   c. Cotabato
   d. San jose
   e. Tuguegarao

III. 1997
   a. Dipolog
   b. Dumaguete
   c. Virac
   d. Cauayan

TACLOBAN AIRPORT

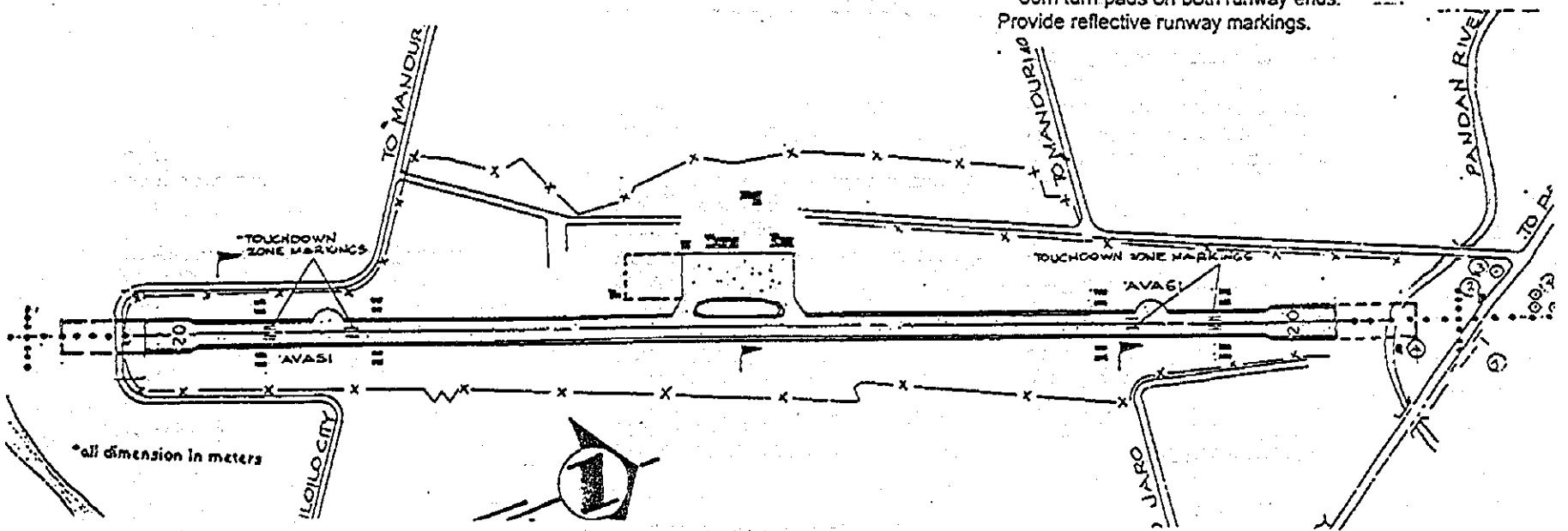
	Existing data/Requirements	1997 Requirements
Aircraft type	B737 night operations	A300 night operations
Runway	2140 x 36	2140 x 45
Surface	Concrete	Asphalt overlay
Pavement strength	PCN 39 RBWT	ok
Stopways	0/60	150/150
Apron	230 x 80	ok
Rescue & Fire Fighting :	Cat VI	Cat VIII
Navigation and Ground Aids Facilities	VOR/DME, PAPI, Runway and threshold lights, SALS, beacon light and lighted windcone.	ok
Communications	Control tower with Approach control.	ok
Others	Remove obstacles at end of Rwy 18. Complete perimeter fence. Provide reflective runway markings.	Remove obstacles at end of Rwy 18. Complete perimeter fence. Overlay runway with 8-inch asphalt. Expand terminal building. Provide reflective runway markings.



*all dimension in meters

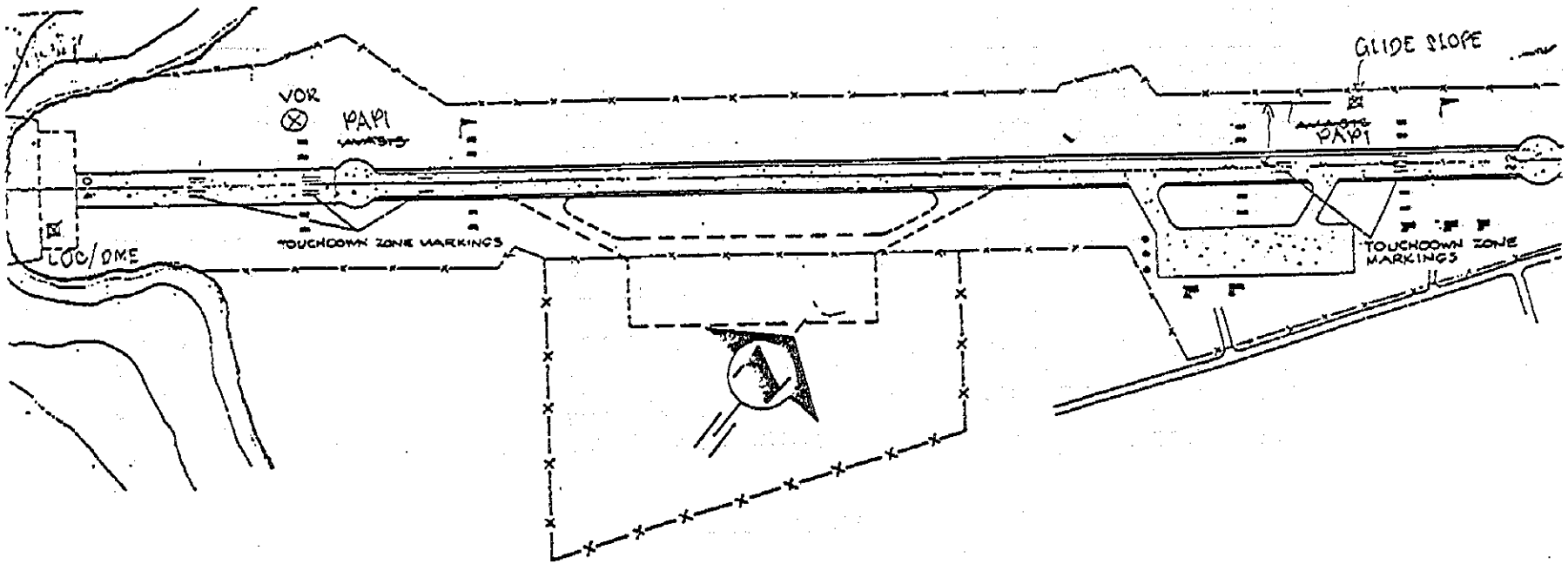
ILOILO AIRPORT

	Existing data/Requirements	1997 Requirements
Aircraft type	B737 night operations	A300 night operations
Runway	2100 x 36	2100 x 45
Surface	Concrete	Asphalt overlay
Pavement strength	PCN 39.0 R8WU	PCN 52 FBWU
Stopways	0/0	150/150
Apron	218 x 80	300 x 100 (with new terminal and apron at east of airstrip)
Rescue & Fire Fighting :	Cat VI	Cat VIII
Navigation and Ground Aids Facilities	PAPI, VOR/DME, with complete night landing facilities.	ok
Communications	Control tower with Approach control	ok
Others	Complete perimeter fence .	Complete perimeter fence .
	Remove obstacles at both runway ends.	Remove obstacles at both runway ends.
	Reroute road at end Rwy 20.	Reroute road at end Rwy 20.
	Provide reflective runway markings.	Overlay runway with 10-inch thick asphalt with 60m turn pads on both runway ends.
		Provide reflective runway markings.



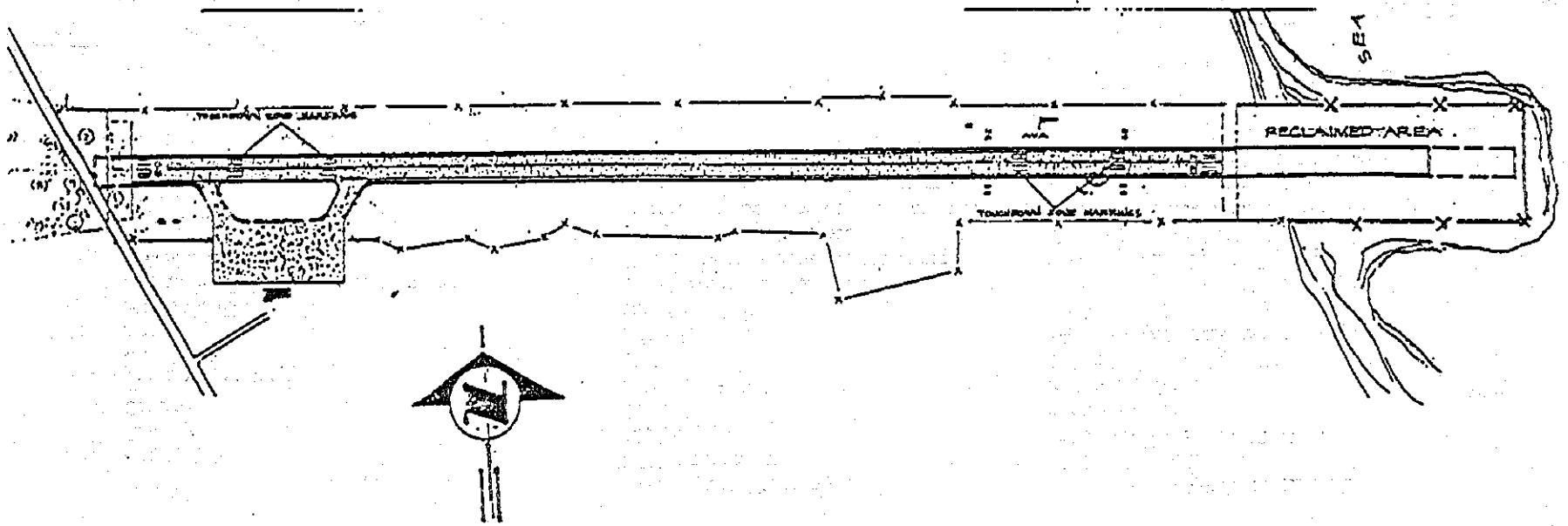
BACOLOD AIRPORT

	Existing data/Requirements	1997 Requirements
Aircraft type	B737 night operations	A300 night operations
Runway	1960 x 30	2100 x 45 with 60m x 60m turn pads both ends
Surface	Concrete	Asphalt overlay
Pavement strength	PCN 41.0 RCWT	PCN 52.0 FCWU
Stopways	58/0	150/150
Apron	260 x 60	300 x 100 (with new terminal and apron)
Rescue & Fire Fighting :	Cat V	Cat VIII
Navigation and Ground Aids Facilities	TVOR, complete ground facilities	DME
Communications	Control tower, Area/Approach control.	Construct new Control Tower.
Others	Complete perimeter fence.	Complete perimeter fence.
	Remove obstacles on both runway ends.	Remove obstacles on both runway ends.
	Provide reflective runway markings.	Provide reflective runway markings.
		Overlay runway with 10-inch asphalt.



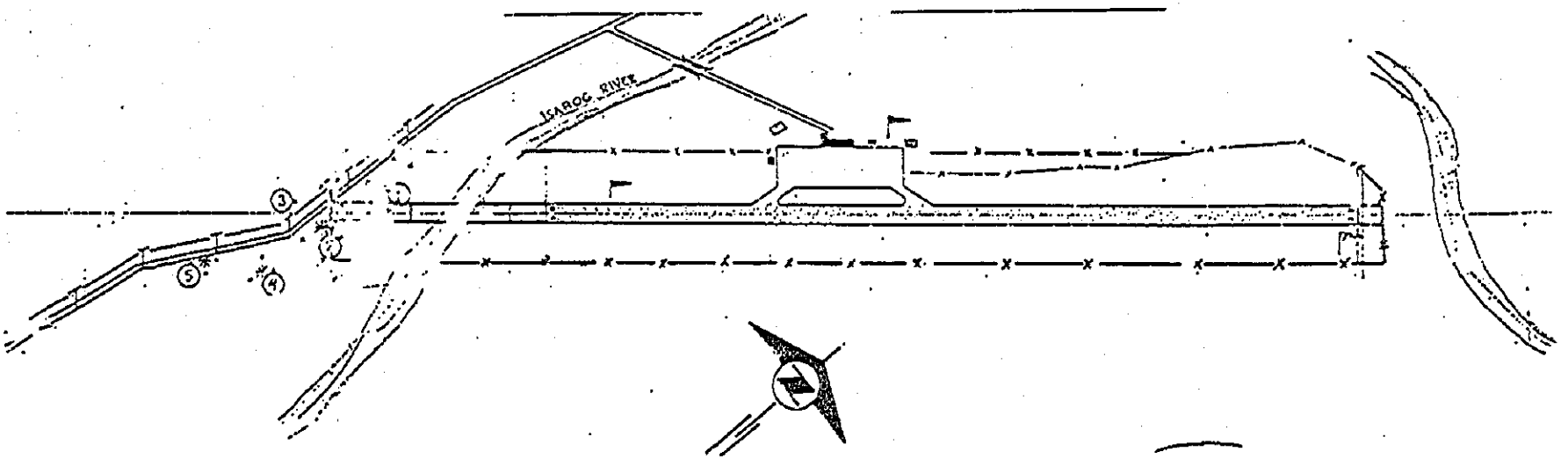
DUMAGUETE AIRPORT

	Existing data/Requirements	1997 Requirements
Aircraft type	B737 day operations	B737 night operations
Runway	1731 x 36	2400 x 45 (for 10 kts TW takeoff Rwy 09)
Surface	Concrete	Asphalt overlay
Pavement strength	PCN 35.0 RCWU	PCN 39 RCWU
Stopways	27/40	150/150
Apron	200 x 100	ok
Rescue & Fire Fighting :	Cat IV	Cat VI
Navigation and Ground Aids Facilities	TVOR	DME, PAPI, Runway, threshold and taxiway lights SALS, Beacon light and lighted windcone.
Communications	none	Control tower with Approach control facilities.
Others	Reroute road at end of Rwy 27. Rehabilitate perimeter fence. Remove obstacles at end of Rwy 27. Repaint runway markings.	Reroute road at end of Rwy 27. Rehabilitate perimeter fence. Overlay runway with 2-inch thick asphalt. Remove obstacles at end of Rwy 27. Provide reflective runway markings.

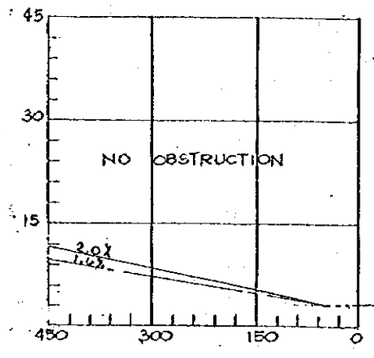


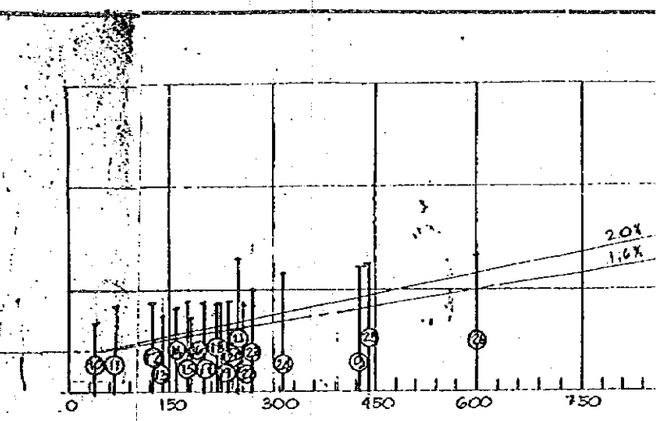
NAGA AIRPORT

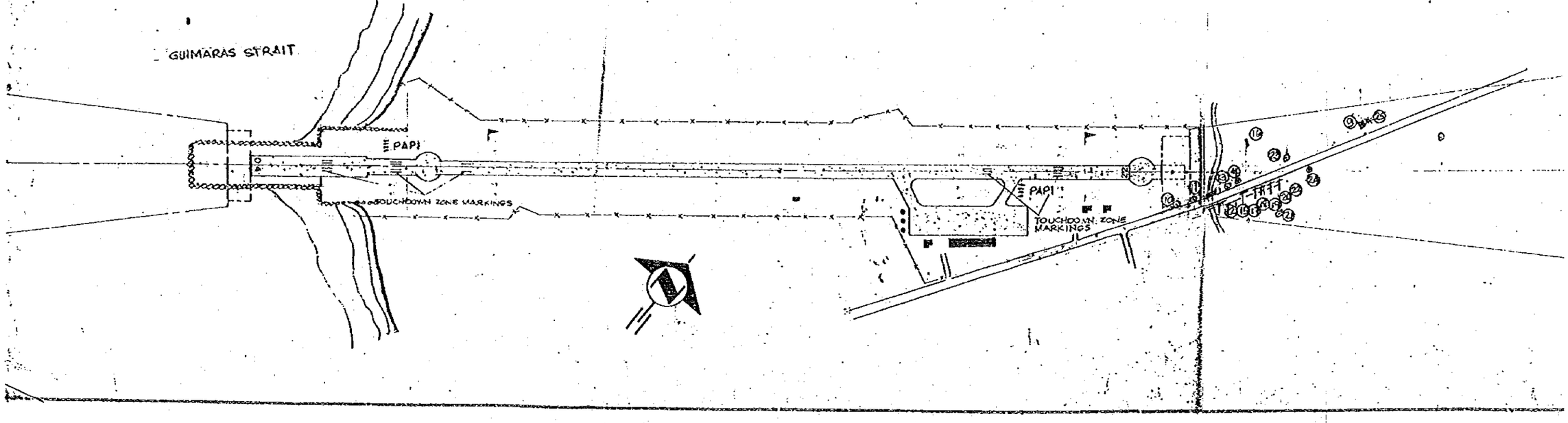
	Existing data/Requirements	1996 Requirements	New Airport/ASAP
Aircraft Type	F-50 day operations	B737 day operations (Limited Payload)	B737 night operations (Unlimited Payload)
Runway	1282 x 30	1,375 x 30	1830 x 45 (new runway)
Surface	Concrete	ok	Concrete
Pavement strength	PCN 29.2 RBWT	ok	PCN 39 RBWU
Stopways	36/60	Concrete existing Stopway as rwy extension.	150/150
Apron	200 x 60	ok	200 x 100
Rescue & Fire Fighting	Cat IV	Cat VI	Cat VI
Navigation and Ground Aids Facilities	TVOR	NDB, PAPI	DME
Communications	FSS	ok	Control tower with Approach control facilities.
Others	Complete perimeter fence. Remove obstacles end of Rwy 22. Expand terminal building. Repaint runway markings.	Complete perimeter fence. Remove obstacles end of Rwy 22 Expand terminal building. Repaint runway markings.	Complete perimeter fence.



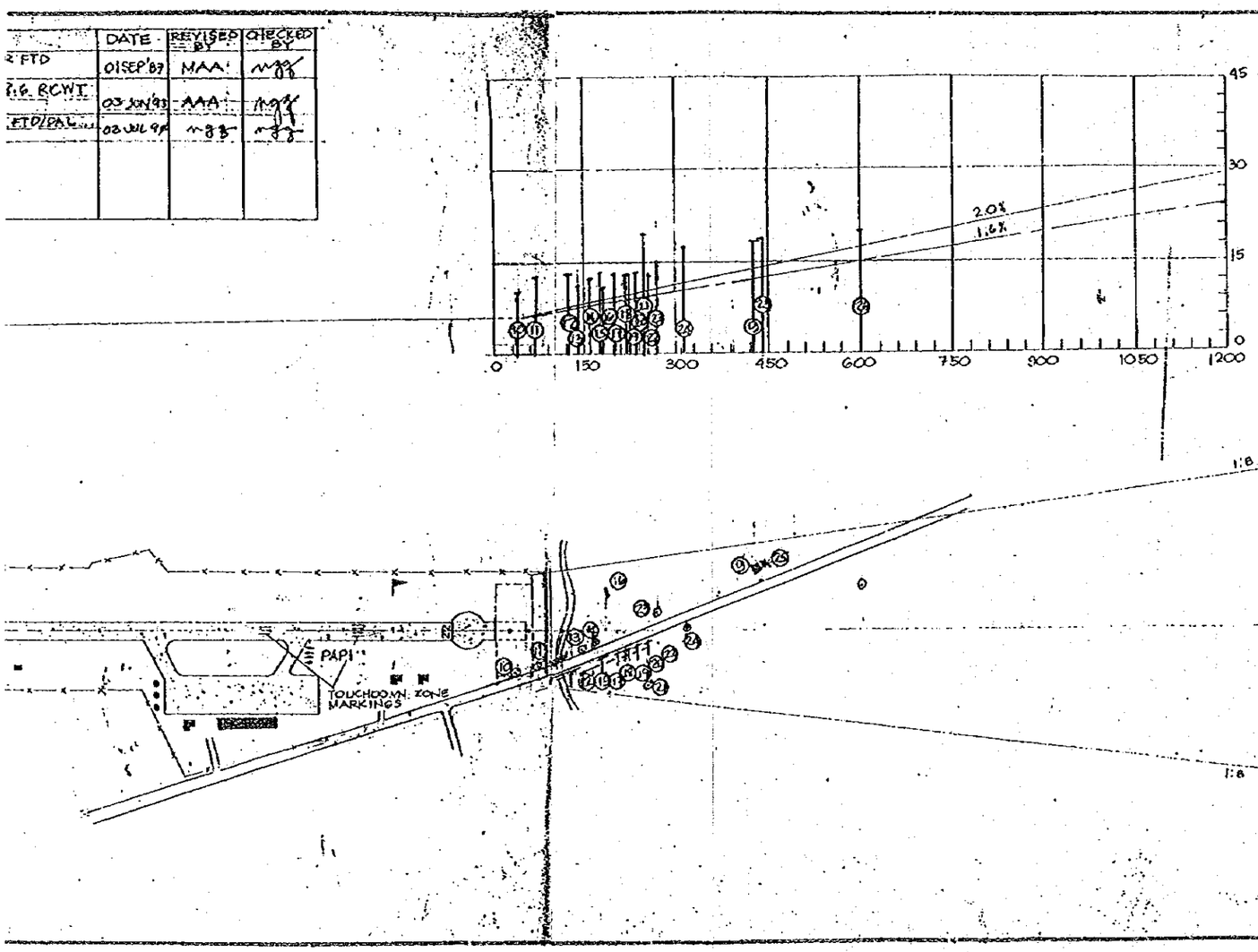
CHG	REVISIONS	DATE	REVISED BY	CHECKED BY
6	NEW OBSTRUCTION ON APPROACH OF RWY 22 ENTERED PER FTD SURVEY DATED: 29 JULY 87	01SEP'87	MAA	
7	REVISED RUNWAY BEARING STRENGTH FROM PCN 27.6 RCWT TO PCN 41 RCWU. AIC NOTAM C0196/91	03 JAN'93	AAA	
8	NEW OBSTNS ENTERED PER JOINT SURVEY OF ATO-AAIR FTD/PAL ON 16 JULY 1994.	08 JUL 94		







	DATE	REVISED BY	CHECKED BY
2 FTD	01SEP'89	MAA	
2.6 RCWU	03 JUN'93	MAA	
FTD/PAL	02 JUL 94		



PHILIPPINE AIRLINES
FLIGHT TECHNICAL DIVISION
FLIGHT OPERATIONS
NICHOLS FIELD, PASAY CITY

BACOLOD AERODROME OBSTACLE CHART

TYPE OF SURFACE	COORDINATES	ELEVATION	SCALE
CONCRETE	10 33 42 N 122 55 21 E	6	HOR: 1:6000 VER: 1:600

RUNWAY DESIGNATION	04	22	BEARING STRENGTH: 41 RCWU
RUNWAY DIMENSION(M)	1958 X 30		
STOPWAY (M)	50	0	APRON: 60 X 260
CLEARWAY(M)	60	50	TAXIWAY:
SLOPE %	+0.15	-0.15	

OBSTRUCTION PARTICULARS - END OF RWY 04

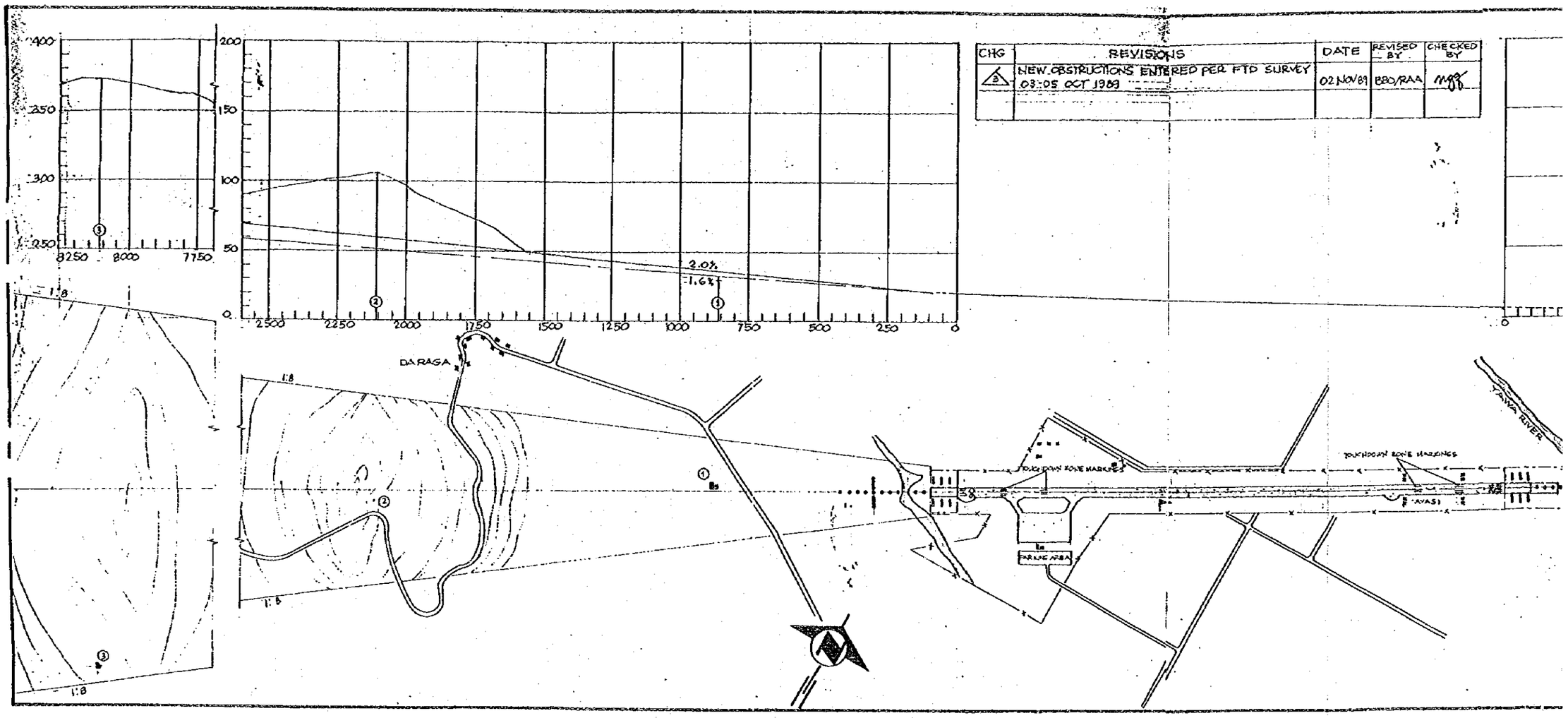
NO.	DISTANCE (M)	HEIGHT(M)	NOMENCLATURE	REMARKS
9	410	10.63	SUGARLAND HOTEL	
10	39	3.64	STREET LIGHT	
11	67	6.36	ANTENNA	
12	125	6.93	ELECTRIC POST	
13	140	5.26	ANTENNA	
14	163	5.80	ANTENNA	
15	175	6.78	ELECTRIC POST	
16	181	4.83	FIRE WALL	
17	205	6.92	ELECTRIC POST	
18	218	6.51	ELECTRIC POST	
19	222	6.54	ELECTRIC POST	
20	235	7.12	ELECTRIC POST	
21	248	15.30	ANTENNA	
22	253	7.20	ELECTRIC POST	
23	290	8.83	ANTENNA	
24	316	10.84	ANTENNA	
25	442	12.51	PINE TREE	
26	600	13.80	ANTENNA	

CONCRETE RUNWAY		BUILDING	
ASPHALT RUNWAY		CONTROL TOWER	
GRAVEL/SOIL RUNWAY		SINGLE TREE	
STOPWAY		GROVE	
CLEARWAY		POLE OR POST	
TERRAIN PENETRATING OBSTRUCTION PLANE		WINDCONE	
ROAD		FUEL OR OIL TANK	
BRIDGE		WATER TANK	
T—T—T	POWER/TELEPHONE LINE	X—X—X	PERIMETER FENCE

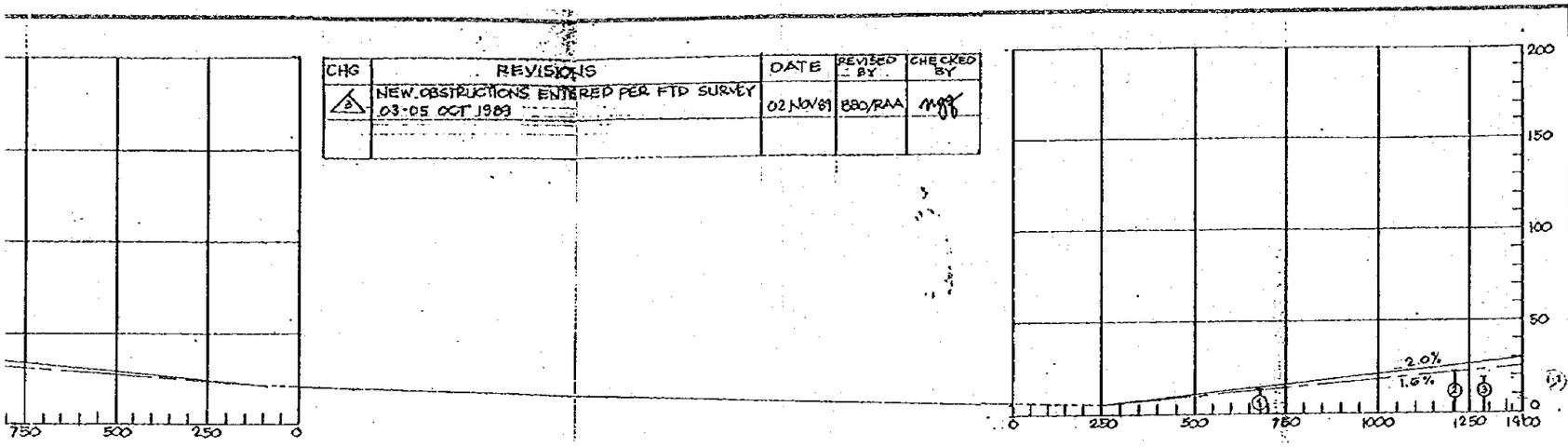
DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
R.A. ADLADA	N.B. QUEZON	E.J. CRUZ	18 OCT. 1989

DRAWING NO. FS-89-100

CHG	REVISIONS	DATE	REVISED BY	CHECKED BY
3	NEW OBSTRUCTIONS ENTERED PER FTD SURVEY 03:05 OCT 1989	02 NOV 89	BBO/RAA	



CHG	REVISIONS	DATE	REVISED BY	CHECKED BY
3	NEW OBSTRUCTIONS ENTERED PER FTD SURVEY 03-05 OCT 1989	02 NOV 89	BBO/RAA	MGQ



PHILIPPINE AIRLINES
FLIGHT TECHNICAL DIVISION
FLIGHT OPERATIONS
NICHOLS FIELD, PASAY CITY

LEGASPI AERODROME OBSTACLE CHART

TYPE OF SURFACE	COORDINATES	ELEVATION	SCALE
CONCRETE	13 09 20 N 123 43 35 E	20M	HOR: 1:10000 VER: 1:2000

RUNWAY DESIGNATION	06	24	BEARING STRENGTH
RUNWAY DIMENSION	1974 X 36 M		PCN 29.6 RBWT
STOPWAY	100	100	APRON 200 X 100
CLEARWAY	260	100	TAXIWAY STANDARD
SLOPE %	÷ 0.71	+0.71	

OBSTRUCTION PARTICULARS - END OF RWY 06

NO.	DISTANCE	HEIGHT	NOMENCLATURE	REMARKS
1	622	7.70	PINETREE	1.82 % SLOPE
2	1208	16.32	ANTENNA	1.73% SLOPE
3	1290	12.64	COCO GROVE	1.22% SLOPE
4				
5				
6				
7				
8				
9				
10				
11				
12				

OBSTRUCTION PARTICULARS - END OF RWY 24

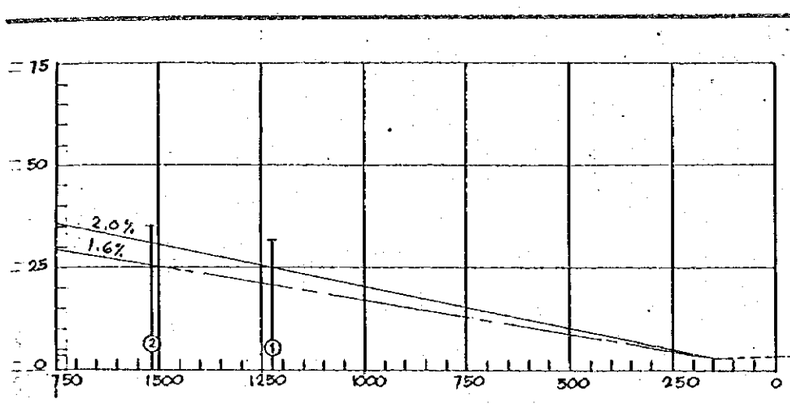
NO.	DISTANCE	HEIGHT	NOMENCLATURE	REMARKS
1	1869	11.58	BUILDING	1.50% SLOPE
2	2129	80.56	HILL	3.97% SLOPE
3	8115.94	352.42	BUILDING	4.35% SLOPE
4				
5				
6				
7				
8				
9				
10				
11				
12				

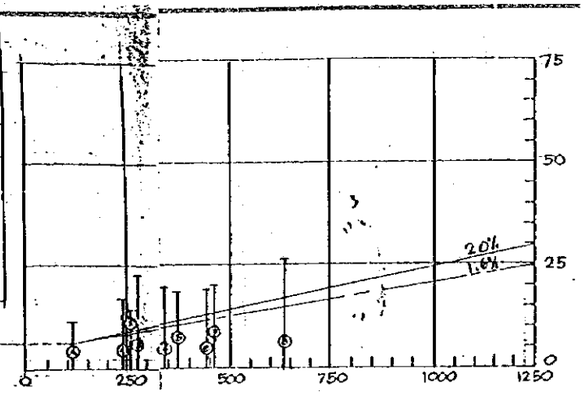
- CONCRETE RUNWAY
- ASPHALT RUNWAY
- GRAVEL/SOIL RUNWAY
- STOPWAY
- CLEARWAY
- TERRAIN PENETRATING OBSTRUCTION PLANE
- ROAD
- BRIDGE
- POWER OR TELEPHONE LINE
- BUILDING
- CONTROL TOWER
- SINGLE TREE
- GROVE
- POLE OR POST
- WINDCONE
- FUEL OR OIL TANK
- WATER TANK
- PERIMETER FENCE

DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
R.A. ABILADA	M.G. QUEZON	A. CRUZ	02 NOV 1989

DRAWING NO. FS-89-104

CHG	REVISIONS	DATE	REVISED BY	CHECKED BY
6	NEW OBSTRUCTIONS ENTERED PER PTD SURVEY CONDUCTED 02 SEPT 1987	10 SEP '87	DSJ	
7	NEW OBSTRUCTION ENTERED PER AID NOTAM NO. C249 DTD 23 JUL 91.	24 JUL'91	RAA	
8	PER LOAT. BATCHING PLANT LOCATED 300M START OF RWY 20, 120M WEST CENTERLINE, HT: 22 M	28 JUL'91	RAA	

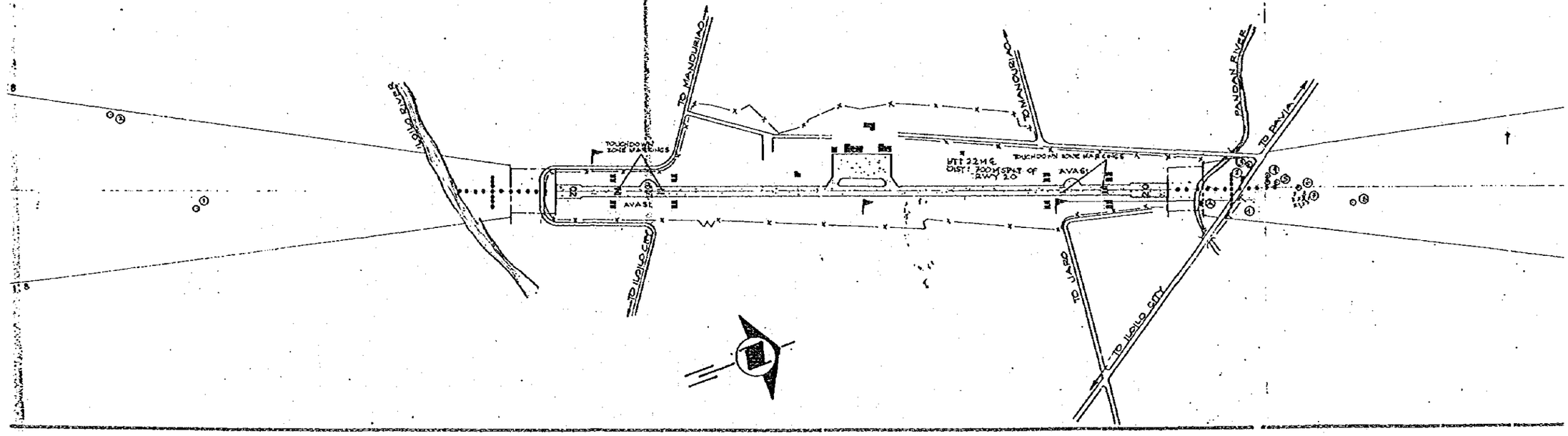




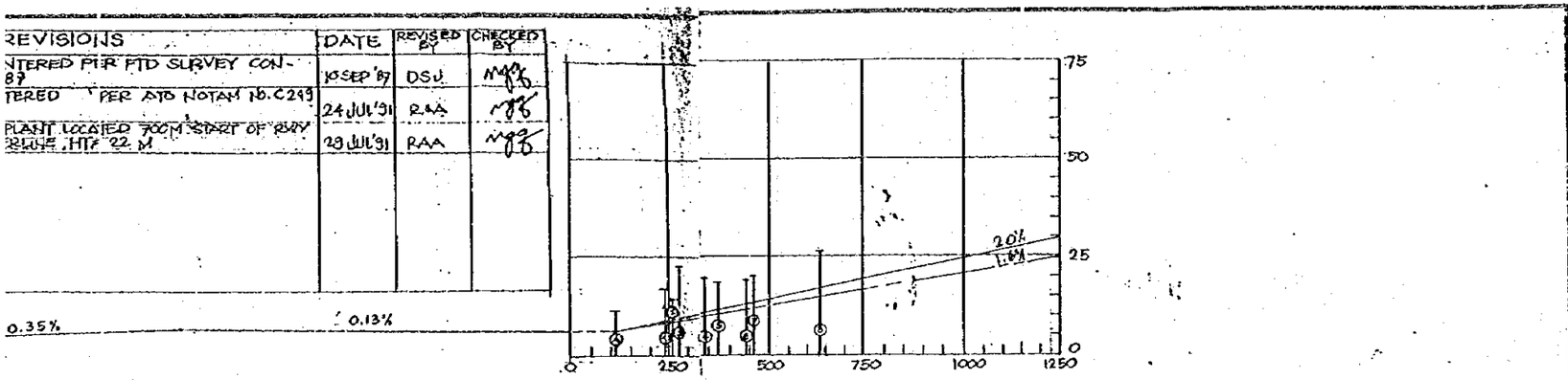
0.12 %

0.35%

0.13%



REVISIONS	DATE	REVISED BY	CHECKED BY
NTERED PER FTD SURVEY CON-87	10 SEP '87	DSJ	
TERED PER ATS NOTAM NO. C249	24 JUL '91	RAA	
PLANT LOCATED 700M START OF RWY RUNWAY HT: 22 M	29 JUL '91	RAA	



PHILIPPINE AIRLINES
FLIGHT TECHNICAL DIVISION
FLIGHT OPERATIONS
NICHOLS FIELD, PASAY CITY

ILOILO AERODROME OBSTACLE CHART

TYPE OF SURFACE	COORDINATES	ELEVATION(M)	SCALE
CONCRETE	10 42 53 N 122 32 36 E	7.3	HOR: 1:10000 VER: 1:1000

RUNWAY DESIGNATION	02	20	BEARING STRENGTH
RUNWAY DIMENSION(M)	2100 X 36		26,8 RBWT
STOPWAY(M)	0	0	APRON 200M X 80M
CLEARWAY(M)	120	150	TAXIWAY
SLOPE %	+0.151	-0.151	[illegible]

OBSTRUCTION PARTICULARS - END OF RWY 02

NO.	DISTANCE(M)	HEIGHT(M)	NOMENCLATURE	REMARKS
1	248	10.5	ELECTRICAL POST	
2	265	8.4	HOUSE	
3	235	16.3	ANTENNA	
4	335	11.0	TV ANTENNA	
5	372	10.6	TV ANTENNA	
6	448	12.3	TV ANTENNA	
7	452	12.0	COCONUT GROVE	
8	625	19.5	TV ANTENNA	
9				
10				
11				
A	112	5.0	HOUSE	

OBSTRUCTION PARTICULARS - END OF RWY 20

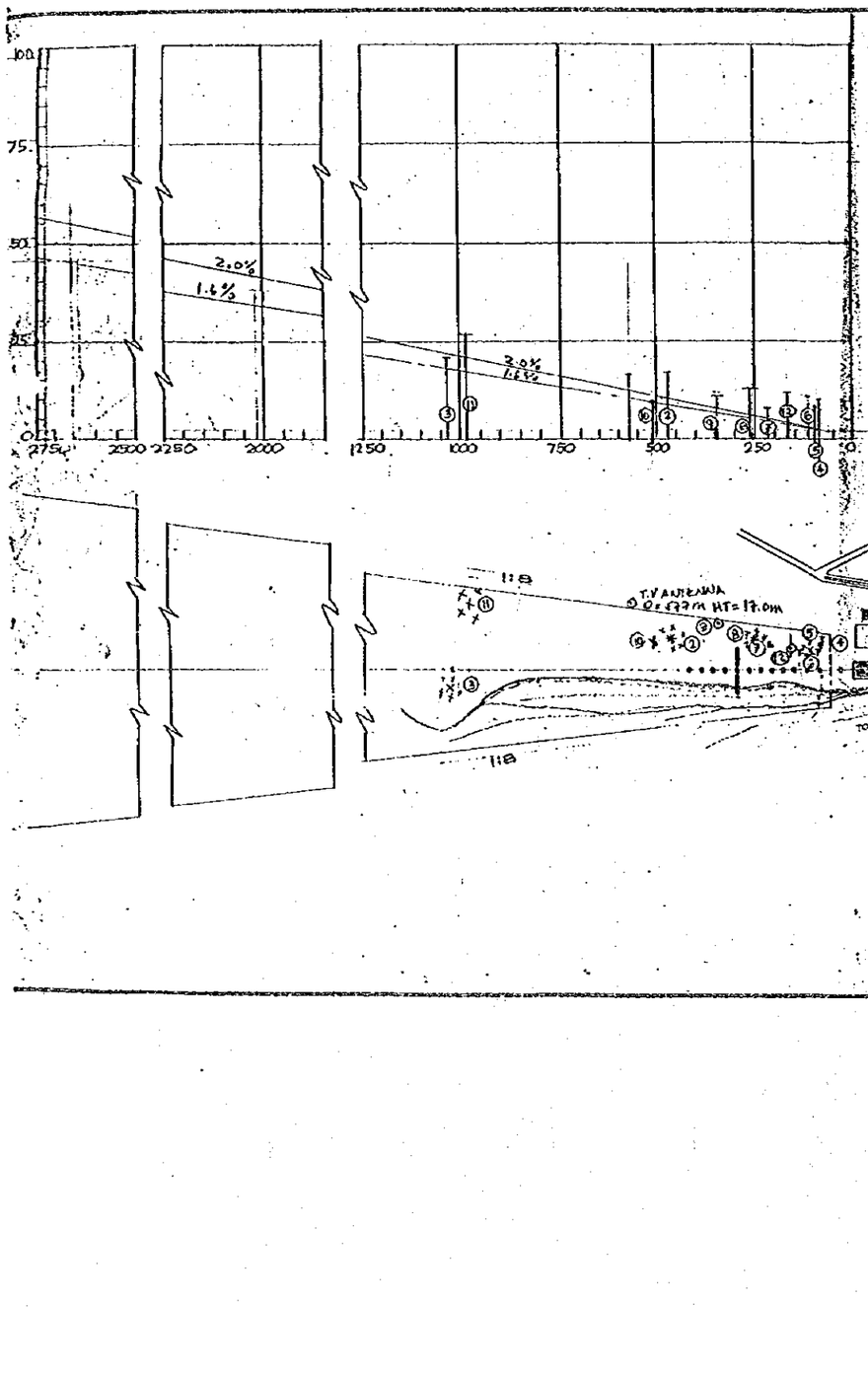
NO.	DISTANCE(M)	HEIGHT(M)	NOMENCLATURE	REMARKS
1	1234	30	VHF ANTENNA	
2	1621	33	VHF ANTENNA	
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

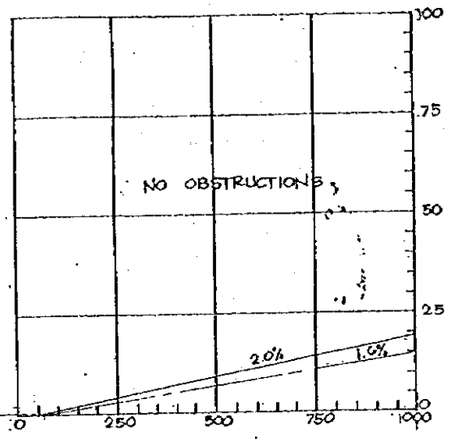
CONCRETE RUNWAY		BUILDING	
ASPHALT RUNWAY		CONTROL TOWER	
GRAVEL/SOIL RUNWAY		SINGLE TREE	
STOPWAY		GROVE	
CLEARWAY		POLE OR POST	
TERRAIN PENETRATING OBSTRUCTION PLANE		WINDCONE	
ROAD		FUEL OR OIL TANK	
BRIDGE		WATER TANK	
T—T—T POWER/TELEPHONE LINE		x—x—x PERIMETER FENCE	

DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
R.A. AGUILADA	V.Q. QUEZON	R.A. CRUZ	07 NOV 1989

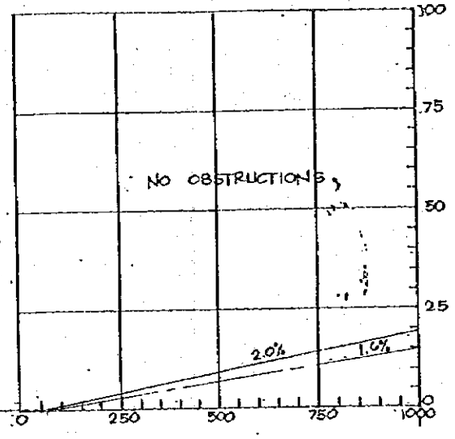
DRAWING NO. FS-89-106

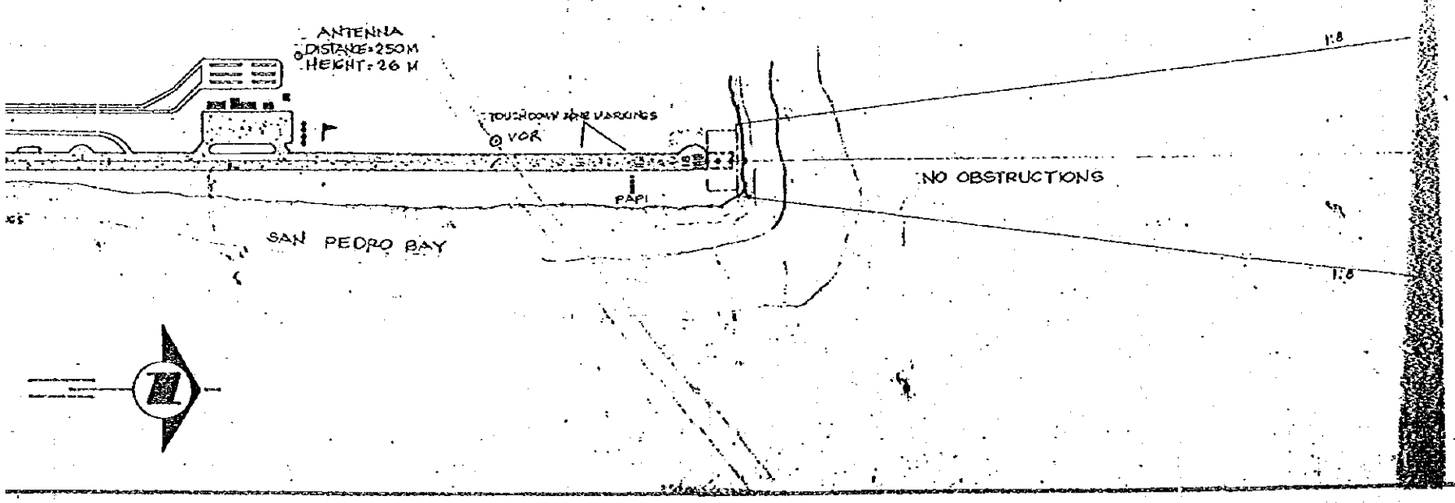
CHG	REVISION	DATE	REVISED BY	CHECKED BY
7	CHANGE AIRPORT PROFILE FORM.	27NOV89	RAA	MRR
8	NEW OBSTRUCTIONS ENTERED PER FID SURVEYS DATED 20 MAY 1991.	05JUN91	BBO/RAA	MRR
9	NEW LOCATION OF VOR/DME, ENTERED PER NOTAM BCG52/92.	25JUN92	AAA	
10	NEW OBSTRUCTIONS ENTERED PER FID SURVEY DATED 28JUN93.	20JUL93	NDR	
11	NEW OBSTRUCTIONS ENTERED PER FID SURVEY DTD 10-11-94	25 OCT 94	NGR	MRR





REVISION	DATE	REVISED BY	CHECKED BY
E AIRPORT PROFILE FORM.	27NOV89	RAA	[illegible]
BSTRUCTIONS ENTERED PER FID SURVEYS 30 MAY 1991.	05JUN91	BBO/RAA	[illegible]
LOCATION OF VOR/DME, ENTERED PER B0652/92	25JUN92	AAA	
STRUCTIONS ENTERED PER FID SURVEY DATED 26JUN93.	20JUL93	NDR	
BSTRUCTIONS ENTERED PER FID SURVEY DTD 10-11-95	25OCT95	NGQ	[illegible]





PHILIPPINE AIRLINES
FLIGHT TECHNICAL DIVISION
FLIGHT OPERATIONS
NICHOLS FIELD, PASAY CITY

TACLOBAN AERODROME OBSTACLE CHART

TYPE OF SURFACE		COORDINATES	ELEVATION(M)	SCALE
CONCRETE		[illegible]	2	HOR. 1: 10000 VER. 1: 1000

RUNWAY DESIGNATION	18	36	BEARING STRENGTH
RUNWAY DIMENSION(M)	2140 X 36		PCN 29.0 RBWT
STOPWAY (M)	0	60	APRON 230 X 80 M
CLEARWAY(M)	0	75	TAXIWAY
SLOPE %	+0.03	-0.03	

OBSTRUCTION PARTICULARS - END OF RWY 18

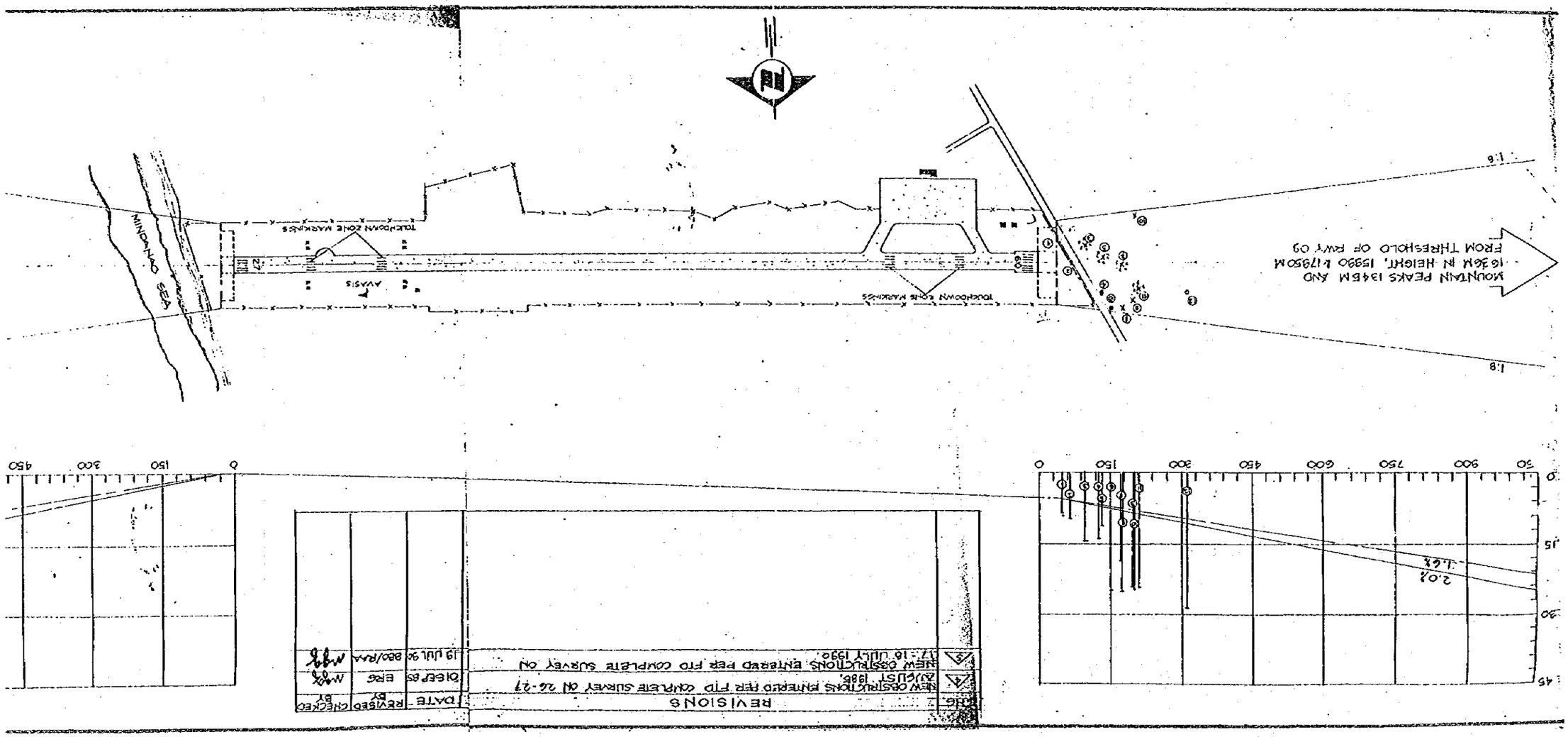
NO.	DISTANCE(M)	HEIGHT(M)	NOMENCLATURE	REMARKS
1				
2	471	15	COCONUT TREES	
3	1054	18	COCONUT GROVE	1.7% SLOPE
4	84	8	TV ANTENNA	
5	84	6	ELECT. POSTS	
6	114	8	COCO TREES	
7	218	6	HOUSE	
8	261	11.3	IPIL-IPIL GROVE	
9	343	9.1	ELECT. POST	
10	513.7	9.	TAUSAY TREE	TRIMMED
11	988.6	24.4	COCONUT TREE	
12	172.0	9.46	FLAG POLE	

OBSTRUCTION PARTICULARS - END OF RWY 36

NO.	DISTANCE(M)	HEIGHT(M)	NOMENCLATURE	REMARKS
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

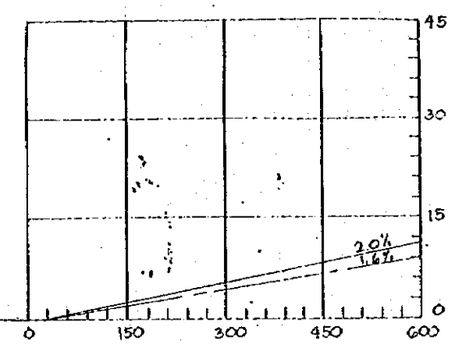
	CONCRETE RUNWAY		BUILDING
	ASPHALT RUNWAY		CONTROL TOWER
	GRAVEL/SOIL RUNWAY		SINGLE TREE
	STOPWAY		GROVE
	CLEARWAY		POLE OR POST
	TERRAIN PENETRATING OBSTRUCTION PLANE		WINDCONE
	ROAD		FUEL OR OIL-TANK
	BRIDGE		WATER TANK
T—T—T	POWER/TELEPHONE LINE		PERIMETER FENCE

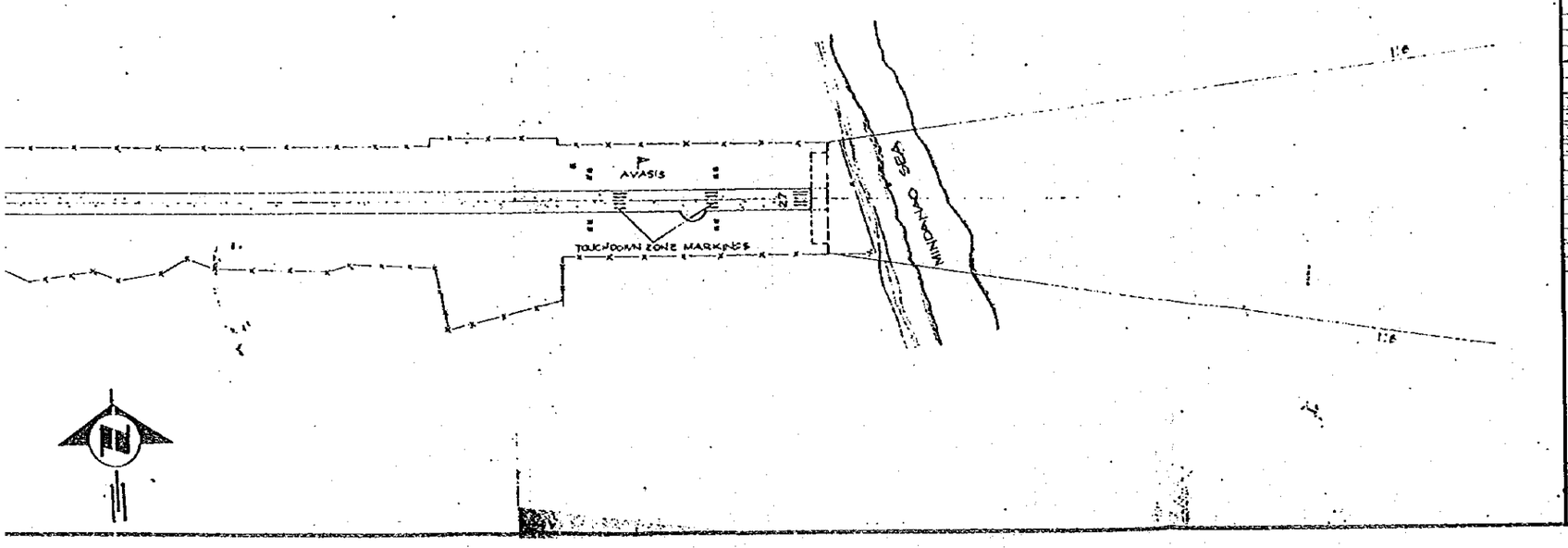
PREPARED BY:	CHECKED BY:	APPROVED BY:	DATE:
R.A. ABELADA	N.B. QUEZON	E.J. CRUZ	15 NOV 1989
			DRAWING NO. 1-FS-89-109



MARK	REVISIONS	DATE	REVISED BY	CHECKED BY
3	NEW OBSTRUCTIONS ENTERED PER FTO COMPLETE SURVEY ON 17 - 18 JULY 1990.	19 JUL 90	BBO/RAA	M.P.K.
2	NEW OBSTRUCTIONS ENTERED PER FTO COMPLETE SURVEY ON 22-27 AUGUST 1986.	DIGEST	ERG	M.P.K.
1				

REVISIONS	DATE	REVISED BY	CHECKED BY
TIONS ENTERED PER FTD COMPLETE SURVEY ON 26-27 85.	01 SEP 89	ERG	MGQ
CTIONS ENTERED PER FTD COMPLETE SURVEY ON 1990.	13 JUL 90	BBO/RAA	MGQ





PHILIPPINE AIRLINES
FLIGHT TECHNICAL DIVISION
FLIGHT OPERATIONS
NICHOLS FIELD, PASAY CITY

DUMAGUETE AERODROME OBSTACLE CHART

TYPE OF SURFACE	COORDINATES	ELEVATION(M)	SCALE
CONCRETE	09 20 14 N 123 18 00 E	5	HOR. 1:6000 VER. 1:600

RUNWAY DESIGNATION	09	27
RUNWAY DIMENSION(M)	1731 X 36	
STOPWAY(M)	27	40
CLEARWAY(M)	27	40
SLOPE %	+0.553	+0.553

BEARING STRENGTH: 35 RCWU

APRON: 200 X 100M

TAXIWAY:

OBSTRUCTION PARTICULARS - END OF RWY 09

NO.	DISTANCE(M)	HEIGHT(M)	NOMENCLATURE	REMARKS
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

OBSTRUCTION PARTICULARS - END OF RWY 27

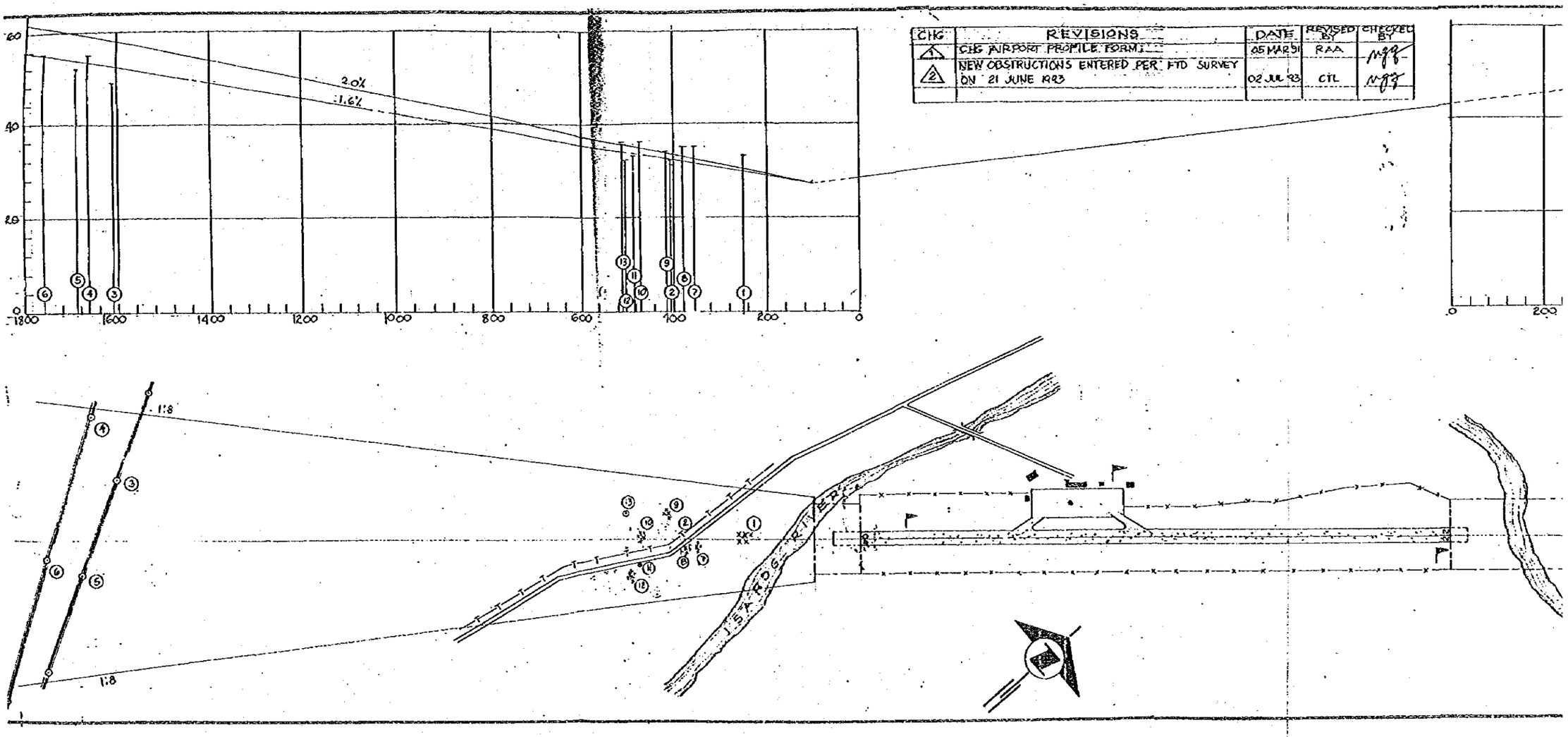
NO.	DISTANCE(M)	HEIGHT(M)	NOMENCLATURE	REMARKS
1	50	3	BLAST FENCE	
2	65	4	BUILDING	
3	85	10	BANANA GROVE	
4	128	9	BUILDING	
5	134	11	COCO TREES	
6	153	19	TV ANTENNA	
7	172	13	TREES	
8	177	20	STAR APPLE	
9	198	19	TREES	
10	203	19	COCO GROVE	
11	213	19	TREES/COCO GROVE	
12	312	23	TV ANTENNA	

- CONCRETE RUNWAY
- ASPHALT RUNWAY
- GRAVEL/SOIL RUNWAY
- STOPWAY
- CLEARWAY
- TERRAIN PENETRATING OBSTRUCTION PLANE
- ROAD
- BRIDGE
- T—T—T POWER/TELEPHONE LINE
- BUILDING
- CONTROL TOWER
- SINGLE TREE
- GROVE
- POLE OR POST
- WINDCONE
- FUEL OR OIL TANK
- WATER TANK
- x—x—x PERIMETER FENCE

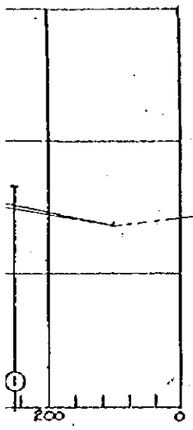
DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
R.A. ASLADA	M.G. QUEZON	E.A. CRUZ	16 NOV 1989

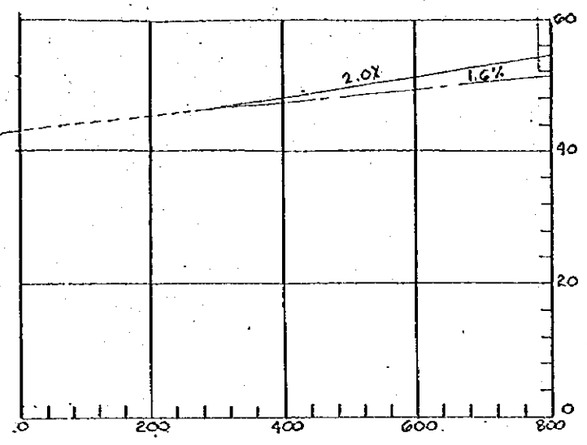
DRAWING NO. FS-89-111

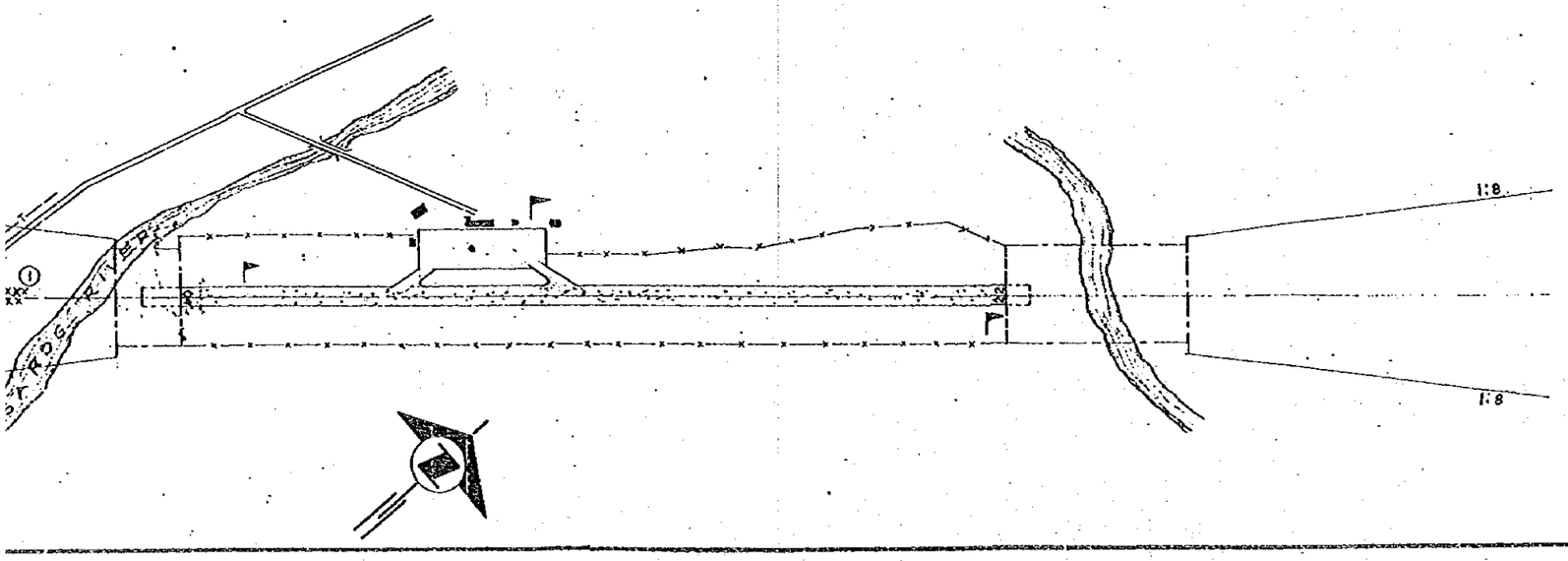
CHG	REVISIONS	DATE	REVISED BY	CHECKED BY
1	CHG AIRPORT PROFILE FORM	05 MAR 91	RAA	MJF
2	NEW OBSTRUCTIONS ENTERED PER FTD SURVEY ON 21 JUNE 1993	02 JUL 93	CTL	MJF



CHG	REVISIONS	DATE	REVISED BY	CHECKED BY
1	CHG AIRPORT PROFILE FORM	05 MAR 91	RAA	NGG
2	NEW OBSTRUCTIONS ENTERED PER FTD SURVEY ON 21 JUNE 1993	02 JUL 93	CTL	NGG







PHILIPPINE AIRLINES
FLIGHT TECHNICAL DIVISION
FLIGHT OPERATIONS
NICHOLS FIELD, PASAY CITY

NAGA AERODROME OBSTACLE CHART

TYPE OF SURFACE	COORDINATES	ELEVATION(M)	SCALE:
CONCRETE	13 35 15 N 123 16 44 E	43	HOR. 1:6000 VER. 1:600

RUNWAY DESIGNATION	04	22	BEARING STRENGTH: 29.2 RBWT
RUNWAY DIMENSION(M)	1282 x 30		
STOPWAY (M)	36	60	APRON: 200M x 60M CONCRETE
CLEARWAY (M)	280	100	TAXIWAY: CONCRETE
SLOPE %	+ 1.14	- 1.14	

OBSTRUCTION PARTICULARS - END OF RWY 04

NO	DISTANCE(M)	HEIGHT(M)	NOMENCLATURE	REMARKS
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

OBSTRUCTION PARTICULARS - END OF RWY 22

NO.	DISTANCE(M)	HEIGHT(M)	NOMENCLATURE	REMARKS
1	235	5	MANGO GROVE	
2	407	4	ELECTRIC POST	
3	1603	21	PYLON	
4	1658	27	PYLON	
5	1679	24	PYLON	
6	1758	27	PYLON	
7	324	8	BAMBOO GROVE	NEW OBSTRUCTIONS
8	412	8	IPIL-IPIL TREES	
9	420	7	ACACIA TREES	
10	468	9	ACACIA TREES	
11/12	477/491	6/5	ANTENNA/IPIL-IPIL TREES	
13	503	9	COMMUNICATION ANTENNA	

- CONCRETE RUNWAY
- ASPHALT RUNWAY
- GRAVEL/SOIL RUNWAY
- STOPWAY
- CLEARWAY
- TERRAIN PENETRATING OBSTRUCTION PLANE
- ROAD
- BRIDGE
- POWER/TELEPHONE LINE
- BUILDING
- CONTROL TOWER
- SINGLE TREE
- GROVE
- POLE OR POST
- WINDCONE
- FUEL OR OIL TANK
- WATER TANK
- PERIMETER FENCE

DRAWN BY: R. A. ASILADA
CHECKED BY: N. G. QUEZON
APPROVED BY: E. P. CRUZ
DATE: 05 MAR 1991
DRAWING NO. FS - 91 - 162