Appendix - A

IMPLEMENTING ARRANGEMENT(I/A) AND

MINUTES OF DISCUSSION

IMPLEMENTING ARRANGEMENT
ON
THE TECHNICAL COOPERATION

FOR THE CONDUCT OF
THE STUDY ON DRAINAGE IMPROVEMENT
IN
THE CORE AREA OF METROPOLITAN MANILA,
REPUBLIC OF THE PHILIPPINES

AGREED UPON AMONG

METROPOLITAN MANILA DEVELOPMENT AUTHORITY
AND
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

AND

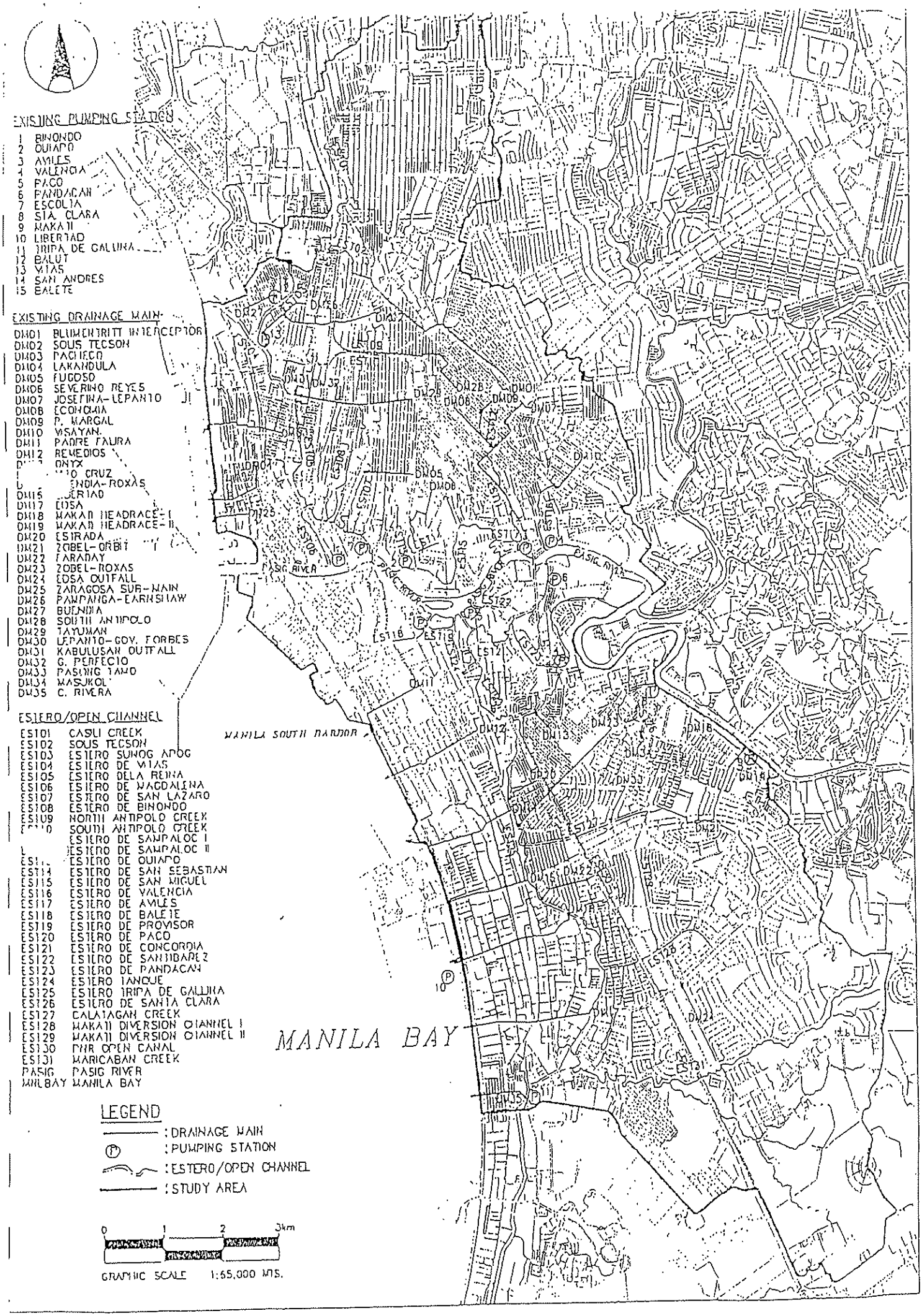
JAPAN INTERNATIONAL COOPERATION AGENCY

MANILA, February 26, 2003

CESAR S. LACUNA
Deputy Chairman,
Metropolitan Manila Development Authority

NOBUHISA TAKEDA
Leader,
Preparatory Study Team,
Japan International Cooperation Agency

TEODORO T. ENCARNACION
Undersecretary,
Department of Public Works and Highways


EXISTING PUMPING STATION
1 BINONDO
2 QUIAPO
3 AYALA
4 VALENCIA
5 PACO
6 PANDACAN
7 ESCOLTA
8 STA. CLARA
9 MAKATI
10 LIBERTAD
11 TRIPA DE GALLINA
12 BALUT
13 VITAS
14 SAN ANDRES
15 BALETE
EXISTING DRAINAGE MAIN
DM01 BLUMENTRITT INTERCEPTOR
DM02 SOUS TECSON
DM03 PACHECO
DM04 LAKANDULA
DM05 FUGOSO
DM06 SEVERINO REYES
DM07 JOSEFINA-LEPANTO
DM08 ECONOMIA
DM09 P. MARGAL
DM10 VISAYAN
DM11 PADRE FAURA
DM12 REMEDIOS
DM13 ONYX
DM14 SANTO CRUZ
DM15 BUENDIA-ROXAS
DM16 LIBERTAD
DM17 EDSA
DM18 MAKATI HEADRACE-I
DM19 MAKATI HEADRACE-II
DM20 ESTRADA
DM21 ZOBEL-ORBIT
DM22 FARADAY
DM23 ZOBEL-ROXAS
DM24 EDSA OUTFALL
DM25 ZARAGOSA SUR-MAIN
DM26 PAMPANGA-EARNSHAW
DM27 BUENDIA
DM28 SOUTH ANTIPOLO
DM29 TAYUMAN
DM30 LEPANTO-GOV. FORBES
DM31 KABULUSAN OUTFALL
DM32 G. PERFECTO
DM33 PASONG TAMO
DM34 MASUKOL
DM35 C. RIVERA
ESTERO/OPEN CHANNEL
ES101 CASILI CREEK
ES102 SOUS TECSON
ES103 ESTERO SUNOG APOG
ES104 ESTERO DE VITAS
ES105 ESTERO DELA REINA
ES106 ESTERO DE MAGDALENA
ES107 ESTERO DE SAN LAZARO
ES108 ESTERO DE BINONDO
ES109 NORTH ANTIPOLO CREEK
ES110 SOUTH ANTIPOLO CREEK
ESTERO DE SAMPALOC I
ESTERO DE SAMPALOC II
ESTERO DE QUIAPO
ES114 ESTERO DE SAN SEBASTIAN
ES115 ESTERO DE SAN MIGUEL
ES116 ESTERO DE VALENCIA
ES117 ESTERO DE AYALES
ES118 ESTERO DE BALETE
ES119 ESTERO DE PROVISOR
ES120 ESTERO DE PACO
ES121 ESTERO DE CONCORDIA
ES122 ESTERO DE SANTIBAREZ
ES123 ESTERO DE PANDACAN
ES124 ESTERO TANQUE
ES125 ESTERO TRIPA DE GALLINA
ES126 ESTERO DE SANTA CLARA
ES127 CALATAGAN CREEK
ES128 MAKATI DIVERSION CHANNEL I
ES129 MAKATI DIVERSION CHANNEL II
ES130 PNR OPEN CANAL
ES131 MARICABAN CREEK
PASIG PASIG RIVER
MNLBAY MANILA BAY
MANILA SOUTH HARBOR
MANILA BAY
LEGEND
: DRAINAGE MAIN
: PUMPING STATION
: ESTERO/OPEN CHANNEL
: STUDY AREA
0 1 2 3km
GRAPHIC SCALE 1:65,000 MTS.

1. INTRODUCTION

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") decided to conduct the Study on Drainage Improvement in the Core Area of Metropolitan Manila, Republic of the Philippines (hereinafter referred to as "the Study"), and exchanged the Notes Verbal with GOP concerning 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 regulation enforced in Japan.

On the parts of GOP, Metropolitan Manila Development Authority (hereinafter referred to as "MMDA") and Department of Public Works and Highways (hereinafter referred to as "DPWH"), shall act as the counterpart agencies to the Japanese study team (hereinafter referred to as "the Team") and also as the coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

MMDA shall be the implementing agency of the Study and assume all responsibilities for the implementation of the Study and DPWH shall be the support agency to MMDA.

The present document constitutes the implementing arrangement among JICA, MMDA and DPWH under the above mentioned Notes Verbal exchanged between two governments.

2. OBJECTIVES OF THE STUDY

The objectives of the Study are:

1. To formulate a Master Plan of comprehensive drainage improvement for the core area of Metropolitan Manila in the Republic of the Philippines
2. To conduct a feasibility study on the priority projects/areas identified in the Master Plan
3. To prepare guidelines for comprehensive drainage improvement
4. To transfer technology and knowledge of the method and management of comprehensive drainage improvement to Philippines counterpart personnel in the course of the Study.

3. STUDY AREA

The Study will cover the core area of Metropolitan Manila covering the City of Manila, and parts of the Cities of Makati, Pasay, and adjoining areas with a total area of 73 sq. km. The study area map is shown in the Annex-1.

4. SCOPE OF THE STUDY

The study will be divided into two (2) phases: Phase I is the formulation of the Master Plan and Phase II is the conduct of Feasibility Study.

After completion of Phase I, JICA will determine the implementation of Phase II in consideration of the negative impacts on the proposed prioritized projects in the Master Plan in consultation with the Philippine side. Negative impact includes the difficulties to realize the projects, such as the presence of

large number of residents or informal settlers who have to be relocated from the possible project sites, and insufficient measures or plans for relocation formulated by GOP and difficulties to obtain the resident's agreement for relocation, etc.

The results of the Study must be conformed in accordance with the guidelines on environment and social aspect that is to be prepared by JICA.

Phase I: Master Plan Study

1) Review of the result of the Study on the Existing Drainage Laterals in Metro Manila.

2) Collection and review of related data and information.

Natural conditions including meteorological, hydrological, soil / geological data, social and economic conditions, institutional aspects (e.g. laws, regulation, organizations), financial aspect (Drainage project by National Government, Local Government Units), existing maps and aero photos, existing drainage system and flood control facilities, ongoing and proposed projects relevant to the Study including zoning plans, environment aspect, other relevant data and information

3) Supplementary Surveying

Additional cross and longitudinal section survey of existing drainage system, if necessary.

4) Supplementary Field Reconnaissance

Geological and hydrological survey to grasp topographical condition, permeability of the ground surface, groundwater condition, etc.

Land use and urban housing condition for possible sites for storm water storage

Floating and deposited solid waste condition in the drainage system

Conditions of open channels related to informal settlers

Others

5) Study and Analysis

Identification of problems in existing drainage system

Identification and evaluation of possible measures to increase flow capacity to drain storm water, such as improvement of the drainage system and facilities

Identification and evaluation of possible measures to reduce runoff discharges such as retention, storage and infiltration facilities

Hydrological analysis of applicable measures evaluated above.

6) Setting of framework for the process and supporting system to address the social aspect of the project

Opinion survey, Public consultation, Formulation of relocation / resettlement plan for the residents or informal settlers

7) Formulation of Master Plan

Setting of safety level against flood in consideration of future condition in target year, Identification of alternatives and selection of optimal plan, Preparation of cost estimates, Formulation of staged implementation program, Conduct of Initial Environmental Examination (IEE), Evaluation of the projects, Selection of priority projects/areas, Formulation of measures to prevent solid waste/domestic waste entering into drainage channels.

8) Technology Transfer

Phase II: Feasibility Study

1) Supplement data collection and analysis

2) Topographic survey and soil survey at the priority area and proposed structure

3) Survey on uncollected solid waste to be produced in the priority areas

4) Survey on informal settlers along the drainage systems included in the priority projects/areas

5) Conduct the opinion survey and support of the public consultation by GOP

6) Plan formulation of priority projects

Preliminary design, schematic design, Non-structural measures, Cost estimate, Construction planning and financial plan, Operation and maintenance plan, Management and institutional plan, Solid waste/domestic waste control plan, Environmental impact assessment (EIA), Recommendation for relocation / resettlement plan for the residents or informal settlers

7) Project evaluation

Economic, Financial, Technical, Social, Environmental Evaluation

8) Preparation of guideline

Functions and responsibilities of respective agencies related to drainage system

Design, construction, operation and maintenance manuals for various structures of comprehensive drainage system improvement

Items and methodology for the environmental consideration and prevention of solid waste/domestic waste inflow to the drainage system including the activities by the residents along the drainage channels

9) Technology Transfer

Seminars and Workshops including the participatory type for the residents will be held at appropriate time in the course of the Study.

5. SCHEDULE OF THE STUDY

The Study will be carried out in accordance with the tentative schedule shown in the Annex-2.

6. REPORTS

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

1. Inception Report:
   Twenty (20) copies at the commencement of the Study.

2. Progress Report:
   Twenty (20) copies in Phase I.

3. Interim Report:
Twenty (20) copies at the end of Phase I.

4. Draft Final Report:
Twenty (20) copies at the end of Phase II.
MMDA and DPWH shall submit the comments within one (1) month after receipt of the Draft Final Report.

5. Final Report:
Fifty (50) copies within one (1) month after JICA's receipt of the comments on the Draft Final Report.

7. UNDERTAKINGS OF THE GOP

1. To facilitate the smooth conduct of the Study, GOP shall take necessary measures:

(1) To permit the members of the Team to enter, leave and sojourn in the Philippines for the duration of their assignment therein, and exempt them from foreign registration requirements and consular fees,

(2) To exempt the members of the Team from taxes, duties, fees and any other charges on equipments, machinery and other materials brought into and out the Philippines for the implementation of the Study,

(3) To exempt the members of the Team from income taxes and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Team for their services in connection with the implementation of the Study,

(4) To provide necessary facilities to the Team for the remittances as well as the utilization of the funds introduced into the Philippines from Japan in connection with the implementation of the Study,

2. GOP shall bear claims, if any arise, against the members of the Team resulting from, occurring in the course of, or otherwise connected with, the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Team.

3. MMDA and DPWH shall at its own expense, provide the Team with the following, in cooperation with other organizations concerned:

MMDA;
(1) Security-related information on as well as measures to ensure the safety of the Team,
(2) Information on as well as support in obtaining medical service,
(3) Available data and information related to the Study,
(4) Counterpart personnel,
(5) Suitable main office with necessary office equipment in Metropolitan Manila,
(6) Credentials or identification cards, and
(7) Appropriate number of vehicles with drivers

DPWH;

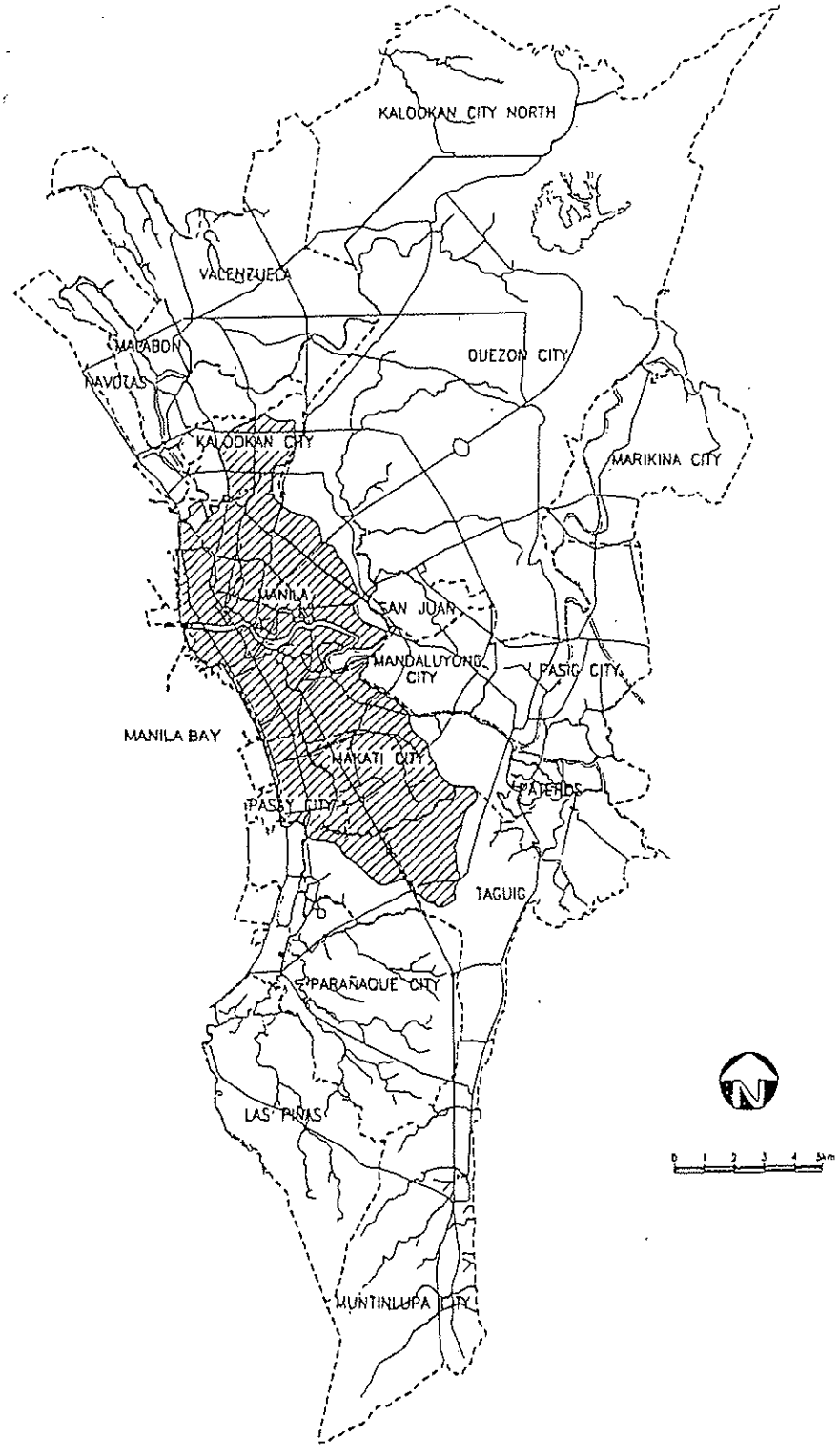
(1) Available data and information related to the Study, and

(2) Counterpart personnel

8. CONSULTATION

JICA, MMDA and DPWH will consult with each other in respect of any matter that may arise from or in connection with the Study.

The Study Area Map



TENTATIVE SCHEDULE

MONTH		1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Phase I : Master Plan Study																
Review of previous study, Collection and review of related data and information																
Survey; Cross section and longitudinal survey, Opinion survey																
Field reconnaissance																
Study & Analysis; Identification of problems, evaluation of possible measures, Hydrological analysis																
Setting of framework for the process & supporting system to the social aspact																
Formulation of Master Plan																
Phase II : Feasibility Study																
Supplement data collection and analysis																
Topographic and soil survey																
Uncollected solid waste and informal settlers survey																
Plan formulation of priority area																
Project evaluation																
Preparation of guideline																
REPORTS	IC/R			P/R					IT/R				DF/R		F/R	

MINUTES OF DISCUSSIONS
FOR
IMPLEMENTING ARRANGEMENT
ON
THE TECHNICAL COOPERATION

FOR THE CONDUCT OF
THE STUDY ON DRAINAGE IMPROVEMENT
IN
THE CORE AREA OF METROPOLITAN MANILA,
REPUBLIC OF THE PHILIPPINES

AGREED UPON AMONG

METROPOLITAN MANILA DEVELOPMENT AUTHORITY
AND
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

AND

THE JAPAN INTERNATIONAL COOPERATION AGENCY

MANILA, February 26, 2003

CESAR S. LACUNA
Deputy Chairman,
Metropolitan Manila Development Authority

NOBUHISA TAKEDA
Leader,
Preparatory Study Team,
Japan International Cooperation Agency

TEODORO T. ENCARNACION
Undersecretary,
Department of Public Works and Highways

Japan International Cooperation Agency (hereinafter referred to as "JICA"), at the official request of the Government of the Philippines (hereinafter referred to as "GOP"), dispatched a Preparatory Study Team headed by Dr. Nobuhisa TAKEDA (hereinafter referred to as "the Preparatory Team"), from February 10th to March 8th, 2003 to discuss and determine the Implementing Arrangement for the Study on Drainage Improvement in the Core Area of Metropolitan Manila, Republic of the Philippines (hereinafter referred to as "the Study"),

The Preparatory Team carried out field surveys of the Study area, and held a series of discussions with Metropolitan Manila Development Authority (hereinafter referred to as "MMDA"), Department of Public Works and Highways (hereinafter referred to as "DPWH") and other concerned authorities.

The Minutes of Discussions summarize the result of discussions held between the Preparatory Team and the concerned agencies of GOP. The list of attendees is attached in the Appendix.

The main items discussed regarding I/A are as follows;

1. Title of the Study

Both sides agreed that the Study title should be *"Study on Drainage Improvement in the Core Area of Metropolitan Manila, Republic of the Philippines"* (partly amending the title submitted in the proposal to make it easier to recall and state, and providing an acronym to it as DICAMM for the Study on Drainage Improvement in the Core Area of Metropolitan Manila).

2. Duration of the Study

Both sides agreed that the duration of the Study is tentatively set at about 14 months.

3. Counterpart Personnel

Both sides agreed that MMDA and DPWH would organize a counterpart team that would cooperate and actively work with the Japanese Study Team. The Preparatory Team requested and Philippine side promised to assign appropriate counterpart personnel. The list of the personnel will be submitted before commencement of the Study.

4. Steering Committee

Both sides agreed that Philippine side would set up a Steering Committee that may be constituted by the following organization;

a. MMDA as the Chairman
b. DPWH as the Vice Chairman
c. NEDA (National Economic and Development Authority)
d. PCUP (Presidential Commission on Urban Poor)
e. PAGASA (Phil. Atmospheric Geophysical and Astronomical Services Administration)
f. HUDCC (Housing and Urban Development Coordination Council)
g. NHA (National Housing Authority)
h. DSWD (Department of Social Welfare and Development)
i. MWSS (Metropolitan Waterworks and Sewerage System)

j. Local Government Units concerned

The Steering Committee shall monitor the progress of the implementation of the project, provide guidance to the Preparatory Teams conducting the Study as well as providing the necessary resources and support to ensure the success of DICAMM including the implementation of the necessary measures that may be identified in the course of the Study.

5. Technical Working Group

It was also agreed that the Philippine side would organize a Technical Working Group that will handle the technical and scientific aspects or activities in relation with the Study. It shall ensure that all accurate data and information concerned are obtained in the course of the Study through the fastest means possible. The Technical Working Group may be composed of the followings;

a. MMDA shall act as the Lead Agency
b. DPWH (PS, PMO-MFCP, PMO-FCSEC etc.)
c. Concerned Local Government Units

The Preparatory Team requested and Philippine side agreed to submit the List of the Technical Working Group members before commencement of the Study..

6. Relocation/Resettlement issue

The Preparatory Team indicated that Japanese side was much concerned with the issue of relocation/resettlement of informal settlers and affected formal dwellers. The Preparatory Team reminded that the Study should be in accordance with the guidelines on environmental and social aspects to be prepared by JICA.

The request of the Preparatory Team to formulate a plan and to take appropriate procedures in case there is a need for relocation/resettlement of informal settlers and affected formal dwellers is noted by Philippine side.

7. Seminar/Workshop

It was agreed that a number of seminars and workshops may be essential and may cater to a broad range of sets of target clients such as local engineers, building officials, educators and other stakeholders that may be identified.

8. Information Dissemination

It was agreed that relevant information concerned that will be generated within the Study shall be disseminated and that the establishment of a web page for this purpose as one of the means shall be considered.

9. Counterpart Training

The Preparatory Team explained about the counterpart-training program in Japan which will be conducted for the Philippine side. The Philippine side stated that this shall be considered.

10. Report

a. Digital version of the reports will be submitted in addition to the hard copies.
b. Both sides agreed that the counterpart team is actively involved in the writing of the reports.

11. Undertakings of the GOP

The Philippine side promised to prepare the office space at the MMDA Bldg. before commencement of the Study.

The Philippine side is amenable to the undertakings of the GOP as specified in the I/A. However, the Philippine side mentioned that it would be difficult to provide the service vehicles and some office equipments for the Study, and the Preparatory Team promised to convey these matters to JICA Headquarters.

ATTENDANCE LIST

Philippine Side

Metropolitan Manila Development Authority (MMDA)

Hon. Bayani F. FERNANDO	Chairman
Hon. Cesar S. LACUNA	Deputy Chairman
Mr. Robert C. NACIANCENO	General Manager
Ms. Elizabeth ESPINO	Office of Deputy Chairman
Willie H. CHAVEZ	POV, Planning
Engr. Baltazar N. MELGAR	Engineer III, FCMS
Mr. Antonio L. ABAYON	Engineer II, FCMS
Ms. Agatha Beatrix C. CALCES	CDC/FCMS
Engr. Gil I. ITURRALDE	Engineer III, FCMS

Department of Public Works and Highways (DPWH)

Hon. Teodoro T. ENCARNACION	Undersecretary
Dir. Linda M. TEMPLO	Director, Planning Service
Engr. Rebecca T. GARSUTA	Engineer V, DPD - Planning Service
Engr. Napoleon S. FAMADICO	Engineer IV, DPD - Planning Service
Dir. Bernardo P. AMAN	OIC, Project Director, PMO - MFCP
Engr. Emil K. SADAIN	Project Manager, PMO – MFCP
Engr. Leonila P. MERCADO	Engineer IV, PMO - MFCP
Engr. Alexander B. BORJA	Engineer IV, PMO-FCSEC

Japanese Side

Preparatory Study Team

Dr. Nobuhisa TAKEDA	Team Leader / Participatory Development
Mr. Kenji SUZUKI	River Administration / Flood Mitigation
Mr. Kazuhiko KOMINE	Sewage Works / Municipal Drainage
Mr. Hisakatsu OKUDA	Study Planning
Mr. Taketoshi FUJIYAMA	Drain Facilities / Countermeasure for Waste
Mr. Hisamitsu Ooki	Environmental Impact / Social Aspect

JICA Philippines Office

Kiyoto KOBAYASHI	Assistant Resident Representative

JICA Experts

Akito KAGAWA	DPWH
Hideaki FUJIYAMA	Chief Advisor, Project for Enhancement of Capabilities in Flood Control and Sabo Engineering, DPWH
Yoshio TANAKA	Sr. Urban Development Adviser, MMDA

REPUBLIKA NG PILIPINAS
TANGGAPAN NG PANGULO
Pangasiwaan sa Pagpapaunlad Ng Kalakhang Maynila
(Metropolitan Manila Development Authority)

PHILIPPINE CENTENNIAL 1898 : 1998 KALAYAAN

06 February 2003

MR. TOSHIAKI MABUCHI
Second Secretary
Embassy of Japan
2627 Roxas Blvd.,
Pasay City 1300

Dear Mr. Mabuchi :

This is with reference to your letter dated 29 January 2003 in connection with the Proposed Study on Drainage Improvement in the Core of Metro Manila which the Government of Japan (GOJ) is favorably considering for adoption.

Please be informed that the flood control responsibilities in Metro Manila were transferred to this Authority by the DPWH per Memorandum of Agreement (MOA) executed in July 9, 2002 by both agencies. In view of this, all functions and responsibilities on flood control like the operation and maintenance of existing flood control structures and facilities, relevant program, projects and activities in Metro Manila are now under the jurisdiction of the Metropolitan Manila Development Authority. This also includes the maintenance and operation of Grant-Aid Projects, i.e. EFCOS, Pumping Stations, etc.

Attached herewith is a copy of the MOA for your reference and file.

Thank you for bringing to our attention your concern on this matter.

Very truly yours,

CESAR S. LACUNA
Deputy Chairman

MEMORANDUM OF AGREEMENT

This Memorandum of Agreement (MOA) entered into this _____ day of _____ 2002 by and between:

The Department of Public Works and Highways, a Government agency created under the laws of the Republic of the Philippines, with principal office address at Bonifacio Drive, Port Area, Manila, represented herein by its Secretary, SIMEON A. DATUMANONG, hereinafter referred to as the DPWH; and

The Metropolitan Manila Development Authority, a Government agency created under the laws of the Republic of the Philippines, represented herein by its Chairman, BAYANI FERNANDO, hereinafter referred to as the MMDA;

WITNESSETH THAT:

WHEREAS, the DPWH, as one of the main engineering and construction arms of the Government, undertakes the planning, design, construction and maintenance of national highways, flood control, and other public works nationwide;

WHEREAS, under its charter, Republic Act No. 7924, the MMDA is mandated to undertake, among other things, the formulation and implementation of policies, standards, programs and projects for nationwide flood control and drainage services in Metro Manila;

WHEREAS, to implement the said MMDA mandate which will provide for a more geographically focused approach to flood control in Metro Manila, and at the same time to ease the heavy nationwide infrastructure responsibilities of the DPWH, there is a need to make the MMDA primarily responsible for flood control in Metro Manila;

NOW, THEREFORE, for and I consideration of the foregoing premises;

II. ROLES AND RESPONSIBILITIES OF THE PARTIES

A. DPWH

Upon the effectivity of this MOA, the DPWH shall turn over to the MMDA all functions and responsibilities for flood control in Metro Manila, including all relevant programs, projects, and activities, as well as personnel, funds, equipment, facilities, records, assets, and liabilities, subject to the provisions of existing relevant laws.

II. MMDA

Upon the effectivity of this MOA, assume all functions and responsibilities for flood control in Metro Manila, including the functions and responsibilities, and relevant programs, projects, activities, personnel, funds, equipment, records, assets and liabilities to be turned over by the DPWH to the MMDA as provided in Section II-A hereof.

III. EFFECTIVITY

This MOA shall take effect upon the signing hereof.

DPWH:

SIMEON A. DATUMANONG
Secretary

MMDA:

BAYANI FERNANDO
Chairman

Signed in the Presence of:

Witness

Witness

EMBASSY OF JAPAN
APAN
evard
1500
pines
O. Box 414
Pasay Central Post Office

29 January 2003

Undersecretary CESAR S. LACUNA
Deputy Chairman
METROPOLITAN MANILA DEVELOPMENT AUTHORITY
Orense St. cor. EDSA, Guadalupe, Makati City

Dear Undersecretary Lacuna:

This is in connection with the proposed Study on Drainage Improvement in the Core Area of Metro Manila, which was endorsed to the Government of Japan (GoJ) last Fiscal Year 2002.

We would like to inform you that GoJ is favorably considering the adoption of the said proposal. However, with regards to the Principal Implementing Agency for the Project, we strongly suggest that DPWH and MMDA work together and be involved in the implementation of the Project since it was originally meant to be a joint undertaking of both agencies.

Moreover, the Embassy of Japan had made several official inquiries regarding the transfer of Flood Control functions of DPWH to MMDA this fiscal year. Although we are aware that the turn-over of these functions and the concerned manpower and equipment from DPWH to MMDA has already commenced, we have not yet received a clear response on the matter from either agency.

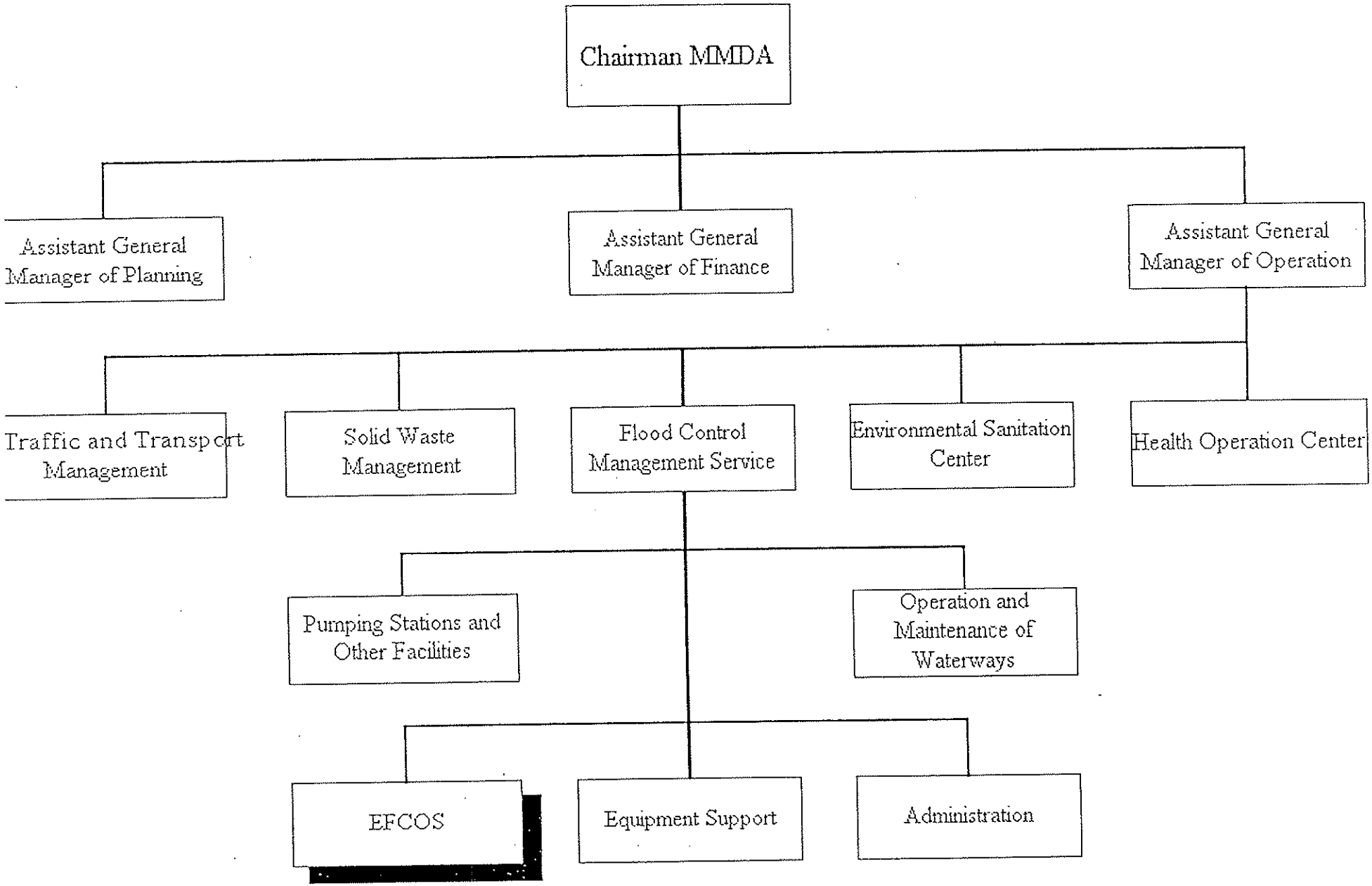
We also wish to take this opportunity to request for a written official explanation regarding the maintenance and sustained operations of previous DPWH Grant-Aid projects which we believe have also been transferred to the jurisdiction of MMDA (i.e. EFCOS, Pumping stations, etc.).

Thank you very much and we look forward to your prompt reply and action on our requests.

Very truly yours,

Toshiaki Mabuchi
TOSHIAKI MABUCHI
Second Secretary

cc: ADG Rolando Tungpalan, NEDA
Mr. Kohara, JICA



ORGANIZATIONAL SET-UP OF MMDA

METROPOLITAN MANILA DEVELOPMENT AUTHORITY ORGANIZATION IN TRANSITION (PER REPORTING ARRANGEMENT)

LEGEND :

DSD	Directorate for Sports Devt. . **
T O S	Treasury Opns. Service
BOS	Budget Opns. Service
CPCS	Compensation & Position Classification Service
I C S	Internal Control Service
F P S	Fiscal Planning Service
T M D S	Training & Manpower Devt. Service
RPAS	Real Property Assessment Service **
LRMS	Land Resource Mgt. Service
U D D S	Urban Design and Devt. Service
PSRS	Planning Support & Research Service
E O C	Engineering Opns. Service
ACID	Action Center for Infra Devt.
T O C	Traffic Operations Center
D S O	Directorate for Special Opns.
HOC	Health Opns. Center
ESC	Environmental Sanitation Center
E S	Executive Staff **
TTMO	Transport & Traffic Mgt. Office
ASB	Anti-Smoke Belching Group
**	Dormant/Scaled Down
***	Ad Hoc Offices/Units

MMDA COUNCIL
MMDA Chairman
BAYANI F. FERNANDO

COUNCILSECRETARIAT
HILDA L CORPUZ

Deputy Chairman
CESAR S. LACUNA

CHAIRMAN'S EXECUTIVE OFFICE

EXECUTIVE STAFF

PIO STAFF ***

GENERAL MANAGER
ROBERT C. NACIANCENO

MGT. & ORGN. SERVICE
VISSIA MARIE ALDON

PUBLIC AFFAIRS SERVICE
CONNIE GONZALES

** DIRECTORATE FOR SPORT
ATTY. J. SALIVA

METROBASE
ARIS MERCADO
** BARANGAY OPNS. CENTER

OFFICE OF AGM FOR FINANCE AND ADMINISTRATION
EDENISON FAINSAN

OFFICE OF AGM FOR OPERATIONS
ROGELIO URANZA

OFFICE OF THE AGM FOR PLANNING
CORAZO B. CRUZ

PRRC RIVERBANKS AND ADVOCACY COMMITTEES

T O S
NUMERIANA ILAGAN

ACCOUNTING SERVICE
NILA QUERIJERO

B O S
ED FAINSAN

ADMIN SERVICE
Central - Chona Abuna
ESC - Ela Umjuco
TOC - Soledad Cruz
Flood Control - Lyn Enriquez

C P C S
HILDA L CORPUZ

T M D S
EVA ROSARIO

I C S
Gerry San Gabriel

LEGAL SERVICE
ATTY. JOSEFINA SALIVA

F P S
JOCELYN MATEO

R P A S **
RAMON MATEO

MIS GROUP ***
GERRY SAN GABRIEL

SOLID WASTE MANAGEMENT
PROJECT MGT. OFFICE ***
Plans & Prog - Elsie Encarnacion
Infra & Operations - Engr. Pol Parumog

TRAFFIC & TRANSPORT MANAGEMENT
TRAFFIC OPNS CENTER
ANGELITO VERGEL DE DIOS

- Enforcement /TEG
- Operations
- Education/Engineering
- Administration /Adjudication
- Sidewalk Clearing/Parking Discipline
- Road Emergency Station

U D D S
VIRGILIO VILLANUEVA

P S R S
GRACE RANJO

INTEGRATIVE PLANNING SERVICE
RAUL VERCELES

LRMS /ZONING OFFICE/
VIRGILIO VILLANUEVA

FOREIGN -ASSISTED PROJECT/PMOS

- MURTRIP
- MMAQUISDP (ASB / TEM)
- MMUTIS

FLOOD CONTROL AND ENGINEERING

EOC - Engr. Leopoldo Parumog
Ramon Pujol
ACID ** Archt. Alfonso Romero

FLOOD CONTROL UNIT
(DPWH Group)
USEC CESAR LACUNA

- Drainage & Waterways Opns
- Pumping Stations & Flood Gates Opns
- EFCOS
- Equipmt. Support Grp.
- Admin Support Group

URBAN PROTECTION

PUBLIC SAFETY
DSO - Ramon Santiago
HEALTH & SANITATION
HOC - Liwanag Godinez
ENVIRONMENTAL IMPROVEMENT
ESC - AGM Uranza
Gloria Sarol
ASD - Ramon Santiago *

* ESC - Washing Crew
- Lanscape Mntnce
- Sites Maintenance

Note : The bulk of BOC personnel were reassigned to Metro Base, Traffic and other offices while some ACID employees were reassigned to UDDS. Former Executive Staff people were reassigned to other offices
MOS and DSD now report to AGMFA

MANPOWER COMPLEMENT AS OF DECEMBER 2002

PERMANENT	5,187
CASUAL	1,042
	6,229
JOB ORDER	864
CONSULTANT	28
TOTAL	7,121.00

Appendix - B

MINUTES OF MEETING

MINUTES OF MEETING
ON
INCEPTION REPORT
FOR
THE STUDY ON DRAINAGE IMPROVEMENT IN THE CORE AREA OF METROPOLITAN MANILA, REPUBLIC OF THE PHILIPPINES

MANILA, FEBRUARY 10, 2004

MANUEL M. BONOAN
UNDERSECRETARY
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH)

HAJIME TANAKA
TEAM LEADER
STUDY TEAM OF JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Witnessed by

RAUL C. ASIS
ASSISTANT SECRETARY
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH)

NOBUHISA TAKEDA
CHAIRMAN
ADVISORY COMMITTEE OF JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

The Study Team of Japan International Cooperation Agency (JICA) for the " Study on Drainage Improvement in the Core Area of Metropolitan Manila, Republic of the Philippines" arrived in Manila on February 3, 2004 for the commencement of the Project.

The Study Team submitted thirty (30) copies of the Inception Report to the Department of Public Works and Highways (DPWH) on February 5, 2004 in accordance with the Implementing Arrangement agreed upon between the Government of the Republic of the Philippines and JICA on February 26, 2003.

DPWH and the Study Team held a meeting on the Inception Report on February 5, 2004 (see ANNEX-1). Mr. Napoleon S. Famadico (Team Leader of the Local Counterpart Team) chaired the meeting. The Study Team presented the basic concept, outline and scope of the study proposed in the Inception Report, including the technology transfer program proposed in the Study. Technical discussions were conducted between the Study Team and the Counterpart Team on each of the study items, surveys and data required for the Study.

The Joint Meeting of the Steering Committee and Technical Working Group was held by DPWH at the operation's room, office of the Secretary of DPWH on February 9, 2004. Assistant Secretary Raul C. Asis in behalf of the Steering Committee Chairman, Undersecretary Manuel M. Bonoan, welcomed and acknowledged the presence of the members of JICA Advisory Team, JICA Study Team and members of the Steering and Technical Working Group from concerned government agencies (see ANNEX-2), and he emphasized the importance of the Study and expressed that full support and cooperation will be extended to the JICA Study Team. Dr. Nobuhisa Takeda, Chairman of the JICA Advisory Committee gave a short message and emphasized that the Project is a joint study of the Japanese and Philippine Governments, and he expects for active participation of the agencies concerned.

Mr. Tanaka, Team Leader of the Study Team presented a brief explanation of the Inception Report and group discussion followed after the presentation.

Major items discussed are as follows:

- Assistant Secretary Asis asked about the frequency of convening the Steering Committee. The Study Team replied that the Steering Committee meetings will be held at the stages of preparing the Progress Report, Interim Report and Draft Final Report.

- PM Dolores Hipolito from DPWH PMO-FCSEC asked if the goal of the study is to eliminate flooding or just to reduce the depth and time duration of flooding. The Study Team replied that there are many basic ideas on how the inundation and duration will be reduced that will be considered by the Study Team in formulating the plans, in assessment of existing condition, close consultation and discussion with the Technical Working Group and the Counterpart Team.

- PM Hipolito specifically cited the solid waste problem. She suggested that the Study Team should focus on the campaign on public awareness while there are already many campaigns on waste. She said that the people are aware of its negative effects but there are no dumping place for their waste. She further suggested that the Team should include in the Study the assessment of the composition of solid waste that cause the clogging of the channel so that it can be addressed properly particularly at the pumping stations. The Study Team replied that they will conduct survey/investigation on deposited/scattered garbage and will determine its sources. They will propose campaign for public awareness and will conduct experimental projects on selected pilot areas that will guide the Team in the preparation of the study.

- Assistant Director Gilberto Reyes, DPWH Bureau of Design, asked about the stages of the Study particularly in the conduct of drainage inventory if it will also include the drainage along local roads. The Study Team replied that drainage along major roads will be included in the surveys but they will still decide if facilities along local roads will also be included.

- About the O&M plan, PM Hipolito asked who will be responsible in the monitoring of informal settlers and implementing the resettlement program. The Study Team replied that those matters will be included in the proposed O&M Plan, and O&M activities should be implemented by MMDA and the concerned Local Government Units. Asec. Asis suggested that the local government units (the 4 cities within the study area) will be responsible for the O&M.

- Project Director Resito V. David, DPWH PMO-FCSEC, suggested that there should be local counterparts from MMDA. Mr. Villanueva from MMDA told the body that MMDA will assign local counterparts for the Study Team.

- Mr. Rivera from DENR said that they should be properly informed on the EIA and other environmental aspects of the Study.

Through the meetings with the Local Counterparts on February 5, 2004 and the Joint Meeting of the Steering Committee and the Technical Working Group on February 9, 2004, the following were agreed:

1. The contents of the Inception Report have been agreed in principle by the Philippine side.

2. The Study Team accepted the members of the Steering Committee, the Technical Working Group and the Counterpart Team for the Study. Lists of the members are shown in the ANNEX-3 to 5 of this document.

3. DPWH requested that technology transfer program should include counterpart training in Japan. The Study Team promised to convey this matter to JICA.

ANNEX-1 List of attendants of the Counterpart Meeting
ANNEX-2 List of attendants of the Joint Meeting of the Steering Committee and Technical Working Group
ANNEX-3 List of the members of the Steering Committee
ANNEX-4 List of the members of the Technical Working Group
ANNEX-5 List of the members of the Counterpart Team

Annex-1

List of Attendants for the Counterpart Meeting
on 5 February 2004

JICA Study Team

Hajime TANAKA	Team Leader
Takayuki NOBE	Deputy Team Leader/Drainage Planning (1)
Akinori SATO	Deputy Team Leader/ Environment/Solid Waste Management
Tadanori KITAMURA	Drainage Planning (2)/Hydraulics
Kenji MORITA	Database

Counterpart Team

Napoleon S. Famadico	Team Leader
Orlando M. Casio	Assistant Team Leader/ Drainage Planning
Jesus O. Averilla	Head, Env'l/Social Env't. Solid Waste Management
Leonila Mercado	Coordinator/ Drainage Planning, Hydraulics
Elmo F. Atillano	Hydrological and Hydraulic Modeling
Marcelino G.Tolentino, Jr.	Drainage Facility Design
Aquilina T. Decilos	Construction Planning/Estimates
Estelita M. Leonado	Economics/Finance
Diana J. Parubrub	Database
Silverio D. Auxtero	Operation and Maintenance

Administrative Staff

Jenny V. Almeda	Engineering Assistant
Gloria L. Atillano	Clerk
Ferdie A. Ramos	Support Staff

JICA

Akito KAGAWA	JICA Expert

Annex-2

List of Attendants for the Joint Meeting of Steering Committee
and Technical Working Group
on 9 February 2004

Steering Committee

Raul C. Asis	Assistant Secretary Department of Public Works and Highways
Marcelino N. Rivera Jr.	Department of Environment and Natural Resources
Arnel Cadangan	Engineering Department, Makati City Hall
Line M. Dela Peña	Department of Engineering and Public Works- Central Planning and Management Office Makati City Hall
Virgilio B. Villanueva	Metro Manila Development Authority
Efren G. Gonzales	Department of Social Welfare and Development
Mila V. Presentacion	Department of Social Welfare and Development
Edwin Javaluyas	Office of the City Engineer, Pasay City
Akito KAGAWA	JICA Expert/DPWH
Toshiyuki Kano	JICA Chief Advisor/DPWH

Technical Working Group

Resito V. David	Project Management Office, Flood Control and Sabo Engineering Center/DPWH
Dolores M. Hipolito	Project Management Office, Flood Control and Sabo Engineering Center/DPWH
Jerome dela Rosa	Assistant Regional Director National Capital Region/DPWH
Rory Reyes	Maintenance Division, National Capital Region/DPWH
Eduardo V. Santos	Maintenance Division, National Capital Region/DPWH
Camilo G. Foronda	Legal Service Department of Public Works and Highways
Bernardo P. Aman	Project Management Office Major Flood Control Project-I /DPWH
Gilberto S. Reyes	Assistant Director, Bureau of Design

Counterpart Team

Napoleon S. Famadico	Team Leader
Orlando M. Casio	Assistant Team Leader/ Drainage Planning
Jesus O. Averilla	Head, Environmental/Social Environment Solid Waste Management
Leonila Mercado	Coordinator/ Drainage Planning, Hydraulics
Elmo F. Atillano	Hydrological and Hydraulic Modeling
Diana J. Parubrub	Database
Silverio D. Auxtero	Operation and Maintenance
Jennie V. Almeda	Administrative Staff/Engineering Assistant

JICA Study Team

Hajime TANAKA	Team Leader
Takayuki NOBE	Deputy Team Leader/Drainage Planning (1)
Akinori SATO	Deputy Team Leader/ Environment/ Solid Waste Management
Tadanori KITAMURA	Drainage Planning (2)/Hydraulics
Kenji MORITA	Database
Sonoe YAMADA	Social Issue/Public Participation (1)

JICA

Nobuhisa TAKEDA	JICA Advisory Committee Chairman
Kazuhiko KOMINE	JICA Advisory Committee Member
Hisakatsu OKUDA	JICA Staff
Kiyoto KOBAYASHI	Assistant Resident Representative, JICA Philippine Office

Annex-3

List of the member of the Steering Committee

1. Manuel M. Bonoan	Undersecretary	Department of Public Works and Highways	Chairman
2. (to be named)		Metro Manila Development Authority	Co-Chairman
3. Ruben S. Reinoso, Jr.	Assist. Dir. General	National Economic and Development Authority	Member
4. Percival C. Chavez	Chairperson	Presidential Commission on Urban Poor	Member
5. Rolu P. Encarnacion	Weather Service Chief	Philippine Atmospheric Geophysical Astronomical Services Administration	Member
6. (to be named)		Housing and Urban Development Council	Member
7. Alejandro Salvador	Principal Engineer-A	National Housing Authority	Member
8. Alicia R. Bala	Regional Director	Department of Social Welfare and Development	Member
9. Leonor C. Cleofas	Manager	Manila Water Sewerage System	Member
10. (Marcelino Rivera)		Department of Environment and Natural Resources	Member
11. Toshiyuki Kano	JICA Advisor	Project Management Office Flood Control and Sabo Engineering Center	Member
12. Akito Kagawa	JICA Expert	Department of Public Works and Highways	Member
13. (Arnel Cadangan)		Makati City Government	Member
14. (to be named)		Manila City Government	Member
15. (Edwin Y. Javaluyas)		Pasay City Government	Member
16. (to be named)		Quezon City Government	Member

Annex- 4

List of the member of the Technical Working Group

1. Patrick B. Gatan	Project Director	Project Management Office Major Flood Control Project I	Head
2. (Virgilio B. Villanueva)		Metro Manila Development Authority	Co-Head
3. Resito V. David	Project Director	Project Management Office Flood Control and Sabo Engineering Center	Member
4. Jerome dela Rosa	Assistant Director	National Capital Region	Member
5. Gilberto S. Reyes	Assistant Director	Bureau of Design	Member
6. Camilo G. Foronda	Officer-In-Charge	Legal Service	Member
7. Bernardo P. Aman	Project Manager II	Project Management Office Major Flood Control Project I	Member
8. Dolores M. Hipolito	Project Manager I	Project Management Office Flood Control and Sabo Engineering Center	Member
9. Rebecca T. Garsuta	Engineer V	Planning Service	Member
10. (Line M. dela Peña)		Makati City Government	Member
11. (to be named)		National Development Authority	Member
12. (to be named)		Manila City Government	Member
13. (to be named)		Pasay City Government	Member
14. (to be named)		Quezon City Government	Member

Annex-5

List of the members of the Counterpart Team

STUDY ON THE DRAINAGE IMPROVEMENT IN THE COREA AREA OF METRO MANILA

PARTICULARS		NAME	DESIGNATION	OFFICE	RESPONSIBILITY	JICA Study Team	
A. **Local Counterpart**	1	Napoleon S. Famadico	Engineer IV	DPD-PS	***Team Leader***	TANAKA	Team Leader
	2	Orlando M. Casio	Engineer III	DPD-PS	***Asst. Team Leader*** Drainage Planning	NOBE	Deputy Team Leader
	3	Jesus O. Averilla	Sr.Env'l.Plng.Sp.	DPD-PS	***Head, Env'l/Social*** Env't. Solid Waste Management	SATO	Deputy Team Leader
	4	Leonila Mercado	Engineer IV	PMO-MFCP	***Coordinator*** Drainage Planning, Hydraulics	KITAMURA	Member
	5	Elmo F. Atillano	Engineer III	DPD-PS	Hydrological and Hydraulic Modelling	HASSAN	Member
	6	Marcelino G. Tolentino, Jr.	Engineer III	DPD-PS	Drainage Facility Design	NAGATA	Member
	7	*(to be named)*		PMO-MFCP	Solid Waste Analysis	ISHII	Member
	8	*(to be named)*		NCR	Social Issue/Public Participation (1)	YAMADA	Member
	9	*(to be named)*		NCR	Public Participation	ROQUIA,JR.	Member
	10	Aquilina T. Decilos	Engineer I	DPD-PS	Const'n. Planning/ Cost Estimates	OTSUKA	Member
	11	Diana Parubrub	Data Encoder	DPD-PS	Database	MORITA	Member
	12	Silverio Auxtero	Engineering Asst.	DPD-PS	Operation and Maintenance	KAMEYAMA	Member
	13	Estelita M. Leonado	Economist III	DPD-PS	Economics/Finance	FUKUDA	Member
B. **Administrative Support Staff**	1	*(to be named)*	Admin. Officer III	DPD-PS	Admin.Officer		
	2	Jenny Almeda	Draftsman	DPD-PS	Eng'g. Assistant		
	3	Gloria Atillano	Clerk III	DPD-PS	Clerk		
	4	Arturo Masil	Clerk I	DPD-PS	Clerk		
	5	Michael de Jesus	Driver/Mechanic	DPD-PS	Driver		
	6	*(to be named)*	Computer Operator	DPD-PS	Encoder/Technician	(job order)	
	7	*(to be named)*	Utilityman	DPD-PS	Utility	(job order)	

MINUTES OF MEETING
ON
PROGRESS REPORT
FOR
THE STUDY ON DRAINAGE IMPROVEMENT IN THE CORE AREA OF METROPOLITAN MANILA , REPUBLIC OF PHILIPPINES

MANILA, MAY 25, 2004

MANUEL M. BONOAN
UNDERSECRETARY
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH)

HAJIME TANAKA
TEAM LEADER
STUDY TEAM OF
JAPAN INTERNATIONAL
COOPERATION AGENCY (JICA)

The Study Team of Japan International Cooperation Agency (JICA) for the "Study on Drainage Improvement in the Core Area of Metropolitan Manila, Republic of the Philippines" submitted thirty (30) copies of the Inception Report to the Department of Public Works and Highways (DPWH) on May 5, 2004 in accordance with the Implementing Arrangement agreed upon between the Government of the Republic of the Philippines and JICA on February 26, 2003.

DPWH and the Study Team held a meeting with the Steering Committee on the Progress Report at the Operation's Room, Office of the Secretary of DPWH on May 18, 2004. Undersecretary Manuel M. Bonoan, Chairman of the Steering Committee, welcomed and acknowledged the presence of the members of the JICA Study Team, members of the Steering Committee and representatives from various agencies.

Project Director Patrick Gatan, Head of the Technical Working Group, presented the accomplishment of the Study and mentioned the issues and concerns taken and discussed in the Technical Working Group Meeting held on May 14, 2004.

Mr. Hajime Tanaka, Team Leader of the Study Team presented a brief explanation of the Progress Report and explained the initial findings related to the existing drainage system in the core area, the inundation conditions caused by the flood in 1999, and the basic concepts for the Master Plan and the database developed for the Study.

Usec. Bonoan invited the members to address their questions and suggestions, and encouraged the members of the committee to support the Study. He mentioned the structural and non-structural components of the project and suggested that there must be collaborative efforts particularly from the Local Government Units concerned with the National Government.

Major items discussed among the attendants are as follows:

(1) Deputy Manager Maria T. Valencia of NHA-NCR, asked about the CAMANAVA project if it was included in the Study because flooding is still a perennial problem in the area.

Usec. Bonoan answered that it is a major project. It was started last year and will be completed by 2007. He added that the perennial flooding problem can be attributed to the tidal action or backflow of sea water. He mentioned that the solution is to increase the conveyance capacity of the rivers by the construction of dike systems with flood gates along

the river channels. Likewise, to surround CAMANAVA area with levees. He cited as an example the Pasig-Marikina Project and the Mangahan Floodway which efficiently serves its purpose. He noted that the existing drainage system in the core area of Metro Manila is not working effectively as it has already been silted. Further he added that the complex problems in the core area can be attributed to garbage deposits and encroachment of informal settlers, and the drainage channels are reducing the capacity. Thus, he suggested that in order to address the said problems there should be a proper solid waste management and joint efforts of the people though there is financial constraints and political problems.

(2) MWSS Manager Leonor Cleofas suggested focusing on public awareness for sustainability in the maintenance of the existing facilities.

Usec. Bonoan also emphasized the importance of maintaining the drainage system.

(3) Ms. Glenda de la Cruz, PCUP-NCR representative asked if the Study Team consider relocation of the informal settlers.

Mr. Tanaka answered that the basic concept is to relocate the informal settlers along the drainage channels. The Study Team conducted questionnaire survey of barangays along esteros and creeks and the results are under analysis. Also, the Study Team started to collect basic data on informal settlers along esteros and will discuss the problem with related agencies concerned to find out the basic solutions.

Usec. Bonoan suggested considering the programs of the government to come up with practical recommendation regarding the informal settlers. He further stressed that we have to consider the programs and address it to PCUP and HUDCC for assessment because these social and political issues are sensitive. So we must be careful to take action.

(4) Usec. Bonoan asked the Study Team if they are mapping the core area so that they can draw –up information that will be useful for the LGUs. He added that it is a very good material for the LGUs and the National Government to identify the hierarchy of priority projects (projects under Short Term, Mid Term and Long Term Plans).

Mr. Tanaka answered that the Study Team prepared GIS database and are ready to show and discuss it with the National Government and the LGUs to avoid any contradictions with their

plans and programs.

(5) Usec. Bonoan asked if there is a Pilot Project after conducting the Feasibility Study. He added that he is anticipating the immediate implementation of the project.

Mr. Toshiaki Mabuchi, Second Secretary of the Embassy of Japan said that the Government of Japan maybe in support for such project after the Feasibility Study but the Philippines must have the sense of ownership. The Pasig Marikina Project must be completed so that Metro Manila be relieved from flooding problems.

(6) Usec. Bonoan acknowledged Mr. Mabuchi's support to the Philippine Government on Flood Control Projects. He assured that DPWH will put priority on this project in collaboration with the LGUs concerned to ensure success of the Study. He asked if there are any further comments/remarks.

Mr. Mabuchi requested the body to promote public relation for the smooth implementation of the project.

(7) Usec Bonoan also asked the Study team if they will continue the surveys.

Mr. Tanaka answered that primary surveys were conducted from February to March and now they are reviewing the results and the supplementary surveys are on-going.

Usec. Bonoan expressed his gratitude to the Japanese government and the Study Team. He appreciated the fruitful presentation and assured his continued support to the Study.

Through the Meeting of the Steering Committee on May 18, 2004, the following was agreed:

1. The contents of the Progress Report have been agreed in principle by the Philippines side.

Annex-1: List of Attendants for the 1st Technical Working Group Meeting on May 14, 2004
Annex-2: List of attendants for the Steering Committee on May 18, 2004
Annex-3: List of the Members of the Steering Committee
Annex-4: List of the members of the Technical Working Group

Annex-1

List of Attendants for the 1st Technical Working Group
On 14 May 2004

Technical Working Group

Patrick Gatan	Project Management Office Major Flood Control Project-II
Jerome Dela Rosa	Assistant Director National Capital Region/DPWH
Romeo S. Reyes	Maintenance Division, National Capital Region/DPWH
Resito David	Project Management Office Flood Control and Sabo Engineering Center/DPWH
Gil Itularrde	Project Management Office Flood Control and Sabo Engineering Center/DPWH
Alejandro Salvador	Principal Engineer A National Housing Authority
Norman Austria	Local Government Unit Makati City
Antonio Abaya	Local Government Unit Pasay City
Demetrio L. Pilar	Local Government Unit Municipality of Taguig
Ellorey A. Viernes	Local Government Unit City of Manila
Vicente Umengan	Local Government Unit Makati City
Vernon Espiritu	OIC-MMZAD Metro Manila Development Authority
Rebecca T. Garsuta	Planning Service DPWH
Perfecto L. Zaplan	Bureau of Design DPWH
Raymundo Aquino	Legal Service DPWH
Lydia G. Chua	National Capital Region DPWH
Robert L. Domingo	National Economic Development Authority Senior EDS

Counterpart Team

Napoleon S. Famadico	Team Leader
Orlando M. Casio	Assistant Team Leader/Drainage Planning
Jesus O. Averilla	Head, Environmental/Social Environment Solid Waste Management
Leonila Mercado	Coordinator/Drainage Planning, Hydraulics

Lito B. Manoos	Public Participation
Manuel Leaño	Solid Waste Analysis
Marcelino G. Tolentino	Drainage Facility Design
Aquilina T. Decilos	Construction Planning/Cost Estimation
Estelita Leonado	Economics/Finance
Elmo F. Atillano	Hydrological and Hydraulic Modeling
Diana J. Parubrub	Database
Silverio D. Auxtero	Operation and Maintenance

JICA Study Team

Hajime TANAKA	Team Leader
Takayuki NOBE	Deputy Team Leader/Drainage Planning (1)
Akinori SATO	Deputy Team Leader/Environment/Solid Waste
Tadanori KITAMURA	Drainage Planning (2)/Hydraulics
M.M. Sabbir HASSAN	Hydrological and Hydraulic Modeling

JICA

Wataru SAKURAI	JICA Expert
Toshiyuki KANO	Chief JICA Advisor

Annex-2

List of Attendants for the Steering Committee
On May 18, 2004

Steering Committee

Manuel M. Bonoan	Undersecretary Department of Public Works and Highways
Raul C. Asis	Assistant Secretary Department of Public Works and Highways
Patrick Gatan	Project Director Project Management Office Major Flood Control Project –II
Lina O. Enriquez	Acting Director II Metro Manila Development Authority
Ma. Alma T. Valenciano	Deputy Manager National Housing Authority
Carlito S. Talenjale	OIC-Administrative DSWD-NCR
Vicente Umingan	PDO Makati City
Margaret Bautista	Hydrologist PAGASA
Leonor C. Cleofas	Project Manager MWSS
Nestor Lualhati	PMO-A MWSS
Dem De Leon	Wastewater Operations Manager MWC
Demetrio del Pilar	Engineer I Municipality of Taguig
Renato de Guzman	Engineer III Caloocan City
Glenda T. Dela Cruz	Assistant Coordinator PCUP-NCR
Sonny Abadilla	Assistant Coordinator PCUP-NCR
Ramin G. Gloriana	Program Mgmt. Coordinator MWSI
Narciso A. Prudente	OIC-WRD NEDA
Ellorey A. Viernes	Engineer IV City of Manila
Sarlani C. Bassig	P.O. III HUDCC

Counterpart

Napoleon S. Famadico	Team Leader
Orlando M. Casio	Assistant Team Leader/Drainage Planning

Jesus O. Averilla	Head, Environmental/Social Environment Solid Waste Management
Leonila Mercado	Coordinator/Drainage Planning, Hydraulics
Joselito B. Manoos	Public Participation
Manuel M. Leaño	Solid Waste Analysis
Marcelino G. Tolentino	Drainage Facility Design
Leonardo P. Sanchez	Social Issue/Public Participation
Aquilina T. Decilos	Construction Planning/Cost Estimation
Estelita Leonado	Economics/Finance
Elmo F. Atillano	Hydrological and Hydraulic Modeling
Diana J. Parubrub	Database
Silverio D. Auxtero	Operation and Maintenance
Jennie V. Almeda	Administrative Staff/Engineering Assistant
Zaiel V. Gonzaga	Computer Engineer
Gloria L. Atillano	Clerk III

JICA Study Team

Hajime TANAKA	Team Leader
Takayuki NOBE	Deputy Team Leader/Drainage Planning (1)
Akinori SATO	Deputy Team Leader/Environment/Solid Waste
Tadanori KITAMURA	Drainage Planning (2)/Hydraulics
M.M. Sabbir HASSAN	Hydrological and Hydraulic Modeling
Akio ISHII	Solid Waste Survey

JICA

Akito KAGAWA	JICA Expert
Hiroshi TSUDA	JICA Expert
Wataru SAKURAI	JICA Expert
Toshiaki MABUCHI	Second Secretary, Embassy of Japan

Annex-3

List of the member of the Steering Committee

1.	Manuel M. Bonoan	Undersecretary	Department of Public Works and Highways (DPWH)	Chairman
2.	(to be named)		Metro Manila Development Authority (MMDA)	Co-chairman
3.	Ruben Reinoso, Jr.	Asst.Dir. Gen.	National Economic and Development Authority(NEDA)	Member
4.	Percival C. Chavez	Chairperson	Presidential Commission on Urban Poor(PCUP)	Member
5.	Aida Jose	Weather Service Chief	Phil. Atmospheric Geophysical Astronomical Services Administration(PAGASA)	Member
6.	(to be named)		Housing and Urban Development Council(HUDCC)	Member
7.	Ma. Alma Valenciano	Deputy Mngr.	National Housing Authority (NHA)	Member
8.	Alicia R. Bala	Regional Dir.	Department of Social Welfare and Development (DSWD)	Member
9.	Leonor Cleofas	Project Mngr.	Manila Water Sewerage System (MWSS)	Member
10.	Edwin Domingo	Asst. Dir.	Mines and Geosciences Bureau (MGB)-DENR	Member
11.	Toshiyuki Kano	JICA Advisor	Project Mngt. Office Flood Control and Sabo Eng'g Center (PMO-FCSEC)	Member
12.	Akito Kagawa	JICA Expert	Department of Public Works and Highways (DPWH)	Member
13.	Vicente O. Umengan	PDO	Local Gov't Unit (LGU) Makati City	Member
14.	Ellorey Viernes	Engr. IV	Local Gov't Unit (LGU) City of Manila	Member
15.	Demetrio L. Pilar	Engineer I	Local Gov't Unit (LGU) Municipality of Taguig	Member
16.	(to be named)		Local Gov't Unit (LGU) Pasay City	Member
17.	Renato de Guzman	Engr. III	Local Gov't Unit (LGU) Caloocan City	Member
18.	(to be named)		Local Gov't Unit (LGU) Quezon City	Member

Annex-4

List of the Members of the Technical Working Group

1. Patrick B. Gatan	Project Director	Project Management Office Major Flood Control Proj.-I	Head
2. (Virgilio B. Villanueva		Metro Manila Development Authority	Co-Head
3. Resito V. David	Project Director	Project Management Office Flood Control and Sabo Engineering Center	Member
4. Jerome Dela Rosa	Asst. Director	National Capital Region DPWH	Member
5. Gilberto S. Reyes	Asst. Director	Bureau of Design, DPWH	Member
6. Camilo G. Foronda	Officer–in-Charge	Legal Service	Member
7. Dolores M. Hipolito	Project Manager I	Project Management Office Flood Control and Sabo Engineering Center	Member
8. Rebecca T. Garsuta	Engineer V	Planning Service	Member
9. Claro Jose Manipon	Sen Sci Research Specialist	Mines and Geosciences Bureau	Member
11 (Line M. dela Peña)		Makati City Government	Member
12. Alejandro Salvador	Principal Engr. A	National Housing Authority	Member
13. Ellorey A. Viernes	Engineer IV	Manila City Government	Member
14. Antonio M. Abaya	Asst. City Engr.	Pasay City Government	Member
15. (to be named)		Quezon City Government	Member
16. Demetrio L. Pilar	Engineer I	Municipality of Taguig	Member
17. (to be named)		Caloocan City Government	Member

1st TECHNICAL WORKING GROUP MEETING

MINUTES OF DISCUSSION
ON
PROGRESS REPORT
FOR
THE STUDY ON DRAINAGE IMPROVEMENT IN THE CORE AREA OF METROPOLITAN MANILA, REPUBLIC OF PHILIPPINES

MANILA, MAY 14, 2004

PATRICK B. GATAN
PROJECT DIRECTOR
PMO-MFCP
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH)

HAJIME TANAKA
TEAM LEADER
STUDY TEAM OF
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

The Study Team of Japan International Cooperation Agency (JICA) for the "Study on Drainage Improvement in the Core Area of Metropolitan Manila, Republic of the Philippines" submitted thirty (30) copies of the Progress Report to the Department of Public Works and Highways (DPWH) on May 5, 2004 in accordance with the Implementing Arrangement (I/A) agreed upon between the Government of the Republic of the Philippines and JICA on February 26, 2003.

DPWH and the Study Team held a meeting with members of the Technical Working Group on the Progress Report on May 14, 2004 (see Annex-1 for the list of attendance). Project Director Patrik B. Gatan, Head of the Technical Working Group, chaired the meeting. He welcomed and acknowledged the presence of the members of JICA Study Team, the Technical Working Group (TWG) and the Counterpart Team.

Engineer Napoleon Famadico, the Team Leader of the Counterpart Team presented the status of activities related to the Study, summary of accomplishments, activities of counterparts and status of technology transfer. For the issues and concerns, he cited the problem in utilizing the funds for the Study. Mr. Hajime Tanaka, the Team Leader of the JICA Study Team presented the contents of the Progress Report. He explained the outline of the activities conducted in each study fields, basic concept of the master plan and the further study program to be conducted.

As for major problems identified during the Study. Engineer Aquilina Decilos and Mr. Jesus Averilla explained major problems identified in the technical and social fields, respectively.

After the presentation, some opinion and comments have been exchanged among the attendants and major points discussed are as follows:

- Project Director Patrik B. Gatan asked the following questions: 1) effectiveness of existing pumping stations, 2) effects of flooding from the Pasig Marikina River and tidal variations, 3) design consideration of existing drainage facilities (i.e. Rainfall, discharge) and 4) identification of missing creeks /esteros.

  The Study Team replied that 1) existing pumping stations are effective for the drainage of the core area and well maintained, however, Some of the pumping stations have already superannuated and need rehabilitation because 10 of them were constructed 20-30 years ago, 2) the project for flood mitigation of the Pasig-Marikina River is already on-going and the study being undertaken is for drainage/local run-off (Dir. Patric B. Gatan informed

the body that the projects were deferred by MMDA), 3) the original design of drainage facilities, prepared in 1952, is for 10-year return period, and succeeding studies also principally followed the concept of the plan,, and 4) missing esteros/creeks are being identified, however, they are actually not missing but may be covered only by garbage and sediment or encroached by informal settlers.

- Engineer Rebecca T. Garsuta asked the following questions, 1) simulation is to be conducted for the existing drainage facilities, but also for alternative it should be conducted, 2) considering of future land use in planning, 3) survey/inventory of factories' dumping waste to waterways, 4) comparison of actual and required O&M funds, and 5) depository of computer software/equipment to be turned over after the Study.

  The Study Team replied: 1) the suggestion will be considered and it will be conducted also for alternatives , 2) the suggestion will be considered, however, the study area is already developed and little room for future new development, 3) it will be difficult but industry owners were invited in the focus discussions as interviewers and questionnaires were sent, 4) the suggestion will be considered and the collection of information from MMDA and LGUs are in progress, and 5) the computer equipment/software will be hand over to the counterpart agency.

- Engineer Gil Ituralde from FCSEC, asked about clarification on the following: 1) Why the Study covers only the core area, and 2) why the Study was not handled by MMDA.

  The study team answered that the study area was agreed in the Implementing Arrangement (I/A) between the government of Philippines and the government of Japan.

  Dir. Patrik B. Gatan explained that there is a separate program for flood control other than the subject drainage improvement and availability of funds is considered, and 2) DPWH prepare and implement projects with foreign funding due to its expertise and agreement with funding agency then these will be turned-over to MMDA for management, all activities for local projects were turned-over to MMDA.

- Mr. Gil Ituralde asked about the type of guidelines to be developed by the Study.
  The study team answered the guideline will be prepared in the F/S stage and aiming the guidelines for implementation, operation and maintenance.

At the end of the meetings with the Technical Working Group Director Patrik B. Gatan informed the members of TWG to submit comments on the Progress Report by the end of May, 2004.

1. The contents of the Progress Report have been agreed in principle by the attendants.

2. Members of the Technical Working Group will submit their comments, if any, on the Progress Report to DPWH by the end of May.

ANNEX-1: List of attendants of the 1st Technical Working Group Meeting with the JICA Study Team.

THE STUDY ON DRAINAGE IMPROVEMENT IN THE CORE AREA OF METROPOLITAN MANILA

1st TECHNICAL WORKING GROUP MEETING

MAY 14, 2004

9:00 a.m. – 12:00 p.m.

REGISTRATION

No.	ORGANIZATION	NAME	POSITION	CONTACT NO.	SIGNATURE
1	DAGMA - MMDA	VERNON M. ESPIRAS	OIC - MM 240	882-4151 to 77 loc. 179	
2	~~Atillano~~ DPWH	Atillano, Elmo F.	Engr. III	304-3841	
3	JICA Study Team	Akio Ishii	Solid Waste Survey	0917.334.2671	
4	PMO-MFCP-DPWH	MANUEL LEAÑO	ENGR. IV	304-38-15	
5	PLANNING SERVICE	MAR G. TOLENTINO JR.	Engr. III	304-38-41	
6	PMO - MFCP - DPWH	LEONILA R. MERCADO	Engr. IV	304-37-57	
7	DPWH	AQUILINA T. DECILOS	Engr. III	3047841	
8	DPWH	JESUS O. AVERILLA	SEMS	- do -	
9	DPD-PS, DPWH	NAPOLEON S. FAMADICO	Engr. IV	304-3841	
10	DPD, DPWH	REBECCA T GARSUTA	Engr V	3043155	
11	DPD, DPWH	SILVERIO AUSTERO	DRAFTSMAN	3843155	
12	DPD, DPWH	ESTELITA LEONARDO	Economist II	304 3350	
13	~~O. CASCO~~ DPWH	Orlando CASCO	ENGR. III	3043482	
14	DPWH - BOD	PERFECTO L. ZAPLAN JR.	Engr V	3043011	
15	ATTY. Raymundo Aquino - DPWH		Legal Officer III	304 32 40	

No.	ORGANIZATION	NAME	POSITION	CONTACT NO.	SIGNATURE
16	NCK - DPNF	Lydia G. Chua	Eqr. V	304-3744	
17	DPWH	Diana J. Pascual	Database	304-3842	
18	ROBERT L. DOMINGO	NEDA	Sr. EDS	631-2192	
19	LITO B. MANOOS		ENGR. III	304-3E-1	
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THE STUDY ON DRAINAGE IMPROVEMENT IN THE CORE AREA OF METROPOLITAN MANILA

1st TECHNICAL WORKING GROUP MEETING

MAY 14, 2004

9:00 a.m. – 12:00 p.m.

REGISTRATION

No.	ORGANIZATION	NAME	POSITION	CONTACT NO.	SIGNATURE
1	DPWH	Patrick Fulan	Project Dir.	3023813 6410732	
2	DPWH - FCSEC	Wataru Sakurai	JICA - Expert	900-1895	
3	MUNICIPALITY OF TAGUIG	DEMETRIO L. PILAR	ENGINEER I	542-40-16	
4	DEPW4	JEROME PEÑA ROSA	ARD	304-36-32	
5	DPWH	ROMEO S. NERIS	ENG'R IV	304 3620	
6	JICA - DPWH FCSEC	Toshiyuki Kano	Chief Advisor		
7	DPWH FCSEC	Resito David	Proj Dir	900-14-96	
8	DPWH - FCSEC	GIL TURALDE	Engr. V	900-1495	
9	NHA	ALEJANDRO SALVADOR	Prin Eng A.	922-2467	
10	City Engrs Office - MLA.	ELMOREY A. VERNES	ENGR-IV / STAFF	527-4924	
11	NEDA	ROBERT L. DOMINGO	SENIOR EDS	631-2192	
12	MMDA/TI - LGU	VICENTE UMENGAN	PDO	870 1202	
13	MAKATI - LGU	NORMAN AUSTRIA	PEA I	870 1229	
14	CEO - PASAY CITY	ANTONIO M. [illegible]	ASST. C.E.	831-74-96	
15					

3rd STEERING COMMITTEE MEETING

MINUTES OF MEETING
ON
OUTLINE OF THE PROPOSED DRAINAGE IMPROVEMENT MASTER PLAN
FOR
THE STUDY ON DRAINAGE IMPROVEMENT IN THE CORE AREA OF METROPOLITAN MANILA, REPUBLIC OF THE PHILIPPINES

MANILA, JULY 20, 2004

MANUEL M. BONOAN
UNDERSECRETARY
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH)

HAJIME TANAKA
TEAM LEADER
STUDY TEAM OF
JAPAN INTERNATIONAL
COOPERATION AGENCY (JICA)

Witnessed by

RAUL C. ASIS
ASSISTANT SECRETARY
DEPARTMENT OF PUBLIC WORKS AND
HIGHWAYS (DPWH)

DPWH and the Study Team held a meeting with the Steering Committee on the progress of the Study at the Operation's Room, Office of the Secretary, DPWH on July 20, 2004. Assistant Secretary Raul C. Asis in behalf of the Steering Committee Chairman, Undersecretary Manuel M. Bonoan, chaired the meeting. He welcomed and acknowledged the presence of Mr. Toshiaki MABUCHI Second Secretary/Economic Affairs from the Embassy of Japan, the members of the JICA Study Team, the members of the Steering Committee and representatives from various agencies.

Engineer Leonila Mercado, PMO-MFCP, in behalf of Project Director Patrick Gatan, Head of the Technical Working Group, presented the issues and concerns taken and discussed in the Technical Working Group Meeting held on July 15, 2004 (shown in Annex 3 attached).

Mr. Hajime Tanaka, Team Leader of the Study Team presented the outline and progress of formulation of a master plan for drainage improvement in the core area and explained the findings and problems related to the existing drainage system in the study area, outline of the proposed measures for drainage improvement, the components of the Master Plan and implementation plan to be proposed in the Interim Report to be compiled in August 2004. He further stressed the importance of the implementing agency for the Master Plan and the relocation of informal settlers in the drainage channels. During the presentation, Mr. Sabbir M.M. Hassan, Hydrological and Hydraulic Modeling, presented some of the results of flood simulation for the Study,

Assistant Secretary Raul C. Asis invited the members to address their questions and suggestions. Major items discussed are as follows:

1. Dr. Sixto Tolentino, DENR NCR Director, highlighted his concern regarding the sustainability of fund for the project and the problem of the informal settlers who kept on returning back to the area after relocation that should be looked into, in which livelihood program should be given attention.
   Mr. Tanaka replied that relocation of the informal settlers is a serious issue and should be discussed with the major implementing agencies how to solve the problem. He said that the necessary guidelines for this will be prepared by the Study Team with the implementing agencies.
2. Mr. Percival C. Chavez, Chairman of PCUP, gave comments for the local counterpart agencies that the challenge is on them on how to solve the perennial flooding problem and

sustain the effectiveness of the project.

Assistant Secretary Raul C. Asis said that implementation of flood control projects is already under the jurisdiction of MMDA.

Mr. Vernon M. Espiritu, a representative from MMDA said that relocation is also their problem and they are also coordinating with LGUs, NHA, HUDCC and other concerned agencies.

3. Ms. Alma T. Valenciano of NHA suggested that they can assist in the implementation of the project particularly on relocation problems, if the relocation areas and numbers of informal settlers will be cleared by the implementing agency.

   Mr. Tanaka replied that the possible/proposed relocation areas should be considered by the implementing agency, but the possible/proposed area to be cleared will be shown in the Master Plan and the Study Team will discuss with the counterpart agencies on the relocation problems.

4. Mr. P. Chavez of PCUP asked who or what agency will assist in the preparation of relocation plan for the Master Plan.

   Assistant Secretary Raul C. Asis said that the members of the Steering Committee can submit their comments to Office of Undersecretary Manuel M. Bonoan as Chairman of the committee. He also added that they can create a sub committee from the Steering Committee members to act primarily on the concerned issues.

5. Mr. P. Chavez suggested that there should be a separate committee to be in charge of the relocation of the informal settlers.

   Assistant Secretary Raul C. Asis said that this relocation /resettlement problems will seriously affect the implementation of the project, hence there should be a group to look into this matter. It was agreed that TWG should initiate the creation of sub-committees within the members of the Steering Committee.

Assistant Secretary Raul C. Asis expressed his gratitude to Japanese government, the Study Team and the members who attended the meeting.

Through the Meeting of the Steering Committee on July 20, 2004, the following was agreed:

1. The contents of the progress of the Study for formulating a master plan are agreed in principle by the Philippines side.
2. The proposed prioritized projects include no serious negative impacts difficult to realize the projects. Though the proposed rehabilitation of drainage channels by dredging will require relocation of informal settlers in drainage channels, DPWH will take the initiative in

implementing the projects as the main implementing agency for the Study and will organize a sub-committee within the Steering Committee to focus on relocation/resettlement, and other socio-economic and environmental concerns.

Annex-1: List of attendants for the Steering Committee on July 20, 2004
Annex-2: List of the Members of the Steering Committee
Annex-3: Minutes of Meeting of 2nd Technical Working Group Meeting

Annex 1

THE STUDY ON DRAINAGE IPROVMENT IN THE CORE AREA OF METROPOLITAN MANILA
3RD STERING COMMITTEE MEETING
July 2, 2004 (9:00 AM- 12:00 NN)
Operation's Room, DPWH Central Office

ATTENDANCE SHEET

No.	Name	Position	Organization
1	Hajime Tanaka	Team Leader	JICA Study Team
2	Takayuki Nobe	Asst. Team Leader	JICA Study Team
3	Tadanori Kitamura	Drainage Planning(2)	JICA Study Team
4	Sonoe Yamada	Public Participation(1)	JICA Study Team
5	Shingo Sato	Economic/Finance	JICA Study Team
6	M.M. Sabbir Hassan	Hydrological & Hydraulic Modeling	JICA Study Team
7	Dr. Felixberto Roquia, Jr.	Social Participation	JICA Study Team
8	Napoleon S. Famadico	Team Leader, DPWH Counterpart	DPWH
9	Elmo F. Atillano	DPWH Counterpart	DPWH
10	Marcelino Tolentino, Jr.	DPWH Counterpart	DPWH
11	Myrna M. Rodriguez	DPWH Counterpart	DPWH
12	Aquilina T. Decilos	DPWH Counterpart	DPWH
13	Leonila R. Mercado	DPWH Counterpart	DPWH
14	Estelita M. Leonado	DPWH Counterpart	DPWH
15	Leonardo Sanchez	DPWH Counterpart	DPWH
16	Silverio D. Auxtero	DPWH Counterpart	DPWH
17	Diana J. Parubrub	DPWH Counterpart	DPWH
19	Raul C. Asis	Assistant Secretary	DPWH
20	Barby Paragas	Engineer I	Manila City
21	Ellorey Viernes	Engineer IV	Manila City
22	Rolu P. Encarnacion	Service Chief	PAGASA
23	Ma. Alma T. Valenciano	Deputy Manager	NHA
24	Demetrio Pilar	Inspector	Taguig
25	Umolhuda Limpasan	Inspector	Taguig
26	Nestor Lualhati	Representative	MWSS

27	Vicente Umengan	PDO-I	Makati City
28	Norman D. Austria	PEA I	Makati City
29	Sailani C. Bassig	PO III	HUDCC
30	Vernon M. Espiritu	PO V	MMDA
31	Sixto Tolentino, Jr.	Regional Director	DENR
32	Renato De Guzman	Engineer III	Caloocan City
34	Shunta Dozono	JICA Expert	DPWH, JICA Expert
35	Mr. Hiroyuki Takajima		PAGASA, JICA Expert
36	Mr. Toshiaki Mabuchi		Embassy of Japan
37	Mr. Toshiyuki Kano	JICA Chief Advisor	PMO-FCSEC, DPWH
38	Mr. Jun Matsumoto		PAGASA, JICA Expert
39	Grace Milano	Project Secretary	
40	Rosgel Gamala	Staff	

ANNEX - 2: LIST OF MEMBERS OF THE STEERIG COMMITTEE

	Name	Designation	Office	Responsibility
1	MANUEL M. BONOAN	Undersecretary	DPWH	Chairman
2	*(to be named)*		MMDA	Co-Chairman
3	RUBEN S. REINOSO, Jr	Asst. Director General	NEDA	Member
4	PERCIVAL C. CHAVEZ	Chairperson	PCUP	Member
5	ROLU P. ENCARNACION	Weather Service Chief	PAGASA	Member
6	*(to be named)*		HUDCC	Member
7	ALEJANDRO SALVADOR	Principal Engineer A	NHA	Member
8	ALICIA R, BALA	Regional Director	DSWD	Member
9	LEONOR C. CLEOFAS	Manager	MWSS	Member
10	*(to be named)*		DENR	Member
11	TOSHIYUKI KANO	JICA Advisor	PMO-FCSEC	Member
12	AKITO KAGAWA	JICA Expert	DPWH	Member
13	*(to be named)*		Makati City Gov't	Member
14	*(to be named)*		Manila City Gov't	Member
15	*(to be named)*		Pasay City Gov't	Member
16	*(to be named)*		Quezon City Gov't	Member

Annex-3

2nd TECHNICAL WORKING GROUP MEETING

MINUTES OF MEETING
ON
OUTLINE OF THE PROPOSED DRAINAGE IMPROVEMENT MASTER PLAN
FOR
THE STUDY ON DRAINAGE IMPROVEMENT IN THE CORE AREA OF METROPOLITAN MANILA, REPUBLIC OF THE PHILIPPINES

MANILA, JULY 15, 2004

PATRICK B. GATAN
PROJECT DIRECTOR
PMO-MFCP CLUSTER I
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH)

HAJIME TANAKA
TEAM LEADER
STUDY TEAM OF
JAPAN INTERNATIONAL
COOPERATION AGENCY (JICA)

DPWH and the Study Team held a meeting with members of the Technical Working Group on the progress of the Study at Philippine Trade Training Center on July 15, 2004. Project Director Patrick B. Gatan, Head of the Technical Working Group, chaired the meeting. He welcomed and acknowledged the presence of the members of JICA Study Team, the Technical Working Group (TWG) and the Counterpart Team.

The following presentation was conducted:

1. Engineer Napoleon S. Famadico, the Team Leader of the Local Counterpart Team presented the status of activities related to the Study. He mentioned about the schedule and the succeeding activities made by the Study Team and the Local Counterparts.
2. Mr. Hajime Tanaka, the Team Leader of the JICA Study Team, presented the findings, outline of the proposed drainage improvement master plan and further activities.
3. Mr. Takayuki Nobe, Deputy Team Leader/Drainage Planning, presented details of the proposed drainage improvement plan, including problems of the existing drainage facilities and inadequate O&M activities for drainage facilities in the core area and necessary measures for drainage improvement.
4. Mr. Tadanori Kitamura, Drainage Planning/Hydraulics, presented the results of hydraulic simulation of flood depth and duration in the study area before and after the implementation of the proposed drainage improvement master plan.

After the presentation, opinion and comments have been exchanged among the attendants and major points discussed are as follows:

1. Engr. Rebecca T. Garsuta commented on the ground subsidence affecting Manila and suggested that it should be considered in the design of the drainage improvement plan. The Study Team replied that the ground subsidence has already been considered and has checked the existing benchmarks used in the Study by the primary benchmark (BM-ML3), located at Quezon City, which was used for the mapping (1:5000) conducted by Earthquake Impact Reduction Study for Metropolitan Manila (JICA Study in 2004).
2. Director Patrick B. Gatan asked about the data of decreasing discharge capacities of Tripa de Gallina, and also asked the benchmarks used and the accuracy of them. The Study Team replied that their analysis was based on the data from 1999 JICA Study data, 1995 PEA data, and the survey data conducted by the Study at 200-meter interval, and the benchmarks used for the survey have been checked by the primary benchmark (BM-ML3).
3. Director Patrick B. Gatan asked that if the repair and replacement of mechanical and electrical parts

of the major drainage pumping stations are considered, how/who conducted the evaluation. The Study Team answered that the evaluation has been conducted by the Flood Control Management Services (FCMS), MMDA applying the overall technical checking criteria developed by the Ministry of Agriculture, Fisheries and Forest, Japan and also based on the inspection report by the Plant Engineers Japan.

4. Engr. Mario Navarro, Project Manager, PMO-MFCP I, suggested the necessity of establishing the limit of invert elevation of right –of –way for each estero. The Study Team replied that it will be considered in the Study.
5. Director Patrick B.Gatan said that Manila has two problems: overflowing of the Pasig River and drainage problems and asked the stand on the matter and further stressed that if the Pasig-Marikina River Channel Improvement Project will not be implemented, how it will be considered in the Study. The Study Team answered that the Study is considering that the overflowing of the Pasig River should be controlled by the Pasig River Project and the design flood has been controlled for the core area by the Mangahan Floodway since 1984. However, there is some low-lying area existing along the Pasig River, of which ground elevation is lower than the design flood level of the Pasig River and the countermeasure should be required for the low-lying area, if the Pasig-Marikina River Improvement Project is not implemented.

   Engr. Rebecca T. Garsuta gave updates on the Pasig Marikina Project, in which the DPWH has requested the intervention of the Department of Justice to resolve the issues with MMDA.
6. Mr. Robert Domingo from NEDA said that the success of the project is inherent to the Pasig Marikina Project and asked it will be critical for the success of the Study? The Study Team replied that it would have a close relation between the two projects, but their major problems are different from each other.
7. Mr.Alejandro F. Salvador of NHA gave comments on the experience of relocation stages with LGUs and suggested that it should be given a high priority to identify the informal settlers and that the cost for development of potential relocation sites should be considered in the project cost. The Study Team replied that they are considering the relocation as a high priority including the cost to be included in the project cost.

In behalf of Director Patrick B. Gatan, Engr. Mario Navarro concluded the meeting and expressed his gratitude to the participants who joined in the meeting and congratulates the Study Team that they had a well comprehensive presentation.

Annex-1: List of Attendants for the 2nd Technical Working Group Meeting on July 15, 2004

Annex-2: List of the members of the Technical Working Group

Annex 1

THE STUDY ON DRAINAGE IMPROVEMENT IN THE CORE AREA OF METROPOLITAN MANILA

2ND TECHNICAL WORKING GROUP MEETING

July 15, 2004 (9:00 – 12:00 noon)

Philippine Trade Training Center, 2/F DTI Building, Corner Roxas Boulevard, Pasay City

ATTENDANCE LIST

No.	Name	Position	Organization
1	Hajime Tanaka	Team Leader	JICA Study Team
2	Takayuki Nobe	Deputy Team Leader	JICA Study Team
3	Tadanori Kitamura	Drainage Planning (2)	JICA Study Team
4	Sonoe Yamada	Public Participation (1)	JICA Study Team
5	Shingo Sato	Economic / Finance	JICA Study Team
6	M.M. Sabbir Hassan	Hydrological & Hydraulic Modeling	JICA Study Team
7	Grace Milanio	Project Secretary	JICA Study Team
8	Rosgel Gamala	Asst. Secretary	JICA Study Team
9	Mike Marcelo	Typist	JICA Study Team
10	Tilet Leonardo	Economist	DPWH
11	Lito Manoos	Public Participation	DPWH
12	Jesus Averilla	Head/Env./SWM-DPWH-JICA	DPWH
13	Vernon Espiritu	Acting PO V	MMDA
14	Patrick Gatan	Project Director	DPWH
15	Ellorey Viernes	Engineer IV/Staff	City Engineer's, Manila
16	Patricia C. Almoneda	Engineer I	CEO-Pasay City
17	Dolores Hipolito	PM I	DPWH-PMO-FESEC
18	Shunta Dozono	Expert	DPWH-JICA
19	Mario Navarro	PM II	DPWH-MECP-PMO
20	Camilo Foronda	OIC	DPWH
21	Leonila Mercado	Engineer IV	DPWH-PMO-MFCP
22	Napoleon S. Famadico	Team Leader, DPWH Counterpart	DPWH, Planning Service
23	Elmo Atillano	DPWH Counterpart	DPWH, Planning Service
24	Leonardo Sanchez	DPWH Counterpart	DPWH, Planning Service
25	Barby Paragas	Engineer I	CEO-Manila
26	Diane Parubrub	Database-DPWH Counterpart	DPWH, Planning Service
27	Marcelo Onarimit	Engineer III	DPWH-FCSEC
28	Myrna Rodriguez	Public Participation	DPWH, NCR

29	Rey Rosario	Engineer IV	DPWH-NCR
30	Renato de Guzman	Engineer III	City Engineering Office
31	Robert Domingo	Sr. E.D.S.	NEDA
32	Mar Tolentino Jr.	Engineer III	DPWH, Planning Service
33	Rebecca T. Garsuta	Chief, DPD	DPWH, Planning Service
34	Vicente Umengan	PDO I	Makati-LGU
35	Norman D. Austria	PEA-I	Makati-LGU
36	Zaiel Gonzaga	Comp. Engr.	DPWH, Planning Service
37	Demetrio Pilar	Inspector	Municipality of Taguig
38	Umolhuda G. Limposar	Inspector	Municipality of Taguig
39	Alejandro F. Salvador	Prin. Eng'r/ I	NHA
40	Silverio D. Auxterio	Draftsman	DPWH, Planning Service
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ANNEX -2 : LIST OF THE MEMBERS OF THE TECHNICAL WORKING GROUPT

	NAME	DESIGNATION	OFFICE	RESPONSIBILITY
1	PATRICK GATAN	Project Director	PMO-MFCP 1	Head
2	*(to be named)*		MMDA	Co-Head
3	*(to be named)*		NEDA	Member
4	RESITO V. DAVID	Project Director	PMO-FCSEC	Member
5	GEROME M. DELA ROSA	Assistant Director	NCR	Member
6	GILBERTO S. REYES	Assistant Director	BOD	Member
7	CAMILO G. FORONDA	Office-in- Charge	Legal Service	Member
8	BERBARDO AMAN	Project Manager II	PMO-MFCP 1	Member
9	DOLORES HIPOLITO	Project Manager 1	PMO-FCSEC	Member
10	REBECCA T. GARSUTA	Engineer V	Planning Service	Member
11	*(to be named)*		Makati City Gov't	Member
12	*(to be named)*		Manila City Gov't	Member
13	*(to be nemed)*		Pasay City Gov't	Member
14	*(to be nemed)*		Quezon City Gov't	Member

4th STEERING COMMITTEE MEETING

MINUTES OF MEETING
ON
INTERIM REPORT
FOR
THE STUDY ON DRAINAGE IMPROVEMENT IN THE CORE AREA OF METROPOLITAN MANILA, REPUBLIC OF THE PHILIPPINES

MANILA, September 28, 2004

MANUEL M. BONOAN
UNDERSECRETARY
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH)

HAJIME TANAKA
TEAM LEADER
STUDY TEAM OF
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

RAUL C. ASIS
ASSISTANT SECRETARY
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH)

NOBUHISA TAKEDA
CHAIRMAN
ADVISORY COMMITTEE OF
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

The Study Team of Japan International Cooperation Agency (JICA) for the "Study on Drainage Improvement in the Core Area of Metropolitan Manila" submitted thirty copies of the Interim Report to the Department of Public Works and Highways (DPWH) on September 20, 2004 in accordance with the Implementing Arrangement (I/A) agreed upon between the Government of the Republic of the Philippines and JICA on February 26, 2003.

DPWH and the Study Team held a meeting with the Steering Committee on the Interim Report on September 28, 2004 at the Operation's Room, Office of the Secretary, DPWH. Assistant Secretary Raul C. Asis of DPWH in behalf of the Steering Committee Chairman, Undersecretary Manuel M. Bonoan, chaired the meeting. He welcomed and acknowledged the presence of Mr. Toshiaki MABUCHI Second Secretary/Economic Affairs from the Embassy of Japan, the members of the JICA Advisory Team, members of the committee and the participants.

Engr. Mario Navarro, Project Manager, PMO-MFCP, in behalf of the Head of Technical Working Group, Project Director Patrick Gatan, presented the issues and concerns discussed in the Technical Working Group Meeting on the Interim Report held on September 23, 2004 at Traders Hotel (refer to Annex 3 for the minutes).

Mr. Hajime Tanaka, Team Leader of the Study Team presented the outline of the Interim Report, including major findings and issues, the proposed Master Plan and priority projects for F/S. He further stressed the importance of the responsible agencies for implementation of the Master Plan, including relocation of informal settlers in the drainage channels and innovation of public participation at barangay level.

Assistant Secretary Raul C. Asis invited the members to address their questions and suggestions. Major items discussed were as follows:

1. Dir. Sixto Tolentino Jr. of DENR-NCR, asked about the experimental components and status of IEE on disposal sites. He informed the body that one of the projects of DENR is the cleaning up of the esteros in the entire NCR and stressed the importance of coordinating with DENR with regards to such activities.

   The Study Team answered that the disposal site has not been identified yet and will be discussed with the concerned agencies. Regarding environmental issues, they are now preparing TOR for EIA and will discussed it with DENR. For the experimental activities at barangays and the cleaning up esteros, they will discuss and coordinate with them to create good working relationships and avoid any misunderstanding.

2. Assistant Secretary Asis gave comment regarding the level of investments allocated for the project, and asked the Team if they have a year to year investments or breakdown of this financial allocation for short term, medium term and long term program. He cited that new projects have very low priority and funds may only come from re-alignment of funds from expensive projects due to budgetary constraints. The Study Team answered that the breakdown of the financial allocation for short, medium and long term programs are shown in the Interim Report.
3. Ms. Ma. Alma T. Valenciano of NHA said that she has already coordinated the issues on informal settlers with their office for proposing arrangement of relocation land, but she asked for a body to supervise the organization. Assistant Secretary Asis said that a Memorandum for the creation of sub-committee to supervise the organization is already at his office for signature and he said that much of the responsibility is on the part of MMDA.
4. Nobuhisa Takeda, chairman of the JICA Advisory Team, stressed the importance of resolving/working on the issues that include implementing agencies, relocation of informal settlers based on current guidelines of JICA, JBIC and Philippine Government, cooperation with DENR on the people's participation for cleaning Estero in the experiment at the 3 pilot barangays, and the creation of a sub committee that will take care of the issues.

Assistant Secretary Asis expressed his gratitude to the members who attended the meeting.
Through the Meeting of the 4th Steering Committee on September 28, 2004, the following was agreed:

1. The Interim Report and the proposed Master Plan and Priority Projects for F/S were agreed in principle by the Philippines side.
2. The proposed priority projects include no serious negative impacts for the realization of the projects. Though the proposed dredging of drainage channels will require relocation of informal settlers located in drainage channels, DPWH will organized a coordination committee for relocation/resettlement and other socio-economic and environmental concerns as suggested in the 3rd Steering Committee in held last July 20, 2004.
3. DPWH will take the initiative in implementing the projects as the main implementing agency for the Study.

Annex-1: List of attendants for the Steering Committee on September 28, 2004
Annex-2: List of the Members of the Steering Committee
Annex-3: Minutes of Meeting of 4th Technical Working Group Meeting on September 23, 2004

Annex 1

THE STUDY ON DRAINAGE IMPROVEMENT IN THE CORE AREA OF METROPOLITAN MANILA

4th STEERING COMMITTEE MEETING

September 28, 2004 (9:00 – 12:00 noon)

Operations Room, DPWH Central Office

ATTENDANCE LIST

	NAME	POSITION	ORGANIZATION	CONTAC#
1	Hajime Tanaka	JICA Team Leader		304-3842
2	Takayuki Nobe	JICA Study Team		304-3842
3	Tadanori Kitamura	JICA Study Team		304-3842
4	Grace Milanio	Project Secretary		304-3842
5	Rosgel Gamala	Asst. Secretary		304-3842
6	Patricia Almoneda	CEO-Engr. I	CEO-Pasay	833-3214
7	Mar G. Tolentino Jr.	Engr. III	DPWH	
8	Zaiel Gonzaga	Data Encoder I	DPWH	
9	Leonardo Sanchez	Engr. III	DPWH-PMO	
10	Diane Parubrub	Clerk III		
11	Jesus O. Averilla	SEMS	DPWH	
12	Mario Navarro	Project Manager II	DPWH-PMO-MFCP	
13	Leonila R. Mercado	Engr. IV	DPWH-PMO-MFCP	
14	Nobuhisa Takeda	Chairman of JICA Advisory Committee	JICA	
15	Atsushi Nakayama	Senior Officer	JICA	
16	Takaaki Kusakabe	Member of JICA Advisory Committee	NILIM MILT Japan	
17	Toshiyaki Mabuchi	2nd Secretary	Embassy of Japan	
18	Renato de Guzman	Engr. III	Caloocan Engineering Office	288-8811 loc Eng'g
19	Hiroshi Tsuda	JICA Expert	PMO-FCSEC	628-1227
20	Shunta Dozono	JICA Expert, DPWH	DPWH	304-3095
21	Robert Beltran	Engr. IV	CEO-Quezon City	726-8523
22	Aquilina Decilos	Engr. III	DPWH	304-3482
23	Ma. Alma T. Valenciano	Deputy Mgr.,NCR	NHA	923-0386
24	Vernon M. Espiritu	Planning Officer V	MMDA	882-4151 loc 279
25	Estelita Leonado	Economist	DPWH	304-3098

26	Silverio D. Auxtero	Counterpart	DPWH	304-3098
27	Honorita Bayuda	Dir. III	DSWD	734-8652
28	Carlito S. Talenjale	Adm. Officer	DSWD	734-4116
29	Demetrio L. Pilar	LGU Inspector	Mun of Taguig	628-1999 loc 528
30	Napoleon S. Famadico	Team Leader DPWH Counterpart	DPD-PS, DPWH	304-3098
31	Sailani Bassig	PO III	HUDCC	811-4172
32	Nestor Lualhati	PMO-A	MWSS-Representative	929-6988
33	Sixto Tolentino	Regional Director	EMB-DENR-NCR	
34	Vicente Umengan	PDO	LGU Makati	890-1202
35	Norman DS. Austria	PEA	City Eng'g. Makati	890-1229
36	Raul C. Asis	Assistant Secretary	DPWH, Central Office	

ANNEX - 2: LIST OF MEMBERS OF THE STEERIG COMMITTEE

	Name	Designation	Office	Responsibility
1	MANUEL M. BONOAN	Undersecretary	DPWH	Chairman
2	*(to be named)*		MMDA	Co-Chairman
3	RUBEN S. REINOSO, Jr	Asst. Director General	NEDA	Member
4	PERCIVAL C. CHAVEZ	Chairperson	PCUP	Member
5	ROLU P. ENCARNACION	Weather Service Chief	PAGASA	Member
6	*(to be named)*		HUDCC	Member
7	ALEJANDRO SALVADOR	Principal Engineer A	NHA	Member
8	ALICIA R, BALA	Regional Director	DSWD	Member
9	LEONOR C. CLEOFAS	Manager	MWSS	Member
10	*(to be named)*		DENR	Member
11	TOSHIYUKI KANO	JICA Advisor	PMO-FCSEC	Member
12	SHUNNTA DOZONO	JICA Expert	DPWH	Member
13	*(to be named)*		Makati City Gov't	Member
14	*(to be named)*		Manila City Gov't	Member
15	*(to be named)*		Pasay City Gov't	Member
16	*(to be named)*		Quezon City Gov't	Member

Annex-3

4th TECHNICAL WORKING GROUP MEETING

MINUTES OF MEETING
ON
INTERIM REPORT
FOR
THE STUDY ON DRAINAGE IMPROVEMENT IN THE CORE AREA OF METROPOLITAN MANILA, REPUBLIC OF THE PHILIPPINES

MANILA, September 23, 2004

For:

PATRICK B. GATAN
PROJECT DIRECTOR
PMO-MFCP CLUSTER I
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH)

HAJIME TANAKA
TEAM LEADER
STUDY TEAM OF
JAPAN INTERNATIONAL
COOPERATION AGENCY (JICA)

The Study Team of Japan International Cooperation Agency (JICA) for the "Study on Drainage Improvement in the Core Area of Metropolitan Manila" submitted thirty copies of the Interim Report to the Department of Public Works and Highways (DPWH) on September 20, 2004 in accordance with the Implementing Arrangement (I/A) agreed upon between the Government of the Republic of the Philippines and JICA on February 26, 2003.

DPWH and the Study Team held a meeting with members of the Technical Working Group on the Interim Report at Traders Hotel (Roxas Boulevard, Pasay City) on September 23, 2004. Engr. Mario Navarro, Project Manager, PMO-MFCP I in behalf of Project Director Patrick B. Gatan, Head of the Technical Working Group, chaired the meeting. He welcomed and acknowledged the presence of the members of JICA Study Team, the Technical Working Group (TWG) and the DPWH Counterpart Team.

The following presentation was conducted:

1. Mr. Hajime Tanaka, the Team Leader of the JICA Study Team, presented the outline of the Interim Report that includes a Master Plan for drainage improvement plan, solid waste management plan and social issues, and also the estimated cost of the project, the results of economic evaluation, implementing agencies for the projects, selection of the priority projects for F/S and further activities until March 2005.
2. Mr. Takayuki Nobe, Deputy Team Leader/Drainage Planning, presented the details of the proposed drainage improvement plan, including the drainage problems to be solved, the basic concept of structural, non-structural and supporting measures. He also cited the problems regarding O&M activities for drainage facilities in the core area and necessary measures for drainage improvement.

After the presentation, Mr. Jess Averilla, the DPWH Asist. Team Leader invited the participants to address question and comments to the Study Team. Opinion and comments have been exchanged among the attendants and major points discussed are as follows:

1. Engr. Mario Navarro, Project Manager, PMO-MFCP I, asked about the method of estimation of the volume of bottom deposit materials to be dredged from the esteros/creeks and the breakdown of the volume per location/area/site for each estero/creek. The Study Team replied that the volumes of bottom deposit materials are estimated based on the results of cross sectional survey for each estero/creek and the breakdown data are shown in the *Table 2.5.30* in the Interim Report.
2. Engr. Soriano from Manila City Engineer's Office, asked on how the project will be financed. The Study Team answered that according to the financial analysis conducted the financial assistance from International Agencies or JBIC and the possible source of funds for implementation of the

Master Plan, but part of the fund should come from the local governments. He said that they are still discussing for the most practical way to solve the financial problem.

3. Engr. Mario Navarro asked about the function of Bluementritt Interceptor in North Manila and the reason why it is not functioning well, or if there is any new technology from Japan in removing or declogging deposits inside the conduit. The Study Team replied that there is a difficulty in maintaining and cleaning the deposits that is why the interceptor is not able to function well and it may require manpower for removing the deposits inside the conduit, and they will conduct site investigation for the interceptor in order to propose measures to improve the situation after grasping the actual conditions.
4. Mr. Perfecto Zaplan, from the Bureau of Design, DPWH, asked about how the capacities of the existing esteros/creeks are estimated and how to determine that their capacities for a 10-year flood frequency is achieved. The Study Team answered that they estimated the capacities of the existing esteros/creeks by uniform flow and checked and confirmed the results by the hydraulic model (Mouse) developed in the Study, and that the existing trunk esteros/creeks are mostly assumed to have been designed to have enough capacities for attaining the capacity of a 10-year flood frequency without additional design works.
5. Mr. Zaplan asked about the disposal site for dredged materials and its status. The Study Team answered that the disposal site for dredged materials is not decided yet, and it will be discussed with the concerned agencies during the progress of the Study.
6. Engr. Mario Navarro, suggested the necessity of establishing the limit of the right of way including the invert for each estero. The Study Team replied that it will be considered in the next phase of Study.

Mr. Averilla closed the meeting and expressed his gratitude to the participants who joined in the meeting.

Annex-1: List of Attendants for the 3rd Technical Working Group Meeting on September 23, 2004
Annex-2: List of the members of the Technical Working Group

Annex 1

THE STUDY ON DRAINAGE IMPROVEMENT IN THE CORE AREA OF METROPOLITAN MANILA

4th TECHNICAL WORKING GROUP MEETING

September 23, 2004 (8:00 – 12:00 noon)

Sala 1, 2nd Floor, Traders Hotel, Roxas Boulevard, Pasay City

ATTENDANCE LIST

	NAME	POSITION	ORGANIZATION/BRGY	CONTACT #
1	Hajime Tanaka	JICA Team Leader		304-3842
2	Takayuki Nobe	JICA Study Team		304-3842
3	Tadanori Kitamura	JICA Study Team		304-3842
4	Grace Milanio	Project Secretary		304-3842
5	Rosgel Gamala	Asst. Secretary		304-3842
6	Vernon M. Espiritu	PO V	MMDA-DAGMP	882-4151-71
7	Estelita Leonado	Economist	DPWH	804-3841 loc 279
8	Mar G. Tolentino	Engr. III	DPWH	
9	Manuel Leano	Engr. IV	DPWH	
10	Leonardo Sanchez	Engr. III	DPWH	
11	Wataru Sakurai	JICA Expert	DPWH FCSEC	
12	Hiroshi Tsuda	JICA Expert	DPWH FCSEC	
13	Demetrio L. Pilar	Inspector	Municipal of Taguig	628-1999 loc 528
14	Edgar A. Soriano	Engr . V	DEPW-Manila	527-4971
15	Lynden H. Punzalan	Engr. III	DEPW-Manila	564-0159
16	Camilo G. Foronda	OIC-Director	DPWH	
17	Patricia Almoneda	Engr. I	CEO,Pasay	833-3214
18	Perfecto L. Zaplan Jr.	Engr. V	BOD,DPWH	304-3065
19	Lydia G. Chua	Engr. V	DPWH-NCR	304-3744
20	Renato de Guzman	Engr. III	Caloocan Eng'g.	288-811 local 2226
21	Norman D. Austria	PEA I	CEO-Makati	870-1229
22	Vicente Umengan	PDO	CEO-Makati	870-1202
23	Mario G. Navarro	~~PMO-MFCP~~ Project Manager II	PMO-MFCP	
24	Joselito Manoos	~~PMO-MFCP~~ Project Manager	PMO-MFCP	
25	Jesus O. Averilla	DPWH-DPD	SEMS	304-3842
26	Napoleon Famadico	DPWH Counterpart	DPWH Planning Service	304-3098
27	Diane Parubrub	DPWH Counterpart	DPWH Planning Service	
28	Zaiel Gonzaga	Data Encoder I	DPWH	

29	Dir. Resito David	DIR-PMO-FCSEC		
30	Mary Ann Bautista	Engr. III, PS		
31	Ma. Soledad Balisi	Economist III,PS		
32	Silverio Auxterio	DPWH Counterpart		
33	Elmo Atillano	DPWH Counterpart		
34	Ferdie Ramos	Engr. Assistant		
35				

ANNEX -2 : LIST OF THE MEMBERS OF THE TECHNICAL WORKING GROUPT

	NAME	DESIGNATION	OFFICE	RESPONSIBILITY
1	PATRICK GATAN	Project Director	PMO-MFCP 1	Head
2	*(to be named)*		MMDA	Co-Head
3	*(to be named)*		NEDA	Member
4	RESITO V. DAVID	Project Director	PMO-FCSEC	Member
5	GEROME M. DELA ROSA	Assistant Director	NCR	Member
6	GILBERTO S. REYES	Assistant Director	BOD	Member
7	CAMILO G. FORONDA	Office-in- Charge	Legal Service	Member
8	BERBARDO AMAN	Project Manager II	PMO-MFCP 1	Member
9	DOLORES HIPOLITO	Project Manager 1	PMO-FCSEC	Member
10	REBECCA T. GARSUTA	Engineer V	Planning Service	Member
11	*(to be named)*		Makati City Gov't	Member
12	*(to be named)*		Manila City Gov't	Member
13	*(to be nemed)*		Pasay City Gov't	Member
14	*(to be nemed)*		Quezon City Gov't	Member
15	MARIO NAVARRO	Project Manager II	DPWH-PMO-MFCP	Member

5th STEERING COMMITTEE MEETING

MINUTES OF MEETING
ON
PROGRESS OF FEASIBILITY STUDY
FOR
THE STUDY ON DRAINAGE IMPROVEMENT IN THE CORE AREA OF METROPOLITAN MANILA, REPUBLIC OF THE PHILIPPINES

MANILA, January 13, 2005

MANUEL M. BONOAN
UNDERSECRETARY
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH)

HAJIME TANAKA
TEAM LEADER
STUDY TEAM OF
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

LINDA M. TEMPLO
DIRECTOR III
PLANNING SERVICE
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH)

DPWH and the Study Team held a meeting with the Steering Committee on progress of Feasibility Study on January 13, 2005 at the Operation's Room, Office of the Secretary, DPWH. Director Linda Templo of Planning Service in behalf of the Steering Committee Chairman, Undersecretary Manuel M. Bonoan, chaired the meeting. She welcomed and acknowledged the members of the JICA Study Team, members of the committee and the participants.

Engr. Mario Navarro, Project Manager, PMO-MFCP, in behalf of the Head of the Technical Working Group, Project Director Patrick Gatan, presented the issues and concerns discussed in the Technical Working Group Meeting on the progress of the Feasibility Study held on January 11, 2005 at Traders Hotel (refer to Annex 3 for the minutes).

Mr. Hajime Tanaka, Team Leader of the Study Team presented the outline of the progress of the Feasibility Study on each component of the priority projects for F/S, the recommendation for implementation of projects including the implementing agency and the activities to be undertaken after the Study; e.g. extension of Barangay Environmental Management Activities, getting ECC and preparation of Resettlement Action Plan and Implementation Program for the projects.

Ms. Rebecca T. Garsuta, Engineer V, DPWH in behalf of Director Linda Templo, invited the members to raise their questions and suggestions. Major items discussed are summarized as follows:

1. Mr. Rolu P. Encarnacion of PAGASA, gave comments on the installation of additional rainfall and water level gauges in the core area to improve the hydrological observation network.

   The Study Team explained the installation plan of the three rainfall gauges and fifteen staff gauges considering the existing pump drainage basins in the core area.

2. Mr. Mario Navarro asked the Study Team about the proposed remedial and additional structures for Blumentritt interceptor.

   The Study Team answered that the remedial works are composed of the shifting of the existing outlet, improvement of maintenance holes and enlargement of box culvert about 200 m, and the construction of a new box culvert along the existing Blumentritt interceptor, of which the outlet is planned to discharge to Estero de

Sunog Apog instead of Estero de Maypajo.

3. Mr. Navarro asked on how the Study Team account for two new interceptors and if do they consider an additional work on ROW on Blumentritt Interceptor.

   The Study Team explained that the proposed additional box culvert is planned along the existing box culvert and to be constructed under the road, which has sufficient space and no need for land acquisition to accommodate the additional culvert, but need for temporally relocate one house at the out let.

4. Ms. Rebecca Garsuta inquired about supplementary surveys and if the Study Team has detailed design of box culvert and if they encounter some facilities like PLDT and MWSS lines, or do they have inventory of these facilities from concerned agencies.

   The Study Team explained that the Study Team has prepared only a preliminary design of box culverts, but not a detailed design. As for the related sub surface facilities like sewers and water supply pipes, these have been surveyed along with the proposed additional box culverts and discussed with the concerned agencies. The data and these information will be discussed in the final report.

5. Ms. Lerma Rosario of MWSS, suggested that if the study team could coordinate with them and discuss with their plans, she also asked if they need to relocate their water alignment or pipes.

   The Study Team explained that the coordination with MWSS is important and the construction plan of the box culverts for crossing water supply pipes need to keep a close coordination and discussion with MDSS.

6. Mr. Narciso Prudente from NEDA asked about the major activities on dredging and if the Study Team has an inventory of dredging equipment of MMDA

   The Study Team explained that a list of dredging equipment of MMDA has already been collected and it is necessary to discuss with MMDA before implementation.

   Mr. Baltazar Melgar of MMDA said that their equipment is not sufficient but for the

project they can possibly provide because there is also an existing program for the dredging in Estero de Sunog Apog and Maypajo. He also said that their office has no funds for that, but they can tap financing institution for the project. He also asked who will request for the preparation and implementation of project such as dredging, declogging etc...

Mr. Prudente of NEDA answered that based on the existing agreement, the implementation should be with MMDA. The mandate was raised in congress that MMDA has no mandate to implement the project, and that the matter is yet to be resolved.

Ms. Garsuta gave comment that MOA is still binding and that MMDA could take the initiative and DPWH will support the program, MMDA will prepare the proposal to request the financial assistance from JICA for detailed engineering.

7. Mr. Melgar asked if JICA can push through the rehabilitation of three major pumping stations through Grant Aide..

   Ms. Garsuta asked if there would be a possibility for JICA to approve the request, or made another request or wait for JICA's approval.

   Mr. Shunta Dozono, JICA Expert from DPWH, said that DPWH has sent a request to the Japanese side and they are to consider the modifications of four pumping stations.

8. Mr. Prudente asked if the request was different from the one that was also requested by MMDA.

   Ms. Leonila Mercado from Local Counterpart said that it was DPWH who requested the proposal but then transferred to MMDA, because MMDA is now in-charged of the flood control projects in Metro Manila.

9. Mr. Vicente Umengan from Makati City Engineer's Office inquired about the basis of selecting only three Barangay for BEM activities and extension of the activity to other.

The Study Team answered that the three barangays are selected as a typical barangay representing among those located along esteros for pilot experimental activities. The Barangay activities are effective for drainage improvement and recommended to be extended to other barangays.

Ms. Rebecca T. Garsuta expressed her gratitude to the members who attended the meeting. Through the Meeting of the 5th Steering Committee on January 13, 2005, the following is agreed:

1. The issues and progress of the Feasibility Study are agreed in principle by the Philippine side.
2. DPWH will take the initiative in the implementing activities before the implementation of the projects such as the conduct of the Resettlement Action Plan (RAP) and the preparation of the Implementation Program (IP).

Annex-1: List of attendants for the Steering Committee on January 13, 2005
Annex-2: List of the Members of the Steering Committee
Annex-3: Minutes of Meeting of 5th Technical Working Group Meeting on January 11, 2004

Annex-1

The Study on Drainage Improvement in the Core Area of Metropolitan Manila

5th STEERING COMMITTEE MEETING

January 13, 2005 (Thursday), 8:00 a.m. – 12:00 noon

Operation's Room, DPWH Central Office

PARTICIPANTS LIST

No.	Name	Position	Organization	Contact #
1	Hajime TANAKA	JICA Study Team Leader	JICA Study Team	304-3842
2	Takayuki NOBE	Deputy Team Leader/Drainage Planning 1	JICA Study Team	304-3842
3	Akinori SATO	Deputy Team Leader/ Environment/Solidd Waste Management	JICA Study Team	304-3842
4	Tadanori KITAMURA	Hydraulics	JICA Study Team	304-3842
5	Kenji MORITA	Database	JICA Study Team	304-3842
6	Rebecca T. Garsuta	Engineer V	PS	304-3140
7	Mario Navarro	PM II	DPWH-PMO-MFCP	
8	Baltazar Melgar	Engineer V	MMDA	881-8588
9	Leonila R. Mercado	Engineer IV	DPWH-PMO-MFCP	304-3752
10	Toshiyuki Kano	JICa Chief Advisor	DPWH-FCSEC	09206729890
11	Carlito Talenjale	Admin Officer	DSWD-NCR	734-4116

12	Shunta Dozono	JICA Expert	DPWH	09194085008
13	Patricia Almoneda	Engineer I	CEO,Pasay City	833-3214
No.	**Name**	**Position**	**Organization**	**Contact #**
14	Rolu P. Encarnacion	Weather Service Chief	PAGASA	922-1992
15	Lerma Rosario	Division Manager	MWSS	929-6988
16	Vicente Umengan	PDO I	Makati LGU	870-1202
17	Norman D. Austria	PEA-I	CEO-Makati	870-1229
18	Narciso Prudente	OIC-Water Resources Division	NEDA-IS	631-2192
19	Elmo Atillano	Engineer III	DPWH	304-3098
20	Auxtero Silverio D.	Draftsman	DPWH	304-3098
21	Demetrio L. Pilar	Engineer I	City of Taguig	628-1999 loc 583
22	Umulhuda Limpasan	Engineer	City of Taguig	628-1999 loc 583
23	Daniel Valencia	Draftsman II	City of Taguig	09182491560
24	Aquilina T. Decilos	Engineer III	DPWH,P.S.	304-3842
25	Winston E. Morella	PMO III	PWP	410-4702/416-3294
26	Jesus O. Averilla	SEMS	DPWH	
27	Estelita M. Leonado	Economist	DPWH	304-3089
28	Diana J. Parubrub	Data Encoder	DPWH	304-3842
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ANNEX - 2: LIST OF MEMBERS OF THE STEERIG COMMITTEE

	Name	Designation	Office	Responsibility
1	MANUEL M. BONOAN	Undersecretary	DPWH	Chairman
2	*(to be named)*		MMDA	Co-Chairman
3	RUBEN S. REINOSO, Jr	Asst. Director General	NEDA	Member
4	PERCIVAL C. CHAVEZ	Chairperson	PCUP	Member
5	ROLU P. ENCARNACION	Weather Service Chief	PAGASA	Member
6	*(to be named)*		HUDCC	Member
7	ALEJANDRO SALVADOR	Principal Engineer A	NHA	Member
8	ALICIA R, BALA	Regional Director	DSWD	Member
9	LEONOR C. CLEOFAS	Manager	MWSS	Member
10	*(to be named)*		DENR	Member
11	TOSHIYUKI KANO	JICA Advisor	PMO-FCSEC	Member
12	SHUNNTA DOZONO	JICA Expert	DPWH	Member
13	*(to be named)*		Makati City Gov't	Member
14	*(to be named)*		Manila City Gov't	Member
15	*(to be named)*		Pasay City Gov't	Member
16	*(to be named)*		Quezon City Gov't	Member

Annex-3

5th TECHNICAL WORKING GROUP MEETING

MINUTES OF MEETING
ON
PROGRESS of FEASIBILITY STUDY ON PRIORITY PROJECTS
FOR
THE STUDY ON DRAINAGE IMPROVEMENT IN THE CORE AREA OF METROPOLITAN MANILA, REPUBLIC OF THE PHILIPPINES

MANILA, January 11, 2005

PATRICK B. GATAN
PROJECT DIRECTOR
PMO-MFCP CLUSTER I
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH)

HAJIME TANAKA
TEAM LEADER
STUDY TEAM OF
JAPAN INTERNATIONAL
COOPERATION AGENCY (JICA)

TWG Meeting on January 11, 2005

DPWH and the Study Team held a meeting with members of the Technical Working Group on the progress of the feasibility Study on the priority projects at Traders Hotel (Roxas Boulevard, Pasay City) on January 11, 2005. Project Director Patrick B. Gatan, Head of the Technical Working Group, chaired the meeting. He welcomed and acknowledged the presence of the members of JICA Study Team, the Technical Working Group (TWG) and the DPWH Counterpart Team.

The following presentation was conducted:

1. Mr. Tanaka, Team Leader of the Study Team, explained the Outline of the Progress of the Feasibility Study and presented recommendation for the implementation of projects for short, medium and long term planes.
2. Mr. Nobe, Deputy Team Leader/Drainage Planning, presented the technical group report, on which he explained the major problems in the drainage channels and drainage pumping stations, including an outline of the drainage improvement master plan and the proposed drainage facilities in the priority projects.
3. Mr. Jesus O. Averilla presented the social and environmental group report and explained the proposed organizations for coordinating committee for resettlement and barangay environmental management activities. He also presented the overview of Resettlement Action Plan (RAP).

OPEN FORUM

After the presentation, Chairman Patrick B. Gatan asked the attendants to raise their opinions and comments on the presentation. The major points discussed are summarized as follows:

1. Dir. Patick B. Gatan informed the problem that according to the Department of Budget and Management there will be no new project which can be implemented from 2005-2010, and also informed that JBIC would like to cancel some of the DPWH projects since the government does not have any adequate financial support on the projects. He further suggested that the priority projects be undertaken through Grant Aid by the Japanese Government.

   The Study Team answered that regarding financial scheduling the Study Team is now preparing an implementation plan and to propose some portion of the projects to be financed by local budget. Regarding the possibility of grant aid by JICA, it should be discussed later between the governments, but preparation for the implementation of the projects will be done by the implementing agency.

2. Mr. Resito V. David asked about the function of the Coordination Committee to be formed under the study and suggested that the function of the coordination committee should be explained in detail in the final report.

   The Study Team replied that the decision of the implementing agency and establishment of a coordination committee are important, and the function of coordination committee will be explained in the final report.

3. Mr. Mario Navarro requested the Study Team to identify the priority projects for implementation which could be financed under local funds and foreign loan.

   The Study Team replied that priority projects will be divided into packages for possible local funding and international funding, which will be included in the report.

4. Mr. Narciso Prudente suggested to the Study Team to identify in the final report high priority projects considering the limited budget of the government and alternative procedure/recommendation in the implementation schedule and other options.

   The Study Team explained that though the Draft Final Report is to be submitted in February, and that the project components will be discussed with the counterpart agencies and other related agencies and the implementation plan of the priority projects will be prepared with due consideration of the limited budget.

5. Mr. Navarro asked the Study Team why they are suggesting DPWH to be the implementing agency while MMDA is now responsible for flood control projects and facilities in the Metro Manila.

   The Study Team explained that the master plan and the priority projects involve various agencies for the implementation and suggest DPWH as the implementing agency and to take the initiative for the implementation of the project since DPWH is the main counterpart agency, besides DPWH now in the process in the preparation ECC and RAP.

6. Ms. Rebecca T. Garsuta, asked on feasibility project indicators on the economic analysis of each project and asked for the result.

   The Study Team explained that the economic analysis for the feasibility study is still on going in

Tokyo, but in the Master Plan the proposed plan shows very high economic indicators.

7 Ms. Garsuta suggested to the Study Team that small and urgent priority projects identified in the final report like immediate dredging and declogging can be undertaken and funded by the concerned LGUs. She also asked the Study Team to present demonstration of the simulation of the inundation in the core area using the GIS map.

The Study Team explained that the construction projects are to be categorized in two groups: projects by local budget (dredging/declogging) and projects proposed for international funding.

Regarding the demonstration of simulation results, it was conducted in the first Technical Seminar and third Steering Committee and the results of simulation analysis are explained in the Interim Report, and also some of the demonstration of simulation will be conducted in the next technical seminar (January 19, 2005)

8 Ms. Garsuta made an inquiry to the representative of NEDA on whether or not to proceed in the preparation of RAP for this project.

Mr. Prudente of NEDA replied that it is difficult at this point of time, however he suggested determining with the concerned LGUs their plan of action regarding the informal settlers within their area.

9 Mr. Resito David suggested pursuing in the preparation of Relocation Action Plan even without the project proposal and the RAP should be prioritized...

The Study Team explained that the Study Team has already been conducting the EIA on the priority projects and counting the informal settlers to be relocated within the priority areas, and that the Study has already made tagging those informal house buildings located inside the channel section of Estero de Tripe de Gallina, selected as priority project in Pasay and Makati, and NHA has been coordinating the relocation sites.

10 Dir. Patick B. Gatan suggested to the Study Team that list of the informal settlers to be affected by the project should be furnished to the concerned LGUs for their information and appropriate action.

17

The Study Team explained that the Study have counted the number of house buildings in the esteros/creeks by using aero photographs and the results are shown in the Interim Report and agreed to provide the copy to the concerned LGUs.

11 Mr. Navarro asked the Study Team if the study team is coordinating with MMDA.

12 Mr. Prudente of NEDA suggested to the Study team to present the project to Chairman Bayani Fernando.

The Study Team explained that the Study Team have been coordinating and explaining the results of the Study to the staff of MMDA since the beginning of the Study and but no presentation directly made to Chairman Bayani Fernando.

13 Engr. Edgar Soriano from the City Engineer's Office of Manila suggested that DPWH should implement the project while MMDA is the one to monitor. He also requested for a copy on the list of informal settlers since they are now conducting the re-validation for funding purposes.

14 Mr. Soriano asked if the Study Team has data of the number of informal settlers, they would also like to obtain copy of the inventory on which they can consider in their revalidation and probably they will provide funds for these informal settlers.

Mr. Tanaka agreed to provide a copy to the city government of Manila.

CLOSING

Director Patrick B. Gatan concluded the meeting and expressed gratitude to the members who attended the meeting.

Annex-1: List of Attendants for the 5th Technical Working Group Meeting on January 11, 2005
Annex-2: List of the members of the Technical Working Group

Annex-1

The Study on Drainage Improvement in the Core Area of Metropolitan Manila

5th TECHNICAL WORKING GROUP MEETING

January 11, 2004 (Tuesday), 8:00 a.m. – 12:00 noon

2nd Floor, Traders Hotel, Roxas Boulevard, Pasay City

PARTICIPANTS LIST

No.	Name	Position	Organization	Contact #
1	Hajime TANAKA	JICA Study Teamleader	JICA Study Team	304-3842
2	Takayuki NOBE			
3	Akinori SATO			
4	Tadanori KITAMURA			
5	Kenji MORITA			
6	Resito David	OIC, Regional Director	PMO,FCSEC/DPWH	09225082152
7	Aquilina T. Decilos	Engineer III	DPWH, P.S.	304-3842
8	Mar Tolentino Jr.	Engineer III	DPWH, P.S.	304-3842
9	Mario Navarro	PM II	DPWH-PMO-MFCP	304-3813
10	Leonila R. Mercado	Engineer IV	DPWH-PMO-MFCP	304-3813
11	Estelita M. Leonado	Economist	DPWH,P.S.	304-3089
12	Geronimo Geny Comaling Jr.	Section Chief, Flood Control	DEPW-1,Makati	881-9395
13	Perfecto Zaplan Jr.	Engineer V	Bureau of Design	304-3065
14	Demetrio L. Pilar	Engineer I	City of Taguig	09279218557

15	Umolhuda Limpasan	Coordinator	City of Taguig	09185343621
16	Dolores M. Hipolito	PM I	DPWH-FCSEC	09172773960
No.	Name	Position	Organization	Contact #
17	Rebecca T. Garsuta	Engineer V	DPWH, P.S.	304-3140
18	Elmo Atillano	Engineer III	DPWH,P.S.	304-3140
19	Patrick Gatan	Project Director	DPWH	641-6086/304-3652
20	Narciso Prudente	OIC, Water Resources Division	NEDA-IS	631-2192
21	Robert Domingo	SR EDS	NEDA-IS	631-2192
22	Silverio Auxtero	Draftsman	DPWH	304-3098
23	Diana Parubrub	Database	DPWH	304-3842
24	Edgar A. Soriano	Engineer V	CEO-Manila	527-4971
25	Escholastica Reyes	Engineer II	DPWH-Legal,Manila	304-3480
26	Patricia C. Almoneda		CEO-Pasay City	
27	Vicente Umengan		CEO-Makati	
28	Norman D. Austria		CAEo-Makati	
29	Alejandro F. Sal vador		NCR	
30	Ramiro J. Tiamzon		Eng'g. Office, Quezon City	
31	Sabina Santos		Emg'g. Office, Quzon City	
32	Joel C. Barroga		CEO-Caloocan City	
33	Leo S. Del Rosario		CEO-Quezon City	
34	Miguelito S. Domingo		CEO-Caloocan City	
35				
36				
37				

ANNEX -2 : LIST OF THE MEMBERS OF THE TECHNICAL WORKING GROUPT

	NAME	DESIGNATION	OFFICE	RESPONSIBILITY
1	PATRICK GATAN	Project Director	PMO-MFCP 1	Head
2	*(to be named)*		MMDA	Co-Head
3	*(to be named)*		NEDA	Member
4	RESITO V. DAVID	Project Director	PMO-FCSEC	Member
5	GEROME M. DELA ROSA	Assistant Director	NCR	Member
6	GILBERTO S. REYES	Assistant Director	BOD	Member
7	CAMILO G. FORONDA	Office-in- Charge	Legal Service	Member
8	BERBARDO AMAN	Project Manager II	PMO-MFCP 1	Member
9	DOLORES HIPOLITO	Project Manager 1	PMO-FCSEC	Member
10	REBECCA T. GARSUTA	Engineer V	Planning Service	Member
11	*(to be named)*		Makati City Gov't	Member
12	*(to be named)*		Manila City Gov't	Member
13	*(to be nemed)*		Pasay City Gov't	Member
14	*(to be nemed)*		Quezon City Gov't	Member
15	Mario G. Navarro	Project Manager II	PMO-MFCP	Member

6th STEERING COMMITTEE MEETING

MINUTES OF MEETING
ON
DRAFT FINAL REPORT
FOR
THE STUDY ON DRAINAGE IMPROVEMENT IN THE CORE AREA OF METROPOLITAN MANILA, REPUBLIC OF THE PHILIPPINES

MANILA, March 1, 2005

MANUEL M. BONOAN
UNDERSECRETARY
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH)

HAJIME TANAKA
TEAM LEADER
STUDY TEAM OF
JAPAN INTERNATIONAL
COOPERATION AGENCY (JICA)

NOBUHISA TAKEDA
CHAIRMAN
ADVISORY COMMITTEE OF
JAPAN INTERNATIONAL
COOPERATION AGENCY (JICA)

DPWH and the Study Team held a meeting with the Steering Committee on the Draft Final Report on March 1, 2005 at the Operation's Room, Office of the Secretary, DPWH. Undersecretary Manuel M. Bonoan, the Chairman of the Steering Committee, chaired the meeting. He welcomed and acknowledged the members of the JICA Advisory committee and the Study Team, members of the Steering Committee and the participants. Mr. Hajime Tanaka, Team Leader of the Study Team, introduced the members of the JICA Advisory Committee and the Study Team.

Project Director Patrick B.Gatan, the Head of the Technical Working Group, presented the issues and concerns discussed in the 6th Technical Working Group Meeting on the Draft Final Report, held on February 28, 2005 at Traders Hotel (refer to Annex 3 for the minutes).

Mr. Hajime Tanaka, presented the outline of the priority projects and the implementation of the project proposed in the Draft Final Report, including the implementing agency and the activities to be undertaken after the Study; e.g. continuation and extension of the Barangay Environmental Management Activities, getting an ECC for the project and preparation of a Resettlement Action Plan for the project.

Undersecretary Manuel M. Bonoan invited the members to raise their questions and suggestions. Major items discussed are summarized as follows:

1. Director Resito V. David of PMO-FCSEC made a question to the study team on why the Study proposes DPWH as the implementing agency.

...

Mr. Tanaka replied that the project requires the involvement of different agencies including DPWH, MMDA, NHA, LGUs and others, and DPWH has been taking the initiative for the preparation of the implementation of the projects being the main counterpart agency for the Study. He suggested that DPWH should initiate the creation of a coordination committee for the smooth implementation of the projects.

2 Usec. Bonoan made an inquiry regarding the effect of the Pasig-Marikina Project to the external flood problem, and if the identified projects in the Study could solve the flooding/inundation problem in the core area of Metro Manila.

Mr. Tanaka answered that the extent of effect on severe inundation areas in both North Manila and South Manila areas is serious and significant, but the effect will be decreased in depth and duration, by dredging/declogging works and additional works as recommended in the Study..

3. Engr. Baltazar Melgar of MMDA asked about the situation on Sampaloc area that its topography is a little bit higher in the Mean Sea Level, and if the Study Team have considered the construction of a pump station in the outlet of Blumentrit interceptor because the area is affected by tide.

   Mr. Takayuki Nobe, Deputy Team Leader/Drainage Planning, answered that there will be no construction of additional drainage pumping stations but only rehabilitation and repair of the aged major pumping stations, since the pumps when rehabilitated have the capacity to drain the stormwater,

4. Mr. Rolu P. Encarnacion of PAGASA asked about the basis of installing of additional rain gauges, because there are already rain gauges installed in Quezon City, Port Area and NAIA.

   Mr. Tanaka said that the proposed rain gauges will be installed inside the core area to get rainfall data, because there is only one existing rain gauge installed in the core area located at Port Area. The other existing rain gauges are located outside the study area.

5. Dir. Patrick B. Gatan asked about the proposed relocation site in Rodriguez, why they choose the site and what is the proposal regarding the site.

   Mr. Tanaka said that they haven't had any negotiation yet, and this is just their suggestion based on the information from NHA. He said that no detailed preparation have been done yet, since this will be the obligation of the implementing agency.

   Ms. Ma. Alma T. Valenciano of NHA gave information regarding the relocation sites, that last October 2004 their office have sought an approved acquisition of lands for the families, provided that funds are available, and Memorandum of Agreement should be made between the concerned parties, and this will take time to convince the community which she thinks that this is under HUDCC..

6. Mr. Melgar of MMDA said that after the final report has been submitted, who will endorse this project for funding.

   Usec Bonoan said that out from the Implementing Arrangement on the project will be sorted out and discussed with the national government oversight committee...

7. Ms. Rebecca T. Garsuta of DPWH gave comment regarding the funding problem for the project; she suggested that some of the cost can be shared with some agencies, for example the sharing of financing on the part of LGUs to implement BEM project.

   Mr. Tanaka said that they are still sorting out activities/projects that will require international and local funding, for example activities on Barangay and the relocation of informal settlers in the concerned cities.

8. .Usec Bonoan asked about the priority order list of Priority Projects which will serve as the basis in the selection of projects for implementation.

   Mr. Tanaka said that the Study Team prepared an implementing schedule for priority projects composed of three lots and eleven packages, but they will still evaluate the order of priority for each package.

9. Ms. Garsuta talked about the disbursement schedule for the project: the cost for 2005 will be carried-out using local budget with MMDA, LGU, DPWH and negotiating some loan assistance presentation can be doable. However, on the part of DPWH, there is no allocation in 2005 Infra Budget...

   Mr. Nobe said that they indicated it in the implementing schedule, that the loan arrangement should start in a year, and they suggested that concerned agencies should implement other recommendations, while waiting for fund arrangement.

10. Usec. Bonoan clarified that from 2005, we got to do something on some aspect of the Study. We don't have to wait until 2008 for the implementation...

11. Mr. Nabuhisa Takeda, the Chairman of JICA Advisory Committee, said that even though the project is about to conclude, there are still some issues to be considered,
    such as the preparation for the implementation of the projects and it is necessary to sort out the priority projects, make financial arrangement, and prepare necessary documents. He said that the pilot experiment for protecting the esteros should be considered and continued, and should be extended to other barangays. It does not cost much, and should be done step by step implementation can be performed at community level.

12. Usec Bonoan asked about when or is there any time frame for the submission of comments from the members to finalize the report.

    Mr. Tanaka requested the members to submit their comment within two weeks, so that they can also incorporate the comments on the final report on time.

13. Usec. Bonoan requested the members of Steering Committee to hold special meetings and further discussions regarding the institutional aspects for the implementation of the project.

Usec. Bonoan expressed gratitude to the experts and the study team for their effort in sponsoring technical assistance. Their reports are well prepared and so viable to use, which addresses the chronic drainage problem of Metropolitan Manila area. He said, he looks towards the full realization of the project, and he asked the members to addressed issues as early as possible. .

Mr. Mabuchi, Second Secretary/Economic Affaires from the Embassy of Japan, expressed gratitude to the concerned agencies for supporting the JICA experts and the Study Team, he said that he believes that Philippine side can do action to mitigate flood hazard in Metropolitan area what they should do is to make effort and challenged to implement the Master Plan and informed that the Embassy of Japan has intentions of pursuing the grant for the rehabilitation of three pumping stations earlier requested by MMDA. He further emphasized that the Government of Japan may also consider four (4) pumping stations to include one (1) more station recommended in the Study, if it will be requested by the Philippine Government.

CLOSING

Undersecretary Manuel M. Bemoan expressed his gratitude to the members who attended the meeting. Through the meeting of the 6th Steering Committee on March 1, 2005, the following is agreed:

1. The Draft Final Report is accepted in principle by the Philippine side and the comments on the Draft Final Report will be collected by the DPWH and sent it to the Study Team through JICA Philippine Office by March 15, 2005.
2. The Philippine side will keep the Steering Committee for the Study for following up the project.
3. DPWH will take the initiative in implementing the activities before the implementation of the projects such as the conduct of the Resettlement Action Plan (RAP) and the preparation of the Implementation Program (IP).
4. The Philippine side will request JICA to support the preparation for the implementation of the project to conduct the non structural measures and supporting measures and detailed design.

Annex-1: List of attendants for the Steering Committee on March 1, 2005

Annex-2: List of the Members of the Steering Committee

Annex-3: Minutes of Meeting of 5th Technical Working Group Meeting on February 28, 2004

Annex-1

The Study on Drainage Improvement in the Core Area of Metropolitan Manila

6th STEERING COMMITTEE MEETING

March 1, 2005 (Tuesday), 1:30 p.m. – 5:00 p.m.

2nd Floor, Traders Hotel, Roxas Boulevard, Pasay City

PARTICIPANTS LIST

No.	Name	Position	Organization	Contact #
1	Hajime TANAKA	JICA Study Team Leader	JICA Study Team	304-3842
2	Takayuki NOBE	Drainage Planning 1	JICA Study Team	304-3842
3	Akinori SATO	Solid Waste Management	JICA Study Team	304-3842
4	Tadanori KITAMURA	Hydraulics	JICA Study Team	304-3842
5	Sonoe YAMADA	Public Participation	JICA Study Team	304-3842
6	Patrick Gatan	Project Director	DPWH	304-3813
7	Resito V. David	OIC, Project Director	PMO-FCSEC, DPWH	628-1227
8	Narciso A. Prudente	OIC Chief-WRD	NEDA-Info Staff	631-2192
9	Baltazar Melgar	Engineer V	MMDA-FCMS	881-8588
10	Shunta Dozono	JICA Expert	DPWH-Head Office	0919-4685008
11	Toshiyuki Kano	JICA Chief Advisor	DPWH-FCSEC	09206729890
12	Carlito S. Talenjale	Admin. Officer-DSWD	DSWD	09104640587/7344116
13	Lerma C. Rosario	Division Manager, MWSS	MWSS	920-5413
14	Ibarra G. Calderon	Chief, EIA, Div. EMB-NCR	EMB	781-0485
15	Sabina D. Santos	Engr. V, Chief Planning	Dept. Of Eng'g., Quezon City	925-6045 loc. 38

16	Ramir J. Tiamzon	Engr. V Chief Road Maint. Div	Dept. of Eng'g., Quezon City	925-6045 loc 304
No.	Name	Position	Organization	Contact #
17	Rolu P. Encarnacion	Service Chief	PAGASA	922-1992
18	Rebecca T. Garsuta	Engr. V	DPWH, MIS	304-3140
19	Nobuhisa Takeda	Advisory Committee	JICA	
20	Takaaki Kusakabe	Advisory Committee	MLIT Japan	
21	Kazuhiko Komine	Advisory Committee	Fukuoka City in Japan	
22	Felixberto Roquia	Public Participation 2	JICA Study Team	
23	Norman D. Austria	PEA I	CEO-Makati	752-5512
24	Jesus Averilla	Public Participation	DPWH-PS DPD	304-3842
25	Ma. Alma T. Valenciano	Deputy Area Mngt. Officer	NCR, Nat'l. Housing Authority	923-0386
26	Sailani C. Bassig	Planning Officer III	HUDCC	811-4172
27	Napoleon S. Famadico	Engr. IV	PS-DPWH	304-3098
28	Marcelino G. Tolentino	Engr. III	PS=DPWH	304-3841
29	Elmo F. Atillano	Engr. III	PS-DPWH	304-3841
30	Estelita Leonado	Economist	PS-DPWH	304-3098
31	Silverio Auxtero	Draftsman	PS-DPWH	304-3098
32	Diana Parubrub	Database	PS-DPWH	304-3098-
33	Rosgel Gamala	Asst Secretary	JICA Study Team	304-3842
34	Aquilina Decilos	Engr. III	PS=DPWH	304-3098
35	Leonila Mercado	Engr. IV	DPWH-PMO-MFCP	304-3752
36	Romeo Valenzuela Jr.	Planning Dev't. Assistant	Mla City Hall	527-4931
37	Alicia R. Bala	Asst. Secretary & Concurrent RD	DSWD-NCR	734-8647

ANNEX-2: STEERING COMMITTEE

	Name	Designation	Office	Responsibility
1	Manuel M. Bonoan	Undersecretary	DPWH	Chairman
2	Cesar Lacuna	Deputy Chairman	MMDA	Co-Chairman
3	Ruben S. Reinoso, Jr	Asst. Director General	NEDA	Member
4	Percival C. Chavez	Chairperson	PCUP	Member
5	Rolu P. Encarnacion	Weather Service Chief	PAGASA	Member
6	Lailani C. Basig	Project Officer II	HUDCC	Member
7	Ma. Alma T. Valencia	Deputy Manager	NHA	Member
8	Alicia R. Bala	Regional Director	DSWD	Member
9	Leonor C. Cleopas	Manager	MWSS	Member
10	Resito David	Project Director	DENR	Member
11	Toshiyuki KANO	JICA Advisor	PMO-FCSEC	Member
12	Akito KAGAWA	JICA Expert	DPWH	Member *(Until May 2004)*
13	Shunta DOZONO	JICA Expert	DPWH	Member *(FromJune 2004)*
14	Jejomar C. Binay	City Mayor	Makati City	Member
15	Jose L. Atienza	City Mayor	Manila City	Member
16	Wenceslao B. Trinidad	City Mayor	Pasay City	Member
17	Feliciano R. Belmonte	City Mayor	Quezon City	Member
18	Sigfrido R. Tinga	City Mayor	Taguig City	Member
19	Enrico Recom Echiverri	City Mayor	Cloocan City	Member

Annex-3

6th TECHNICAL WORKING GROUP MEETING

MINUTES OF MEETING
ON
DRAFT FINAL REPORT
FOR
THE STUDY ON DRAINAGE IMPROVEMENT IN THE CORE AREA OF METROPOLITAN MANILA, REPUBLIC OF THE PHILIPPINES

MANILA, February 28, 2005

PATRICK B. GATAN
PROJECT DIRECTOR
PMO-MFCP CLUSTER I
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH)

HAJIME TANAKA
TEAM LEADER
STUDY TEAM OF
JAPAN INTERNATIONAL
COOPERATION AGENCY (JICA)

DPWH and the Study Team held a meeting with members of the Technical Working Group on the Draft Final Report of the Study at Traders Hotel (Roxas Boulevard, Pasay City) on February 28, 2005. Project Director Patrick B. Gatan, Head of the Technical Working Group, chaired the meeting. He welcomed and acknowledged the presence of the members of the JICA Advisory Committee, the JICA Expert, the JICA Study Team, the Technical Working Group (TWG), the DPWH Counterpart Team

The following presentation was conducted:

1. Mr. Hajime Tanaka, Team Leader of the Study Team, presented an Outline of the Draft Final Report, citing the studies conducted and also presented the priority projects for drainage improvement in the core area, the implementation of the projects and the preparation to be made for the implementation of the priority projects after the Study.

2. Mr. Takayuki Nobe, Deputy Team Leader/Drainage Planning, presented the technical group report, on which he explained the major problems in the drainage facilities: drainage channels and drainage pumping stations, and also explained the proposed drainage facilities in the priority projects, the improvement of Operation and Maintenance activities, the construction cost, packaging and the implementation schedule of the priority projects.

3. Mr. Akinori Sato, Deputy Team Leader/Environment/Solid Waste Management, presented the social group report, and the status of activities regarding the community involvement in operation and maintenance, citing the results of the barangay experimental activities: BEM-and Team ESTER.

OPEN FORUM

After the presentation, the Chairman, asked the attendants to raise their opinions and comments on the presentation. The major points discussed are summarized as follows:

1. Director Patrick B. Gatan, asked the Study Team on how to apply for loan to JBIC since the project Pasig –Marikina River Channel Improvement Project has not yet implemented due to non-issuance of Forward Obligation Authority (FOA) by the Department of Budget and Management. He also advised the Study Team to Coordinate with the Planning Service regarding the inclusion of the project in the 2005-2010 MTPIP of DPWH.

   Mr. Hajime Tanaka replied that regarding the financial arrangement, there is a

possibility to have a grant and loan from the Government of Japan, but before that, DPWH has to secure an ECC and prepare a RAP and IP for the project. And the Study Team has not coordinated yet with the Planning Service regarding the inclusion of the project in the plan of the DPWH for 2005-2010.

2. Project Director Resito V. David of PMO-FCSEC gave a comment regarding the BEM activities that the DPWH still need technical supports from JICA to continue the BEM activities in the future.

   Mr. Shunta Dozono, DPWH JICA Flood Control Expert, informed that JICA Philippine Office will give their support in BEM Activities, but still there are laws to be considered but JICA has intentions to give support to the BEM activates.

3. Mr. Resito V. David said that the matters cited by Mr. Dozono should be discussed in the Steering Committee Meeting and said that he thinks that the BEM activities can be an effective solution to the drainage problems.

   Mr. Akinori Sato said that although JICA will support the BEM activities, the DPWH should still create a team to support and supervise the BEM activities.

4. Ms. Dolores M. Hipolito of PMO-FCSEC asked the Study Team for possible piecemeal activities such as removal of informal settlers, dredging of esteros and laterals that could be implemented by LGUs since the priority projects are not included in the MTPIP of the DPWH.

   Mr. Tanaka said that the Study Team has proposed DPWH to take the initiative for implementation of the projects and the Study has given suggestion the importance of LGUs' activities through the series of workshops.

   Mr. Shunta Dozono again gave information from the Embassy of Japan, telling that the request for rehabilitation of three (3) pumping stations namely: Tripa de Gallina, Quiapo and Aviles, endorsed by DPWH, then followed up by MMDA had been accepted by JICA through Grant Aid. He further informed that the said request will be discussed in the Steering Committee Meeting. He also mentioned that Mr. Cesar Lacuna of MMDA wants to utilize the Master Plan of the Study for their future

14-7

reference.

5. Mr. Navarro suggested that the information given by Mr. Dozono regarding the status of the request for rehabilitation of three pumping stations should be included and incorporated in the Final Report.

   Mr. Tanaka said that the matter will be considered in the Final Report only if JICA Office has finally concluded to pursue rehabilitation, but it is not decided yet.

6. Ms. Hipolito made an inquiry on the conversion rate used in the Study.

   Mr. Nobe answered that they have used the July 2004 exchange rate for peso which is 55.00/dollar and said that they have incorporated it in the Final Report...

7. Director Gatan asked that in the Study the high tide elevation was considered on Blumentritt interceptor, being the Casile Creek and Ester de Sunog Apog as the main discharge point of the proposed additional line of drainage main along Blumentritt...

   Mr. Nobe answered that it is considered in the Study and proposal to raise the walls of Estero de Sunog Apog is included in the second stage of the project...

8. Mr. Perfecto Zaplan of the Bureau of Design-DPWH made a follow-up question to the Study Team if the conduct of flood simulation and traffic re-routing are considered in the Study. .

   Mr. Kitamura presented the result of the simulation conducted for the Study, however, presentation of the said simulation using computer animation could not be shown during the meeting since they still have to prepare for it.

   Mr. Tanaka replied that the cost of traffic re-routing is not included but rather this item will be included in the general item of the bill of quantities during the construction stage.

Id.7

9. Director Gatan asked on why the removal of informal settlers is not included in the schedule and the total number of informal settlers to be relocated.

   Mr. Tanaka said that the schedule of resettlement of informal settlers are shown in the implementation schedule and the informal settlers to be relocated are estimated to be 6000 families for the Master Plan and 700 families for the priority projects.

10 Ms. Hipolito asked on the installation of observation equipment and how it is linked to non-structural measures in the future management.

   Mr. Tanaka replied that for effective management of the drainage facilities: pumping stations and drainage channels, the Study proposes the installation of three (3) rain gauges and 15 staff gauges in the core area.

11 Director David asked on the expected completion of Implementation Program (IP) of the project and the organization of Coordination Committee.

   Mr. Tanaka informed that the Implementation Program (IP) shall be started after the submission of Final Report and also a Coordination Committee shall be established, and suggested that the members of Technical Working Group and the Steering Committee shall be retained to do the function until a new committee is established.

12 Director Gatan asked the representatives of the different LGUs if they can remove the informal settlers, do declogging and desilting works in their respective areas.

   A representative from Makati answered that they do the regular maintenance such as declogging/desilting of esteros and laterals, but, to the drainage main MMDA is responsible for this work, while Engr. Almoneda of Pasay City replied that the removal of informal settlers is very hard to implement in their city due to the lack of political will of some politicians.

13. Mr. Camilo G. Foronda asked the Study Team on the total number of informal settlers in the priority areas, and further inquired if they have conducted census tagging since the number of informal settlers might increase before the project could be implemented. .

    Mr. Tanaka said that the Study Team has made tagging of the number of the informal settlers and said that the total number is about 700 families of informal settlers in the priority project area...

14 Director Gatan asked the Study Team If it is possible for JICA to support the relocation of informal settlers of about 6000 families in total and 700 families in the priority areas through grant aid.

    Mr.Tanaka said that discussion/negotiation with JBIC could be possible to a certain extent, however, still not sure if JICA could support to this kind of activities.

CLOSING

Director Patrick B. Gatan concluded the meeting and expressed gratitude to the members who attended the meeting.

Annex-1: List of Attendants for the 6th Technical Working Group Meeting on February 28, 2005
Annex-2: List of the members of the Technical Working Group

Annex-1

The Study on Drainage Improvement in the Core Area of Metropolitan Manila

6th TECHNICAL WORKING GROUP MEETING

February 28, 2005 (Monday), 8:00 a.m. – 12:00 noon

2nd Floor, Traders Hotel, Roxas Boulevard, Pasay City

PARTICIPANTS LIST

No.	Name	Position	Organization	Contact #
1	Hajime TANAKA	JICA Study Team Leader	JICA Study Team	304-3842
2	Takayuki NOBE	Drainage Planning 1	JICA Study Team	304-3842
3	Akinori SATO	Solid Waste Management	JICA Study Team	304-3842
4	Tadanori KITAMURA	Hydraulics	JICA Study Team	304-3842
5	Sonoe YAMADA	Public Participation	JICA Study Team	304-3842
6	Patrick Gatan	Project Director	DPWH	641-6086/304-3813
7	Mario G. Navarro	Project Manager	DPWH-PMO-MFCP	304-3815
8	Leonila R. Mercado	Engineer IV		
9	Resito David	OIC-Project Director	PMO-FCSEC, DPWH	628-1227
10	Myrna M. Rodriguez	Engineering Assistant A	DPWH-NCR	304-3687
11	Estelita Leonado	Economist	DPWH-P.S.	304-3098
12	Aquilina Decilos	Engineer III	DPWH-P.S.	304-3098
13	Umulhuda Limpasan	Engineer	Taguig	628-1999
14	A. Hadjarani	POSO	Taguig	0916-4391236
15	Dolores M. Hipolito	DPWH-FCSEC	PM I	628-1227

16	Jesus O. Averilla	DPWH-P.S.	SEMS	
No.	Name	Position	Organization	Contact #
17	Mar Tolentino Jr.	DPWH-P.S.	Engineer III	304-3841
18	Diana Parubrub	DPWH-P.S.	Database	304-3098
19	Shunta Dozono	DPWH-Central Office	JICA Expert	0919-4685008
20	Norman D. Austria	CEO-Makati	PEA I	752-5514
21	Silverio D. Auxtero	DPWH-Head Office	Draftsman	304-3098
22	Martiniano dela Cruz	DPWH-BOD	Engineer III	304-3012
23	Perfecto L. Zaplan Jr.	DPWH-BOD	Engineer V	304-3065
24	Patricia C. Almoneda	CEO-Pasay	Engineer I	831-2446
25	Nobuhisa Takeda	JICA	Advisory Committee	
26	Takaaki Kusakabe	JICA	Advisory Committee	
27	Kazuhiko Tanaka	JICA	Advisory Committee	
28	Camilo Foronda	DPWH-Legal	OIC Director	
29	Vic Umengan	PDO I	Makati LGU	752-5512
30	Jun C. Santos	EA-Technical Service	LGU Rodriguez	947-7295
31	Alejandro Salvador	Prin. Engineer A	NHA	922-2467
32	Elmo F. Atillano	Engr. III	DPWH-PS	304-3098
33				
34				
35				
36				

ANNEX-4: TECHNICAL WORKING GROUP

	Name	Designation	Office	Responsibility
1	Patrick Gatan	Project Director	DPWH-PMO-MFCP 1	Head
2	Vernon M. Espiritu	Planning Officer IV	MMDA	Co-Head
3	Alejandro F. Salvador	Principal Engineer	NEDA	Member
4	Resito V. David	Project Director	PMO-FCSEC	Member
5	Gerome M. Dela Rosa	Assistant Director	NCR	Member
6	Gilberto S. Reyes	Assistant Director	BOD	Member
7	Camilo G. Foronda	Office-in-Charge	Legal Service	Member
8	Mario G. Navarro	Project Manager II	PMO-MFCP 1	Member
9	Dolores Hipolito	Project Manager II	PMO-FCSEC	Member
10	Rebecca T. Garsuta	Engineer V	Planning Service	Member
11	Nelson A. Morales	City Engineer	Makati City	Member
12	Armando L. Andres	City Engineer	Manila City	Member
13	Edwin Y. Javaluyas	City Engineer	Pasay City	Member
14	Joselito B. Cabungkal	City Engineer	Quezon City	Member
15	Rolando D. Eduria	City Engineer	Caloocan City	Member
16	Marcelo M. Sertajuan	City Engineer	Taguig City	Member

Appendix - C

TERMS OF REFERENCE

Terms of References

for

Drainage Survey

for

The Study on Drainage Improvement
in
the Core Area of Metropolitan Manila,
Republic of the Philippines

February 2004

JICA Study Team

1 GENERAL

This Terms of Reference has been prepared by the consultant consortium comprising Pacific Consultants International (PCI) and NIKKEN Consultants, INC (NIKKEN), which have been designated by the Japan International Cooperation Agency (JICA) as the consulting firms (hereinafter referred to as "Study Team") for "The Study on Drainage Improvement in the Core Area in Metropolitan Manila, Republic of the Philippines" (hereinafter referred to as "DICAMM").

The objectives are to survey drainage channels for the hydraulic modeling in the study area.

In the previous study entitled as "Study on the Existing Drainage Laterals in the Metro Manila in the Republic of the Philippines (2000)" (hereinafter referred to as "SEDLMM"), longitudinal and cross-sectional survey on some of the existing drainage channels was conducted. In the present work, the followings shall be carried out.

1) Elevation of benchmarks used in SEDLMM shall be checked. Necessary correction shall be carried out to utilize the data gathered in SEDLMM.

2) The selected remained part of the drainage channels, in which the topographic data is necessary to be taken for the formulation of the master plan, shall be surveyed.

As the Study Team is required to perform the surveys in accordance with the Agreement with JICA for DICAMM, and as the Study Team needs local firms (hereinafter referred to as "Contractor") to provide the consultancy services for the survey, this Terms of Reference is prepared.

2 DEFINITION OF DRAINAGE CHANNELS

The following definition for the drainage channels in the Metro Manila shall be applied in the present work.

Esteros and Creeks: Open channels

Drainage mains: Mainly closed channels that consist of one or more box culverts which are 2.0 to 5.0 m in width and about 3.0m in depth.

Outfalls: Drainage mains that are directly connected to Manila Bay or the Pasig River

Laterals: Other small drainage channels

3 SCOPE OF WORKS

The area to be covered by the Study is within the core area in the Metro Manila as shown in Fig.1.

The works are divided into four items as follows.

ITEM 1: Checking and correction of elevation of benchmarks used in SEDLMM

ITEM 2: Longitudinal and cross-sectional survey for Esteros and Creeks

ITEM 3: Survey for Drainage mains and Outfalls

ITEM 4: Survey for Laterals

Quantities of each item are shown in Table 1. The drainages to be surveyed in ITEM 2 and 3 are tentatively shown in Fig.2. The drainages to be surveyed in ITEM 4 will be specified in the course of the work. The detailed location of the survey will be specified by the Study Team to the Contractor on the detailed location maps or in the course of field works.

Table 1 Work Quantity

Item No.	Item	Total amount	Remarks
1	Checking and correction of elevation of benchmarks used in SEDLMM	43 Benchmarks	
2	Longitudinal and cross-sectional survey for Esteros and Creeks	About 30 km	1) Interval of cross-section = about 200m 2) Supplementary 150 cross-sections including for bridge, culvert, gate, gauge and other structures specified by the Study Team
3	Survey for Drainage mains and Outfalls	About 5km	Selected manholes along the drainage, which are basically located at inter-sections, shall be surveyed.
4	Survey for Laterals	About 10km	Selected manholes along the drainage, which are basically located at inter-sections, shall be surveyed.

3.1 ITEM-1: Checking and Correction of Elevation of Benchmarks Used in SEDLMM

3.1.1 General

It is said that there is a possibility of land subsidence in low-lying area in Metro Manila. The reference point (BM66) used in SEDLMM might be affected by the land subsidence, because it is located at around the South Port in Metro Manila, which is expected to be mostly affected area by land subsidence. To employ the data gathered in SEDLMM, it is necessary to check carefully elevation of benchmarks used in SEDLMM.

3.1.2 Control Point

The control point used in the recently prepared topographical map (1:5,000) for Metro Manila by JICA study on Earthquake Impact Reduction Study for Metropolitan Manila shall be used as a control point to check the elevation of benchmarks used in SEDLMM.

3.1.3 Ordinary Leveling

Ordinary leveling shall be carried out using adjusted auto levels along the planned leveling routes. The observation method, accuracy and equipment of leveling shall be as follows.

1) Measuring route: Double-run or single run
2) Allowance of closing error: 5mm x $S^{1/2}$ (S = km)
3) Length of measurement: Maximum 60m
4) Reading unit: 1mm unit
5) Survey instrument to be used: Auto level
6) Sensitivity of level instruments: More than 40''/2mm

3.1.4 Correction of elevation of benchmarks used in SEDLMM

The elevation of benchmarks used in SEDLMM shall be corrected based on the results of the survey.

3.2 ITEM-2: Longitudinal and cross-sectional survey for Esteros and Creeks

3.2.1 General

To grasp the current condition of Esteros and Creeks with deposited solid waste and sediment, especially from hydraulic point of view, longitudinal and cross-sectional survey for Eetros and Creeks shall be carried out. The result will be employed to analyze hydraulic conductivity of the drainage system and to develop a computational model of the drainage system.

3.2.2 Installation of cross-section posts

Cross-section posts shall be established before commencement of the field surveying as follows.

1) Preparatory work for cross-section posts

   The Contractor shall prepare the iron pegs, e.g. length: 10cm to 40cm, diameter 10mm.

2) Installation of cross-section posts

   The contractor shall install iron pegs on stable places along one side of Estero and/or Creeks" for cross-section posts, based on the planning maps prepared by the Study Team and on field conditions. The interval of cross-section posts shall be approx. 200m. In addition, the cross-section posts shall be installed at a proper position in the cross-section that includes bridge, culvert, gate, gauge and other structures specified by the Study Team.

3.2.3 Horizontal positions of cross-section posts

Horizontal positions (coordinate) of the cross-section posts shall be measured by using Global Positioning System (GPS).

3.2.4 Elevation of cross-section posts

Elevation of the cross-section posts shall be measured by direct leveling from the benchmarks that were used in SEDLMM.

The following principle specifications shall be applied for leveling.

1) Measuring route:	Double-run or single run
2) Allowance of closing error:	10mm x $S^{1/2}$(S = km)
3) Length of measurement:	Maximum 70m
4) Reading unit:	1mm unit
5) Survey instrument to be used:	Auto level
6) Sensitivity of level instruments:	More than 40''/2mm

3.2.5 Cross-sectional survey

Measurement of cross-sectional survey for Estero and Creeks shall be done at the cross-sections in which the cross-section posts were installed. Cross-sectional survey shall be done and applied in accordance with the following method or procedure.

1) Instruments to be used

Direct leveling method shall be applied to measure elevations on land part and water surface elevation. Auto level shall be used for direct leveling method. A sounding poll shall be used to measure water depth on submerged part. Lead line shall be used to measure lateral distance.

2) Measurement

Measurement shall be always started from a cross-section post. The survey line shall be perpendicular to bank line of Estero and Creeks

Interval of measuring point shall be depending on the shape of cross-section. Elevation of major changing points shall be measured. Elevation of structures shall be also measured.

The length of cross-section shall cover not only submerged part but also about several meters outside from the shoulders of the Esteros and Creeks for both banks, depending on the situation.

3) Accuracy of measuring points:

Distance:	1:200
Elevation:	$2cm + 0.5cm \times S^{1/2}$ (S = m)

3.2.6 Products/Data

The following products/data shall be prepared. Dimension of drawing sheet shall be A-3 size. Data format for maps and drawings shall be DXF or DWG format of Auto CAD.

1) Location map

Horizontal positioning data (coordinates) of cross-section posts shall be plotted on existing topographic maps at a scale of 1:5,000.

2) Elevation and location data (both coordinates and horizontal distance for longitudinal profile) list for cross-section posts

Microsoft Excel shall be used for data list

3) Elevation and distance data list of cross-sectional survey

Microsoft Excel shall be used for data list

4) Drawings of longitudinal profiles

Longitudinal profiles along the respective Esteros and Creeks shall be plotted based on the survey. The horizontal distance of longitudinal profiles shall be computed based on the coordinate of the cross-section posts and existing maps.

Longitudinal profiles for the respective Esteros and Creeks shall be plotted with height of lowest riverbed, right bank and left bank and other important heights of structures such as bridge, culvert and gauge.

Scale of the drawings shall be basically as follows:

Horizontal - 1:5,000 Vertical - 1:100

5) Drawing of cross-sections

Cross-sections along the respective Esteros and Creeks shall be plotted using elevation and distance data obtained from field survey results.

The direction o to be layout cross-sections on the sheet shall be coincided left bank and left side on the drawing sheet.

Scale of the drawings shall be basically as follows:

Horizontal - 1:200 Vertical - 1:200

3.3 ITEM-3&4: Survey for Drainage mains, Outfalls and Laterals

3.3.1 General

To grasp the current condition of Drainage mains, Outfalls and Laterals with deposited solid waste and sediment, especially from hydraulic point of view, longitudinal survey for selected Drainage mains, Outfalls and Laterals shall be carried out. The selected manholes along drainages shall be surveyed. The result will be employed to analyze hydraulic conductivity of the drainage system and to develop a computational model of the drainage system.

3.3.2 Manholes to be surveyed

Before commencement of the survey, the Study Team and the Contractor shall visit the survey site together and the manholes that will be surveyed shall be specified and clearly marked. The manholes located at intersections shall be selected basically.

3.3.3 Horizontal positions

Horizontal positions (coordinate) of the manholes to be surveyed shall be measured by using Global Positioning System (GPS).

3.3.4 Top Elevation of Manhole

Top elevation of manholes to be surveyed shall be measured by direct leveling from the benchmarks that were used in SEDLMM.

The following principle specifications shall be applied for leveling.

1) Measuring route:	Double-run or single run
2) Allowance of closing error:	10mm x $S^{1/2}$(S = km)
3) Length of measurement:	Maximum 70m
4) Reading unit:	1mm unit
5) Survey instrument to be used:	Auto level
6) Sensitivity of level instruments:	More than 40’’/2mm

3.3.5 Manhole Survey and Data Sheet

The manhole survey shall be conducted by opening the manhole and recording the physical features of the manhole, inlet and outlet channels. The data gathered from the surveyed

manhole shall be recorded in the data sheet as shown in Fig.3. Parameters shall be measured and recorded as per schematic diagram attached in the data sheet.

3.3.6 Products/Data

The following products/data shall be prepared. Dimension of drawing sheet shall be A-3 size. Data format for maps and drawings shall be DXF or DWG format of Auto CAD.

1) Location map

   Horizontal positioning data (coordinates) of surveyed manholes shall be plotted on existing topographic maps at a scale of 1:5,000 for Drainage mains and Outfalls and at a scale of 1:5,000 or 1:2,500 for Laterals.

2) Elevation and location data (both coordinates and horizontal distance for longitudinal profile) list for surveyed manholes

   Microsoft Excel shall be used for data list

3) Data sheets for manhole survey

   Microsoft Excel shall be used for data sheet

6) Drawings of longitudinal profiles for **Drainage mains and Outfalls**

   Longitudinal profiles along the respective Drainage mains and Outfalls shall be plotted based on the survey. The horizontal distance of longitudinal profiles shall be computed based on the coordinate of the manholes and existing maps.

   Longitudinal profiles for the respective Drainage mains and Outfalls shall be plotted with top elevation of manhole, invert and top level of drainage, bed-surface of drainage and other important heights.

   Scale of the drawings shall be basically as follows:

   Horizontal - 1:5,000 Vertical - 1:100

4 WORK SCHEDULE

All survey works shall be completed within 10 weeks. Tentative schedule is shown in Fig.4

5 REPORTING AND PRODUCTS / DATA

The Contractor shall submit to the Study Team a weekly progress report at the end of each week, and shall also submit progress products/data as shown in Fig.4 or as instructed by the Study Team.

The Contractor shall submit the following final products to the Study Team office in Manila.

I. ITEM 1: Checking and Correction of elevation of benchmarks used in SEDLMM

   Results shall be included in a final report.

II. ITEM 2: Longitudinal and cross-sectional survey for Esteros and Creeks 2sets

   1) Location map (hard copy)
   2) Drawings of longitudinal profiles (hard copy)
   3) Drawing of cross-sections (hard copy)

4) Elevation and location data (both coordinates and horizontal distance for longitudinal profile) list for cross-section posts (hard copy)

5) Elevation and distance data list of cross-sectional survey (hard copy)

6) Soft copy of digital data (CD-ROM) of the above 1) – 5)

III. ITEM-3: Survey for Drainage mains, Outfalls 2sets

1) Location map (hard copy)

2) Data sheets (hard copy)

3) Drawings of longitudinal profiles (hard copy)

4) Soft copy of digital data (CD-ROM) of the above 1) - 3)

IV. ITEM-4: Survey for Drainage mains, Outfalls 2sets

1) Location map (hard copy)

2) Data sheets (hard copy)

3) Soft copy of digital data (CD-ROM) of the above 1), 2)

V. Final Report 3sets

VI. Field and computation data (including photos) 1set

Note:

1) A final report shall describe the adopted methods for the respective work process, survey equipment, and the general survey results.

2) The Contractor shall record the survey works by taking photographs. The field data shall include all of the survey results including the photographs.

6 WORK PLAN TO BE PREPARED

The contractor shall submit a plan for the implementation of the survey work before the commencement of the fieldwork for approval by the Study Team. The implementation plan shall include the following, in accordance with the technical specifications.

1) Work schedule to be updated

2) Work process and work flow (method of measuring and drawing)

3) Survey equipment and drawing materials

4) Members list of the Contractor's staff

5) Planning maps for survey route and cross-section posts

6) Other available information, e.g. existing benchmarks, cross-section posts

7 EQUIPMENT, MATERIALS AND LABOR

The Contractor shall provide all equipment, materials and labor necessary for all the above-mentioned works.

8 LANGUAGE AND DOCUMENTATION

The language and all documentation to be used between the Contractor and the Study Team shall be English.

9 OTHER CONDITIONS

1) The Contractor shall carefully follow the instructions given by the Study Team and keep close contact with the Study Team during the work. The Contractor shall be always ready to report to the Study Team whenever requested.
2) The Contractor shall acquire any formal permits, if necessary, and arrange all necessary equipment.
3) The Contractor shall assume the responsibility for any damages on properties and equipment, which belong to the Contractor during the work period. Accordingly, the Study Team shall accept no claims.
4) Any other issues besides the items described above shall be decided after due consideration between the Study Team and the Contractor.

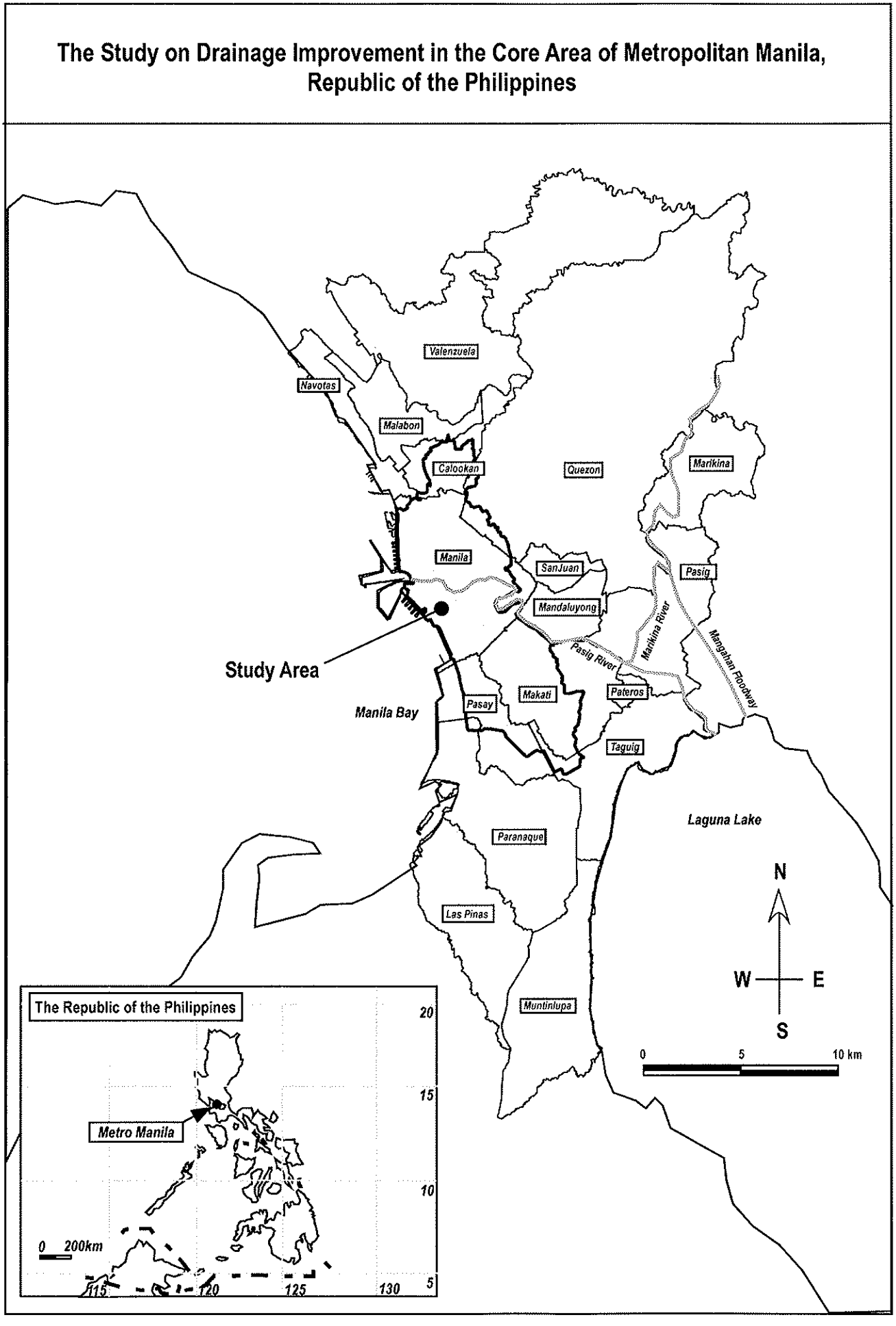
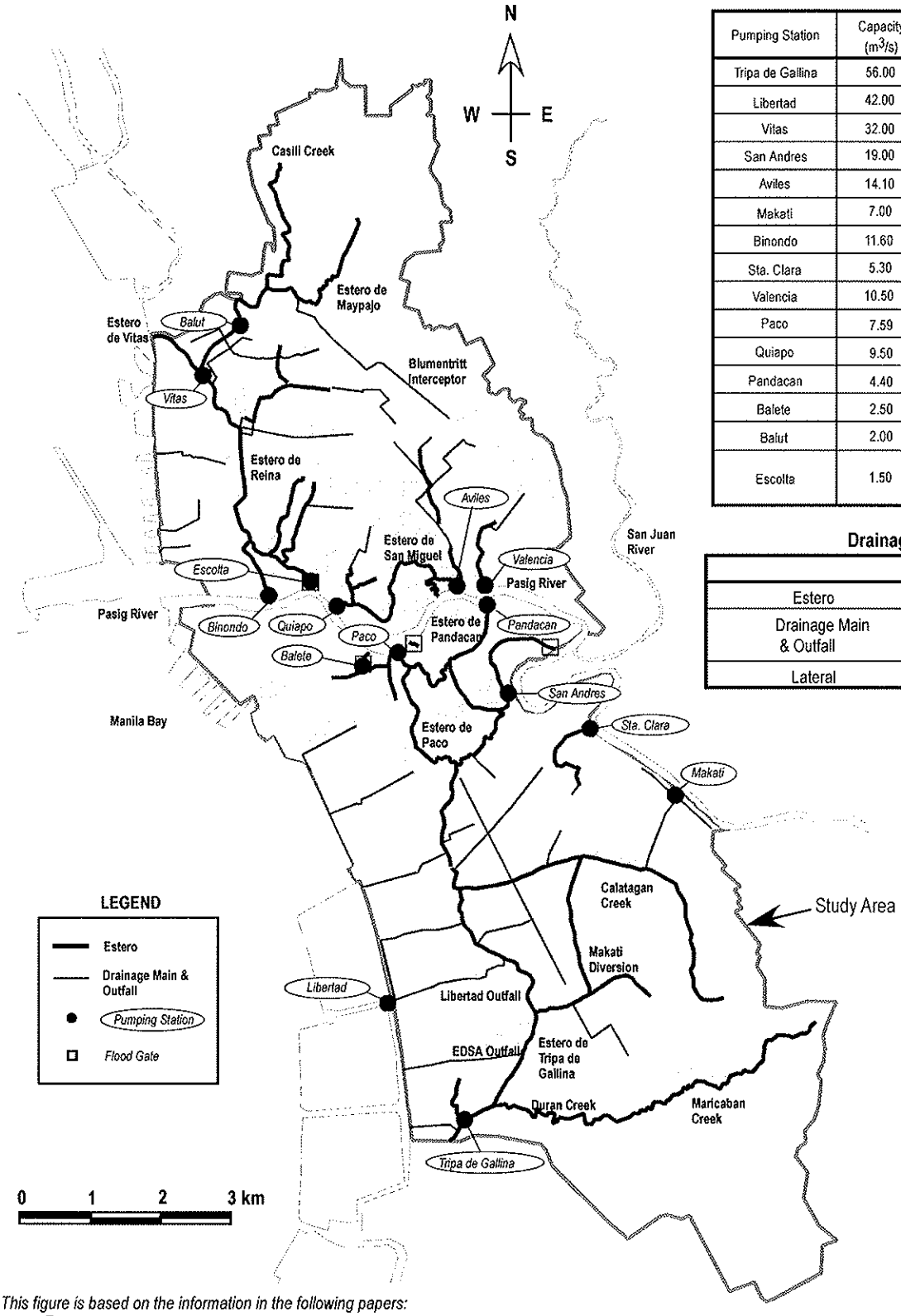


Fig.1 (1) Study Area



Pumping Station

Pumping Station	Capacity (m^3/s)	Drainage Area (ha)
Tripa de Gallina	56.00	1769
Libertad	42.00	779
Vitas	32.00	578
San Andres	19.00	356
Aviles	14.10	356
Makati	7.00	151
Binondo	11.60	279
Sta. Clara	5.30	130
Valencia	10.50	246
Paco	7.59	182
Quiapo	9.50	225
Pandacan	4.40	180
Balete	2.50	52
Balut	2.00	49
Escolta	1.50	included in Binondo Drainage

Drainage

	Total Length (km)
Estero	about 59
Drainage Main & Outfall	about 49
Lateral	about 440

This figure is based on the information in the following papers:

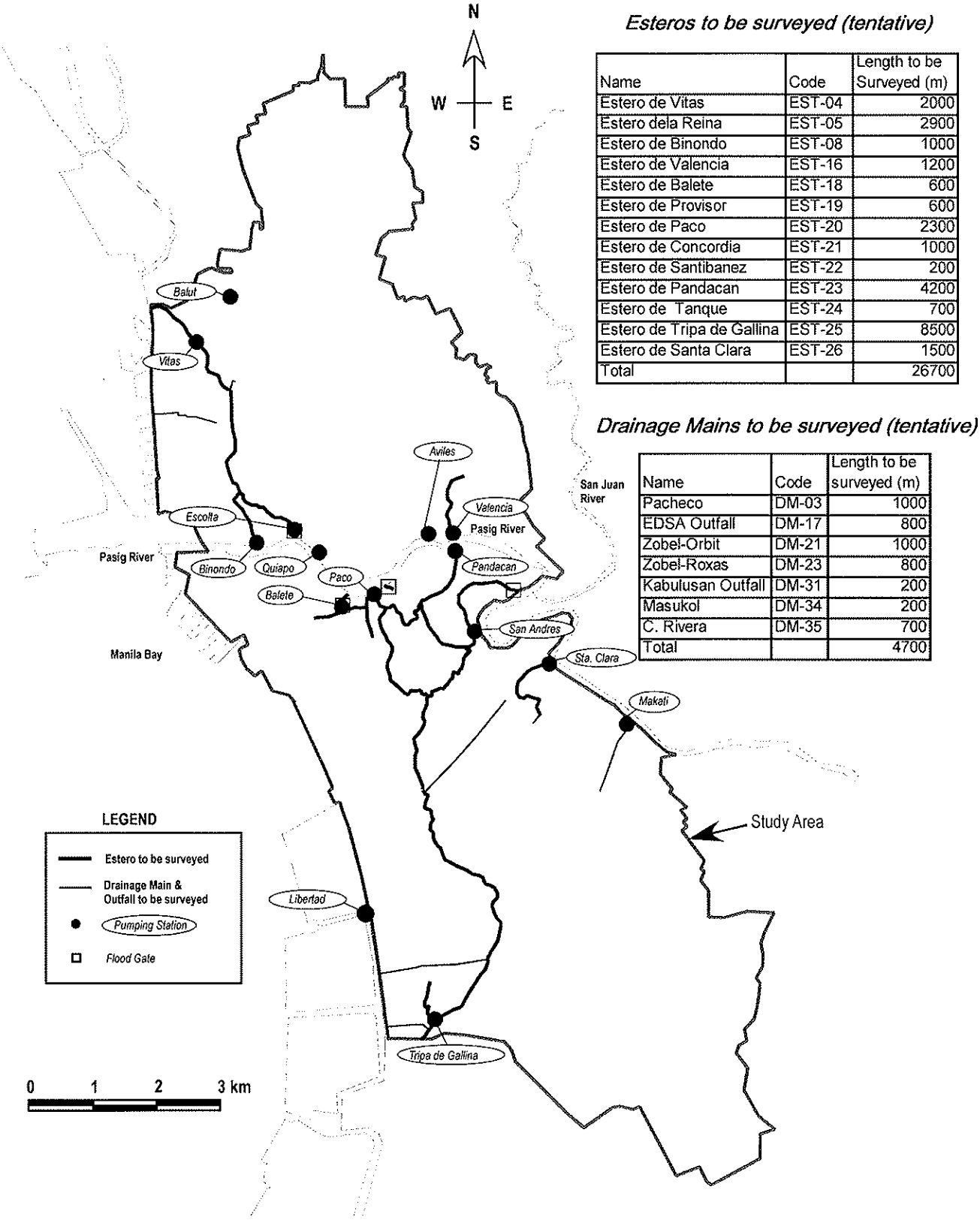
①"Ministry of Public Works and Highways, Republic of the Philippines: Final Report on Drainage Improvement Plans of Estero de Vitas and Other Catchment Areas, Metro Manila Drainage System Rehabilitation Project (PH-66), 1986."

②"Public Estates Authority: The Study on the Updated Drainage Plan for the Libertad Reclamation Area in Pasay City, Metro Manila, 1995."

③"Japan International Cooperation Agency: Department of Public Works and Highways, Metropolitan Manila Development Authority, Republic of the Philippines: Final Report on Study on the Existing Drainage Laterals in Metro Manila in the Republic of the Philippines, 2000."

④"Japan International Cooperation Agency: Preparatory Study on the Drainage Improvement in the Core Area of Metro Manila in the Republic of the Philippines, 2003."

Fig.1(2) Study Area



Esteros to be surveyed (tentative)

Name	Code	Length to be Surveyed (m)
Estero de Vitas	EST-04	2000
Estero dela Reina	EST-05	2900
Estero de Binondo	EST-08	1000
Estero de Valencia	EST-16	1200
Estero de Balete	EST-18	600
Estero de Provisor	EST-19	600
Estero de Paco	EST-20	2300
Estero de Concordia	EST-21	1000
Estero de Santibanez	EST-22	200
Estero de Pandacan	EST-23	4200
Estero de Tanque	EST-24	700
Estero de Tripa de Gallina	EST-25	8500
Estero de Santa Clara	EST-26	1500
Total		26700

Drainage Mains to be surveyed (tentative)

Name	Code	Length to be surveyed (m)
Pacheco	DM-03	1000
EDSA Outfall	DM-17	800
Zobel-Orbit	DM-21	1000
Zobel-Roxas	DM-23	800
Kabulusan Outfall	DM-31	200
Masukol	DM-34	200
C. Rivera	DM-35	700
Total		4700

Fig.2 Drainages to be surveyed

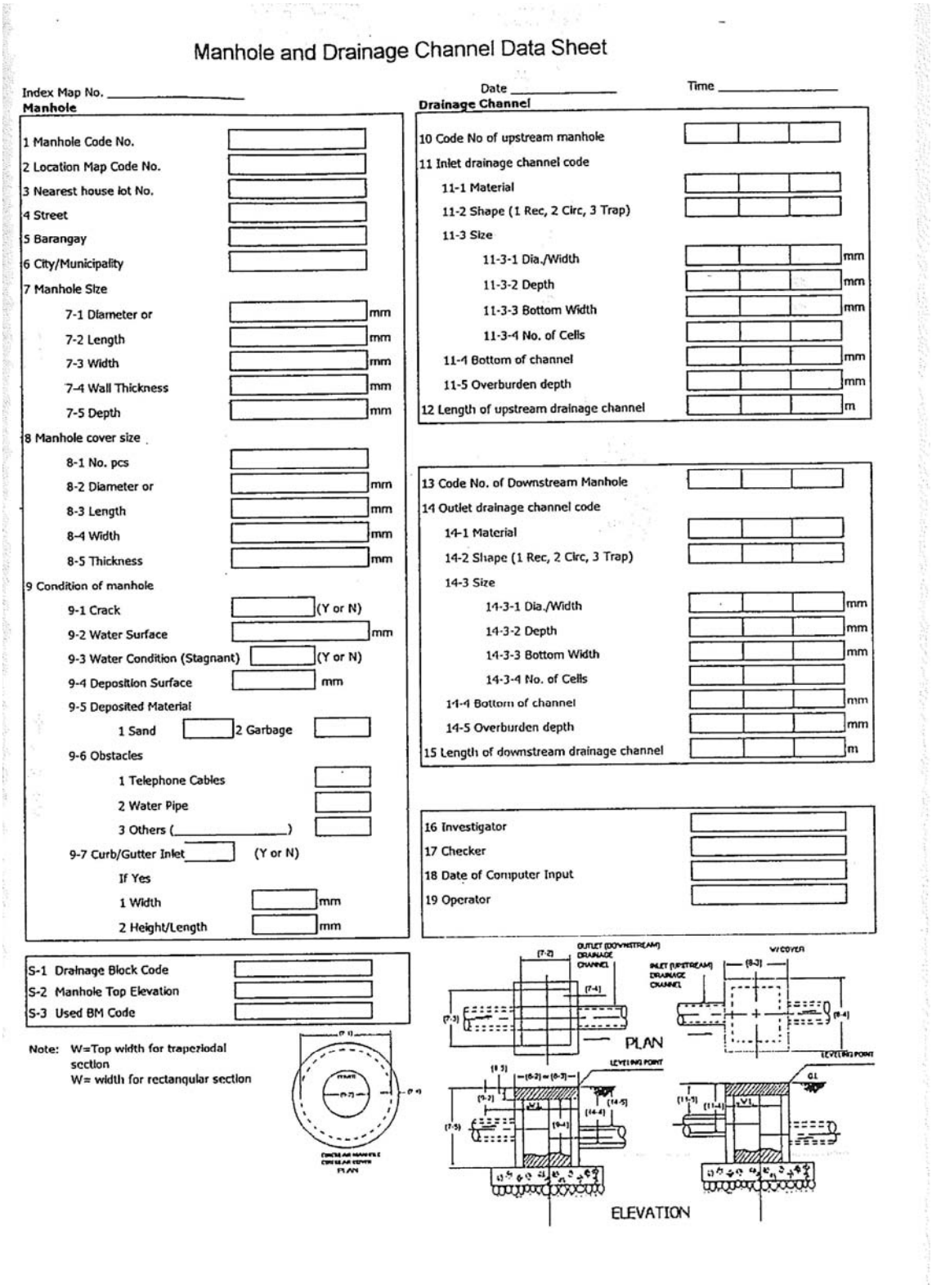


Fig.3 Data sheet for manhole survey

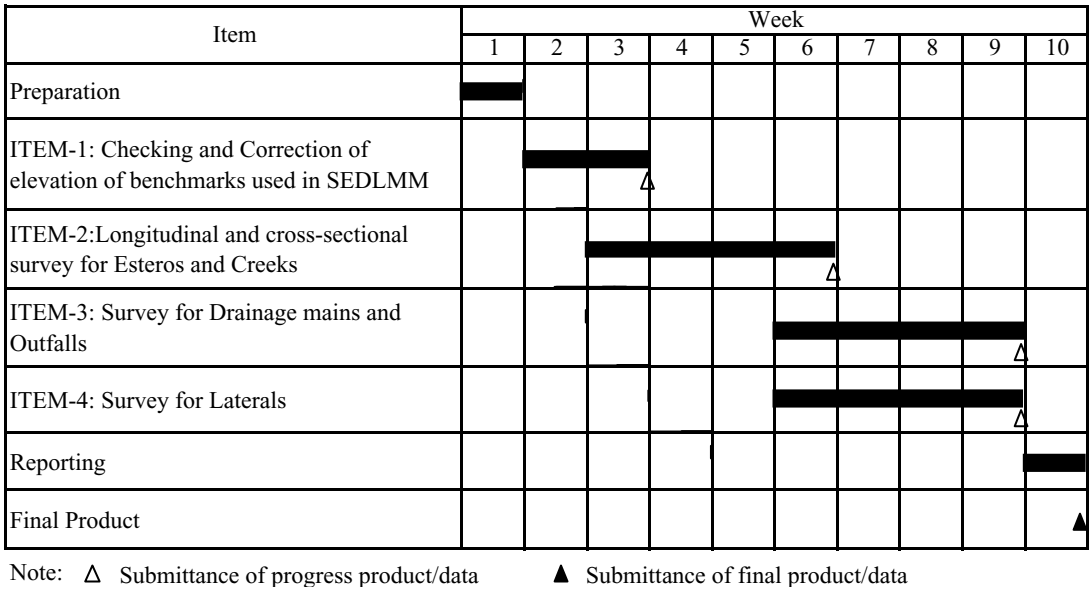


Fig.4 Tentative Schedule

Terms of Reference
for
Initial Environmental Examination
for
The Study on Drainage Improvement
in
the Core Area of Metropolitan Manila,
Republic of the Philippines

June 2004

JICA Study Team

1. Introduction

In response to the request of the Government of the Philippines, the Government of Japan decided to conduct a Study on Drainage Improvement in the Core Area of Metropolitan Manila in cooperation with DPWH.

This Terms of Reference has been prepared by the consultant consortium comprising Pacific Consultants International (PCI) and NIKKEN Consultants, INC (NIKKEN), which have been designated by the Japan International Cooperation Agency (JICA) as the consulting firms (hereinafter referred to as "Study Team") for "The Study on Drainage Improvement in the Core Area in Metropolitan Manila, Republic of the Philippines" (hereinafter referred to as "DICAMM").

The Study Team will formulate a master plan for drainage improvement of the core area in the first phase of the Study. For formulation of the master plan, it is requested that Initial Environmental Examination (IEE) shall be carried out in order to minimize environmental impacts caused by implementation of the maser plan and prepare screening and scoping of Environmental Impact, named Environmental Impact Statement (EIS), in feasibility study.

The objectives of Initial Environmental Examination are:

- to analyze the existing conditions of the study site
- to identify environmental impacts caused by implementation of the master plan in order to minimize environmental impacts
- to identify necessary environmental impact assessment study

2. Targets of the Study

Target projects of the Study are shown in Table 1.

Table 1 Target Projects for Preliminary Environmental Impact Examination

Drainage System Improvement	Project Site	Measures	Expected Major Environmental Concerns
1) Rehabilitation of pumping stations	15 Pumping Stations	Rehabilitation of pumping stations	• Water quality • Effect of rehabilitation activity • Other environmental issues
2) Improvement of regional inundation problem in North Manila	Aviles-Sample Drainage block and Maypajo-Blumentritt-Balut Drainage block	- Improvement of Estero de Maypajo (mainly dredging) - Improvement of inlet portion of Blumentritt Interceptor - Dredging of Blumentritt Interceptor - Construction of new interceptor (Sampaloc Interceptor) - Other remedial works related to the new interceptor	• Relocation of informal settlers (if necessary) • Quantity and quality of sediment and garbage to be dredged • Transport of dredged sediment and garbage • Dumping site of dredged sediment and garbage • Water quality disturbed by dredging activity • Effect of construction activity, especially on transportation along major road • Other environmental issues
3) Improvement of	Libertad-Tripa de	- Improvement of parts of	• Relocation of informal

	regional inundation problem in South Manila	Gallina drainage block	Estero de Tripa de Gallina (only bottlenecks) - Dredging of PNR Canal - Construction of new drainage mains	settlers along major esteros • Quantity and quality of sediment and garbage to be dredged • Transport of dredged sediment and garbage • Dumping site of dredged sediment and garbage • Water quality disturbed by dredging activity • Effect of construction activity, especially on transportation along major road • Other environmental issues
4)	Improvement of management facilities along esteros and drainage mains		Management Facilities: - Roads and related facilities along esteros - Manholes along drainage mains • 42 esteros (total length =72km) • 37 drainage mains (total length=34km)	• Relocation of informal settlers • Other environmental issues
5)	Dredging of other esteros and drainage mains		Dredging: • 42 esteros (total length =72km) • 37 drainage mains (total length=34km)	• Relocation of informal settlers • Quantity and quality of sediment and garbage to be dredged • Transport of dredged sediment and garbage • Dumping site of dredged sediment and garbage • Water quality disturbed by dredging activity • Other environmental issues

3. Work Items

The following will be conducted:

- Environmental study on existing environmental conditions
- Analysis of environmental impact
  - preparation of environmental checklist
  - preparation of Environmental Impact matrix
- Preparation of screening and scoping

4. Scope of Works

4.1 Environmental Study on Existing Environmental Conditions

The following are conducted in order to analyze the existing conditions:

(1) Geology and Soil
a) Area : Core Area of Metro Manila
b) Items : Geological conditions
Soil Conditions
c) Methods : Collection of secondary data such as map and report
d) Analysis :
- identification of hazards and hazard zoning
- identification of associated risks and impact

(2) Water Pollution
a) Area : along study esteros including trunk and secondary channels
b) Items : inventory of water pollution sources
c) Methods : factories which received ECC (Environmental Compliance Certificate) from DENR will be listed up. Locations of factories which discharge waste water will be identified on GIS map. The following items also will be listed up based on document survey:
  - name of company
  - date of establishment of factories and ECC issuance
  - type of industry
  - amount of discharged water volume per day
  - water quality of discharged waste water

d) Analysis :
- identification of water pollution sources
- estimation of discharged hazardous materials

(3) Water Quality and Sediment Quality of Estero
a) Area : 5 sites inside of esteros designated by the JICA Study Team
b) Items :
Water samples: depth, water temperature, electric conductivity, pH, DO, BOD, COD, Coli form, T-N, T-P (each 5 samples)
Sediment samples: Ignition Loss, Hydrogen sulfide, Chromium hexavalent (Cr^{+6}), Arsenic (As), Cadmium (Cd), Lead (Pb), Copper (Cu), Zinc (Zn), Fluoride (F), Formaldehyde, Total Mercury (T-Hg), Alkyl Mercury, Cyanide (CN), Organophosphate (each 5 samples)
c) Methods : taking samples from designated esteros by the JICA Study Team.
Methods of analysis are as follows:
d) Analysis :
- examination of extent and significance of sediment contamination in esteros
- providing information on planning for disposal methods of dredged materials

(4) Flora and Fauna
a) Area : Core Area
b) Items : characterization of vegetation
characterization of wildlife
c) Methods : Collection of secondary data
field reconnaissance survey based on secondary data analysis
d) Analysis :
- characterization in terms of species diversity, distribution abundance, quality, endemicity and ecological and scientific values

(5) Socio-economic Conditions

a) Area : along target esteros

b) Items : social, institutional and cultural profiles including:

- population and demographic profile
- health
- education
- livelihood and income
- status of women

c) Methods : Collection of secondary data

d) Analysis :

- social structure along target esteros and pumping stations
- economic situations of people who live along esteros

(6) Encroached buildings

a) Area : Trunk, Secondary and a part of tertiary channels in Core Area

b) Items : Number of buildings inside of target esteros
Number of buildings within 20 m from embankment along Tripa de Gallina and a part of Estero Sunog Apog and Estero de Maypajo

c) Methods :

1) Number of buildings inside of target esteros (45 km)
Buildings which are located inside of esteros will be identified by using aerial photo.
In case of high-density building area:
i) areas shall be identified by aerial photo
ii) number of buildings shall be counted at five high density areas by field reconnaissance, and density of building shall be calculated
iii) number of buildings in each high-density area shall be calculated by size of area and density of buildings

2) Number of buildings within 20 m from embankment along Tripa de Gallina and a part of Estero Sunog Apog and Estero de Maypajo (10 km)
Number of buildings within 20 m, 10 m and 4 m from embankment shall be identified by aerial photo. In case of high-density area, the same methodology of previous survey shall be conducted.
Survey section:
i) Estero de Tripa de Gallina from Tripa de Gallina pumping station to San Andres pumping station
ii) Estero from Vitas pumping station to connect with Rizal Ave. Ext through Estero Sunog Apog and Estero de Maypajo

d) Analysis :

- number of identified buildings inside of trunk channel
- number of identified buildings inside of estero and at 20 m from embankment along Estero de Tripa de Gallina and Estero Sunog Apog/Maypajo

4.2 Analysis of environmental impact

Based on the existing environmental conditions, environmental impact caused by project activities shall be analyzed. Environmental Checklist, Environmental Impact Matrix and scoping and screening shall be prepared.

(1) Environmental Checklist

Environmental checklist of JICA Environmental Guidelines (2004) will be filled up with the Study Team.

(2) Environmental Impact Matrix

Environmental Impact Matrix will be filled up

Preparation of Environmental Impact Matrix. Based on the results of the above screening and scoping, the Consultant shall prepare the following Environmental Impact Matrix, detailing the issues or impacts for each environmental resource and indicating their significance for each phase of project implementation.

Environmental Impact Matrix

ENVIRONMENTAL RESOURCES	ISSUES/IMPACTS		
	PRE-CONSTRUCTION PHASE	CONSTRUCTION PHASE	OPERATION & MAINTENANCE PHASE
PHYSICAL ENVIRONMENT			
1. Air Quality			
2. Topography			
3. Soils			
4. Surface Water Hydrology			
5. Surface Water Quality			
6. Noise			
7. Land Use			
BIOLOGICAL ENVIRONMENT			
1. Terrestrial Flora			
2. Terrestrial Fauna			
HUMAN (SOCIO-ECONOMIC) ENVIRONMENT			
1. Population			
2. Employment			
3. Livelihood			
4. Health			
5. Cultural and Historical Value			

4.3 Preparation of screening and scoping

(1) Screening

The Consultant shall fill up JICA Screening format of JICA Environmental Guidelines (2004).

- sector and scale of the project;
- substance, degree and uncertainty of its potential environmental impacts; and
- environmental and social context of the proposed project site and surrounding areas

The following data shall be used in principle to conduct screening:

a) Permits and Approvals

- needs for permits and approvals for EIA
- Status of acquisition of permits and approvals for EIA
- date of issue of permits and approvals for EIA
- names of organizations issuing permits and approvals for EIA

- status of acquisition of other environmental permits and approvals

b) Project Details

- location of project site
- project description
- relevant sector
- scale of project

c) Environmental Impact

- degree of environmental impact
- existence of sensitive areas
- existence of sensitive characteristics
- scale of sensitive characteristics

The Consultant shall apply approaches and methodologies for screening of the project in the EIA process. The fundamental issue is to determine whether the anticipated impacts of the project would have a significant effect on the quality of the human environment. Impacts resulting from proposed actions can be categorized whether beneficial or detrimental, naturally reversible or irreversible, etc. Upon consideration of the categories of impacts, several simple to more-structured options can be used to determine significance: application of significance criteria based on project type, structured methods, mitigation potential, a series of sequenced questions, etc.

(2) Scoping

Scoping refers to an early and open process to identify significant environmental issues and impacts relative to proposed project. As a part of the scoping process, the Consultant shall make contacts with regulatory agencies and other related agencies and identify environmental laws, regulations, and/or policies or executive orders related to the physical-chemical, biological, cultural, and socioeconomic environments. This information aids in interpretation of existing conditions and provides a basis for interpreting the anticipated impacts or effects of the project.

The Consultant shall also identify potential impacts of the subject project. This early qualitative identification of anticipated impacts can help in focusing subsequent steps. The Consultant may consider generic impacts related to the project type being analyzed.

Based on the expected structural measures for drainage system improvement, the following surveys have to be conducted to determine the significance of impacts of dredging and relocation of informal settlers, as part of the scoping process:

5. Reporting

The following three reports shall be prepared:

(1) Inception Report (3 copies)

This report shall be submitted within one week from contract. The consultant shall start the study after approval of Inception Report by the JICA Study Team. It shall detail the study

principle, plan of operation and organization and staffing for the Study.

(2) Draft Final Report (2 copies)

This report shall be submitted including study methodology and result of study.

(3) Final Report (3 copies)

This report shall be submitted, incorporating the comments of the JICA Study Team. This report shall include computer file formatted by Microsoft Word and Excel.

6. Work Schedule

The duration of the study is four (4) weeks after contact.

Figure 2 Work Schedule

Items	Week			
	1	2	3	4
Preparation				
Field Survey				
Preparation of Exisiting Environmental Conditions				
Anaysisi of Environmental Impact				
Preparation of Screeing and Scooping				

Terms of References

for

Topographic Survey

for

The Study on Drainage Improvement
in
the Core Area of Metropolitan Manila,
Republic of the Philippines

September 2004

JICA Study Team

1 GENERAL

This Terms of Reference has been prepared by the consultant consortium comprising Pacific Consultants International (PCI) and NIKKEN Consultants, INC (NIKKEN), which have been designated by the Japan International Cooperation Agency (JICA) as the consulting firms (hereinafter referred to as "Study Team") for "The Study on Drainage Improvement in the Core Area in Metropolitan Manila, Republic of the Philippines" (hereinafter referred to as "DICAMM").

The objectives are to survey topographic conditions along the proposed drainage channels in the priority projects proposed in DICAMM. The information surveyed by this work will be utilized for preliminary design of the proposed drainage channels.

As the Study Team is required to perform the surveys in accordance with the Agreement with JICA for DICAMM, and as the Study Team needs local firms (hereinafter referred to as "Contractor") to provide the consultancy services for the survey, this Terms of Reference is prepared.

2 SCOPE OF WORKS

1) Purpose: Preliminary design for additional box culvert in F/S of DICAMM

2) Quantity: Longitudinal and cross-sectional survey for the followings.
- Existing Blumentritt interceptor and surroundings
- Existing Zobel Roxas D.M. and surroundings
- Faraday D.M. and surroundings

(Detailed survey route will be specified by the Study Team.)

Total length = about 6,000m

Width = width of road +10m (5m each for left and right side from the edge of the road)

Interval = basically 100m

3) Accuracy: Longitudinal survey:

Allowance of closing error: 20mm x $S^{1/2}$ (S = Surveyed distance (km))

Cross-sectional survey:

Distance: 1:500

Elevation: 20mm + 5mm x $S^{1/2}$ (S = Surveyed distance (m))

3 WORK SCHEDULE

All survey works shall be completed within 4 weeks. Tentative schedule is shown below.

Tentative Work Schedule

Item	Week			
	1	2	3	4
Preparation				
Survey				
Drawing				
Reporting				

4 REPORTING AND PRODUCTS / DATA

The Contractor shall submit the following final products to the Study Team office in Manila.

I. Drawings 2sets

Dimension of drawing sheet shall be A-1 size. Data format for maps and drawings shall be DXF or DWG format of Auto CAD.

1) Plan location map (hard copy)

Scale: 1/500 – 1/1000

2) Longitudinal profiles (hard copy)

Scale: Vertical: 1/100

Horizontal: 1/500 – 1/1000

3) Cross-sectional profiles (hard copy)

Scale: Vertical: 1/100

Horizontal: 1/100

4) Soft copy of digital data (CD-ROM) of the above 1) - 3)

II. Final Report 2sets

III. Field and computation data (including photos) 1set

Note:

1) A final report shall describe the adopted methods for the respective work process, survey equipment, and the general survey results.

2) The Contractor shall record the survey works by taking photographs. The field data shall include all of the survey results including the photographs.

5 WORK PLAN TO BE PREPARED

The contractor shall submit a plan for the implementation of the survey work before the commencement of the fieldwork for approval by the Study Team. The implementation plan shall include the following, in accordance with the technical specifications.

1) Work schedule to be updated
2) Work process and work flow (method of measuring and drawing)
3) Survey equipment and drawing materials
4) Members list of the Contractor's staff
5) Planning maps for survey route

6 EQUIPMENT, MATERIALS AND LABOR

The Contractor shall provide all equipment, materials and labor necessary for all the above-mentioned works.

7 LANGUAGE AND DOCUMENTATION

The language and all documentation to be used between the Contractor and the Study Team shall be English.

8 OTHER CONDITIONS

1) The Contractor shall carefully follow the instructions given by the Study Team and keep close contact with the Study Team during the work. The Contractor shall be always ready to report to the Study Team whenever requested.
2) The Contractor shall acquire any formal permits, if necessary, and arrange all necessary equipment.
3) The Contractor shall assume the responsibility for any damages on properties and equipment, which belong to the Contractor during the work period. Accordingly, the Study Team shall accept no claims.
4) Any other issues besides the items described above shall be decided after due consideration between the Study Team and the Contractor.

Terms of References

for

Geological Survey

for

The Study on Drainage Improvement
in
the Core Area of Metropolitan Manila,
Republic of the Philippines

September 2004

JICA Study Team

1 GENERAL

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The objectives are to survey geological conditions along the proposed drainage channels in the priority projects proposed in DICAMM. The information surveyed by this work will be utilized for preliminary design of the proposed drainage channels.

As the Study Team is required to perform the surveys in accordance with the Agreement with JICA for DICAMM, and as the Study Team needs local firms (hereinafter referred to as "Contractor") to provide the consultancy services for the survey, this Terms of Reference is prepared.

2 SCOPE OF WORKS

1) Purpose: Preliminary design for additional box culvert in F/S

2) Quantity: The outline of Machine Boring and soil sampling are shown below. The Study Team at the commencement of the Work will direct the exact location of boring site and other survey site.

	Number of boring	Length	Number of sample
Blumentritt Interceptor	5	35m x 2+20m x 3 = 130m	2px3+3px2 = 12samples
Zobel Roxas D.M.	2	35m x 1+15m x 1 = 50m	1p.x3+1p.x2 = 5samples
Faraday D.M. (South Super Highway)	1	35m x 1 = 35m	1p.x3 = 3samples
Total	8	215m	20samples

3) Contents of tests

a. Boring (8 bore holes)
   - Core sampling
   - Standard penetration test
   - Water level measurement

b. Physical property tests (20 samples)
   - Visual soil classification
   - Natural moisture contents
   - Grain size analysis
   - Liquid limit & plastic limit
   - Specific gravity

c. Mechanical property tests (20 samples)
   - Unconfined compression tests

3 METHOD OF INVESTIGATION

Machine Boring	(1) A boring machine of rotary type shall be use. (2) The diameter of bore hole except for rock shall be more than 76 mm at every location. (3) A casing and slurry shall be used in boring to secure the stability of bore hole. (4) In performing the standard penetration test, a bore hole bottom shall be cleaned and slime shall be removed. (5) If soil become hard enough to take core, core sample shall be taken. (6) To get a permission form the Study Team before pulling boring rods out of bore holes, after each boring work.
Standard Penetration Test (SPT)	(1) Standard Penetration Test (SPT) shall be conducted in accordance with the requirements specified under ASTM-D-1586, or JIS A-1219. (2) SPT shall be performed for each 1 m depth of soil. (3) A hammer shall be dropped freely, it shall not be dropped by means of a winch. (4)As for the soil contained in a sample, soil layer, color, hardness, admixture and organic component shall be observed and recorded.
Method of sampling and Storing Sample	(1) The sample obtained by the standard penetration test (SPT sample) and core boring shall be put into a polyethylene bag for use in the physical test in such a way that water content does not change and shall be stored in a sampling box. (2) SPT sample shall be put into a plastic container and then stored in the laboratory. (3) The sample container shall be labeled with the following items: 1) Bore hole number 2) Depth 3) Soil name

4 STANDARDS APPLIED FOR LABORATORY TEST

The laboratory soil and material test shall be based on the following either standards.

Specific Gravity	ASTM	D854	JIS A 1202
Natural Moisture Content	ASTM	D2216	JIS A 1203
Grain-Size Analysis	ASTM	D422	JIS A 1204
Liquid Limit / Plastic Limit Test	ASTM	D4318	JIS A 1205
Unconfined Compression Test	ASTM	D2938 / 2166	JIS A 1216

5 WORK SCHEDULE

All survey works shall be completed within 4 weeks. Tentative schedule is shown below.

Tentative Work Schedule

Item	Week			
	1	2	3	4
Mobilization and Demobilization				
Field Investigation				
Laboratory test				
Reporting				

6 REPORTING AND PRODUCTS / DATA

The Contractor shall submit the following final products to the Study Team office in Manila.

I. Final report 2sets

Soil investigation report which includes boring log and summary of soil test

II. Data book 2sets

All data sheets and work sheets of soil test.

Note:

1) A final report shall describe the adopted methods for the respective work process, survey equipment, and the general survey results.

2) The Contractor shall record the survey works by taking photographs

7 WORK PLAN TO BE PREPARED

The contractor shall submit a plan for the implementation of the survey work before the commencement of the fieldwork for approval by the Study Team. The implementation plan shall include the following, in accordance with the technical specifications.

1) Work schedule to be updated
2) Work process and work flow
3) Survey equipment and drawing materials
4) Members list of the Contractor's staff

8 EQUIPMENT, MATERIALS AND LABOR

The Contractor shall provide all equipment, materials and labor necessary for all the above-mentioned works.

9 LANGUAGE AND DOCUMENTATION

The language and all documentation to be used between the Contractor and the Study Team shall be English.

10 OTHER CONDITIONS

1) The Contractor shall carefully follow the instructions given by the Study Team and keep close contact with the Study Team during the work. The Contractor shall be always ready to report to the Study Team whenever requested.
2) The Contractor shall acquire any formal permits, if necessary, and arrange all necessary equipment.
3) The Contractor shall assume the responsibility for any damages on properties and equipment, which belong to the Contractor during the work period. Accordingly, the Study Team shall accept no claims.
4) Any other issues besides the items described above shall be decided after due consideration between the Study Team and the Contractor.

Terms of References

for

Environmental Impact Assessment Study

for

The Study on Drainage Improvement
in
the Core Area of Metropolitan Manila,
Republic of the Philippines

September 2004

JICA Study Team

1 GENERAL

This Terms of Reference has been prepared by the consultant consortium comprising Pacific Consultants International (PCI) and NIKKEN Consultants, INC (NIKKEN), which have been designated by the Japan International Cooperation Agency (JICA) as the consulting firms (hereinafter referred to as "Study Team") for "The Study on Drainage Improvement in the Core Area in Metropolitan Manila, Republic of the Philippines" (hereinafter referred to as "DICAMM").

As the Study Team is required to perform the EIA study for the selected priority project(s) in DICAMM in accordance with the Agreement with JICA, and as the Study Team needs local firms (hereinafter referred to as "Contractor") to provide the consultancy services for the survey, this Terms of Reference is prepared.

2 BACKGROUND AND OBJECTIVES OF THE EIA STUDY

2.1 Background

The study area for DICAMM is the core area (73 km^2) of Metropolitan Manila, covering the City of Manila and parts of the Cities of Caloocan, Quezon, Pasay, Makati and the Municipality of Taguig. The total population is about 2.58 million.

DICAMM started on February 2004. On the basis of various field studies on the existing drainage conditions, a Master Plan of drainage improvement of the core area has been formulated during the Phase 1 (February-August 2004). During the Phase 2 of DICAMM (September 2004 - March 2005), a feasibility study on priority project(s) identified in the Master Plan will be carried out. The EIA study will be carried out for the priority project(s).

2.2 Objectives of the EIA Study

The objectives of the EIA study are:

1) To conduct environmental impact assessment (EIA) on the priority projects following the relevant laws and regulations of the Government of the Philippines such as the laws or regulations of the Department of Environment and Natural Resources (DENR). The guideline for environmental and social conditions prepared by JICA shall also be referred.
2) To propose countermeasures for avoiding or alleviating adverse impacts on the surrounding environment.
3) To prepare resettlement action plan to mitigate adverse impact due to necessary relocation for implementing the projects
4) To prepare an Environmental Impact Statement (EIS) as required by the DENR (DAO 96-37) in the processing of applying the Environmental Compliance Certificate (ECC).
5) Assistance to the proponent in the conduct of public consultations/community meetings
6) Coordination with DENR particularly in attending to additional information required or reviewing the EIS and assistance to prepare the required information for the ECC.

3 PROJECT DESCRIPTION

The priority project(s) for drainage improvement are selected from the measures for mitigation of severe floods/inundation damage areas both in North Manila and in South Manila.

The priority project(s) consists of the followings (please refer to Figure 1).

(1) Rehabilitation Works of Drainage Channels

1) Dredging of esteros/creeks: 138,000 m³

- Estero de Sunog Apog/Maypajo (partially)
- Estero de Tripa de Gallina (partially)
- PNR canal (partially)
- Calatagan Creek I

2) Declogging of drainage mains: 20,000 m³

- Blumentritt interceptor
- Buendia Outfall
- Zobel Roxas D.M.
- Farady D.M.
- Pasong Tamo D.M.

(2) Drainage Improvement of the Severe Inundation Areas

North Manila :

1) Additional works for Aviles-drainage area,

- Increasing of pump capacity at Aviles Pumping Station

2) Additional works of the existing Blumentritt interceptor

- Remedial works of existing Blumentritt interceptor
- Construction of additional interceptor.

South Manila :

1) Additional B.C. along Zobel Roxas D.M.

2) Additional B.C. along Farady D.M.

(3) Urgent Rehabilitation of 4 Major Pumping Stations

- Quiapo
- Aviles
- Valencia
- Tripa de Gallina

(4) Rehabilitation of 8 Major Pumping Stations

- Pandacan
- Paco
- Sta. Clara

- Libertad
- Makati
- Binondo
- Balete
- Escolta

(5) Non-structural and Supporting Measures

- Relocation of informal settlers
- Community based solid waste management
- Information, education and communication
- Strengthening of O&M system

These non-structural and supporting measures will be applied mainly in the related barangays and the responsible O&M agencies.

4 ENVIRONMENTAL ISSUES IDENTIFIED IN IEE FOR THE MASTER PLAN

In the phase 1 of DICAMM, IEE for the drainage improvement master plan was conducted. In the IEE, the following environmental issues were identified and the necessary mitigating measures and monitoring have been recommended for the issues.

- Air pollution
- Transport and disposal of bottom sediment and garbage
- Noise and vibration
- Offensive odors
- Accidents
- Involuntary resettlement
- Existing social and infrastructure services
- Water-borne diseases

The results of IEE shall be referred to conduct the EIA study for the priority project(s).

5 METHODOLOGY

This study shall be conducted based on DENR's guideline for EIA, which includes preparation of EIS, assistance of proponents for conducting public consultation as well as for applying ECC until its issuance.

The guideline for environmental and social conditions prepared by JICA shall also be referred.

Because the involuntary resettlement will be crucial issue, the followings shall also be conducted.

1) Census and tagging and other surveys, consultations, livelihood study for the families that will be relocated (currently roughly estimated at about 800 families)

2) Preparation of resettlement action plan

6 WORK SCHEDULE

All works shall be accomplished in accordance with the following tentative schedule.

Works	Month			
	1	2	3	4
Preparation				
Data collection, site reconnaissance, investigation and related works				
Analysis, assessment including necessary numbers of public consultations, and preparation of scoping and public consultation report, resettlement action plan and draft EIS report				
Preparation of final EIS report				
Clarification of additional requirement of DENR and follow up				

7 REPORTS

The Contractor shall prepare and submit the following reports:

1) Scoping and Public Consultation Reports

To be submitted in six (6) copies two weeks after the second level scoping or first formal public consultation meeting. This report will set the direction of the EIA Study.

2) Draft Final EIS

To be submitted in six (6) copies following the DENR Format. The Draft EIS Report will contain environmental profile, impact assessment, environmental monitoring and management plan, environmental risk assessment and resettlement action plan.

3) Final EIS

To be submitted in twenty (20) copies two weeks after receipt of the comments on the Draft Final EIS.

8 WORK PLAN TO BE PREPARED

The contractor shall submit a plan for the implementation of the work before the commencement of the work for approval by the Study Team. The implementation plan shall include the following, in accordance with the technical specifications.

1) Work schedule to be updated
2) Work process and work flow
3) Members list of the Contractor's staff

9 EQUIPMENT, MATERIALS AND LABOR

The Contractor shall provide all equipment, materials and labor necessary for all the above-mentioned works.

10 LANGUAGE AND DOCUMENTATION

The language and all documentation to be used between the Contractor and the Study Team shall be English.

11 OTHER CONDITIONS

1) The Contractor shall carefully follow the instructions given by the Study Team and keep close contact with the Study Team during the work. The Contractor shall be always ready to report to the Study Team whenever requested.
2) The Contractor shall acquire any formal permits, if necessary, and arrange all necessary equipment.
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4) Any other issues besides the items described above shall be decided after due consideration between the Study Team and the Contractor.

PRIORITY PROJECT

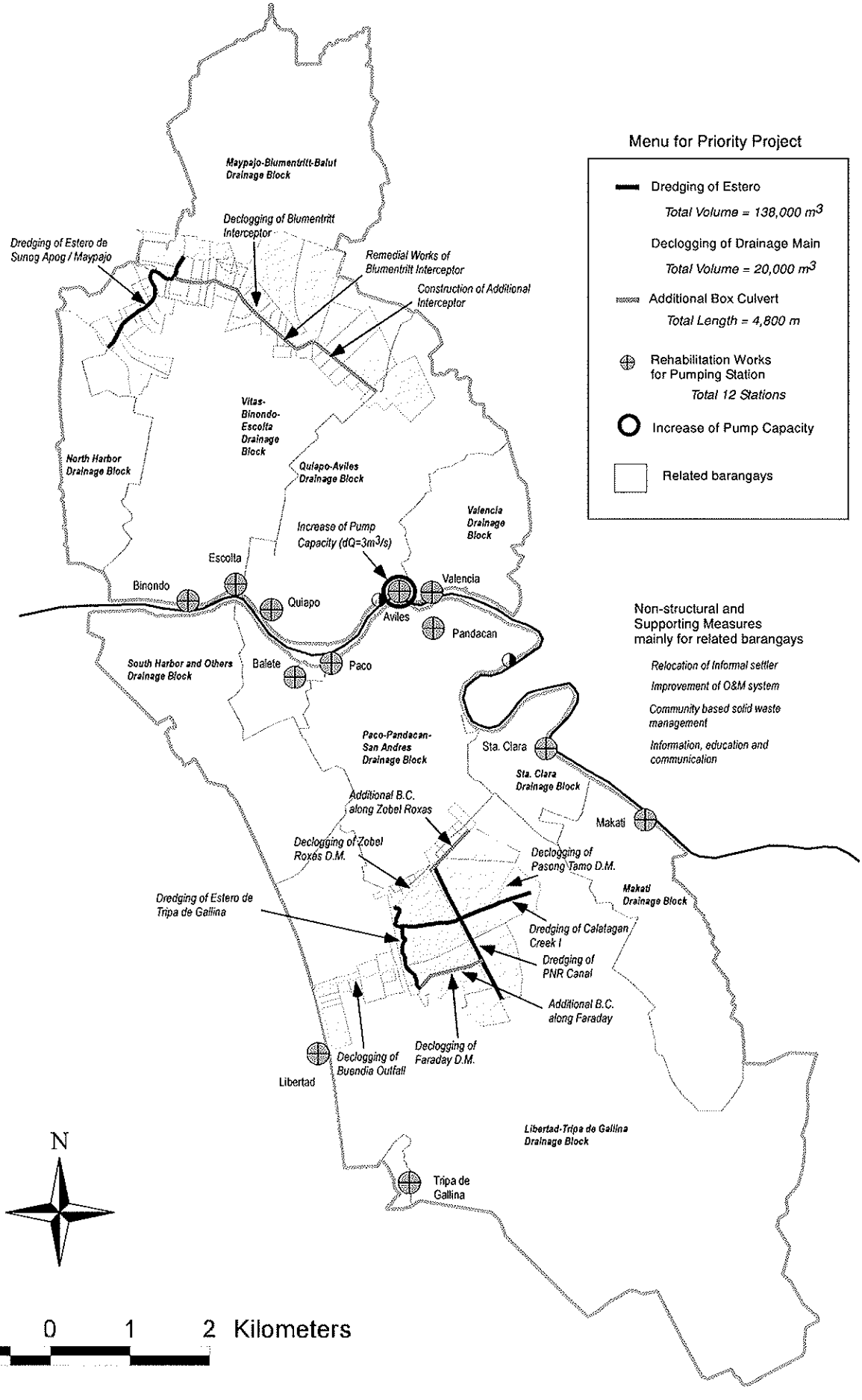

Figure 1