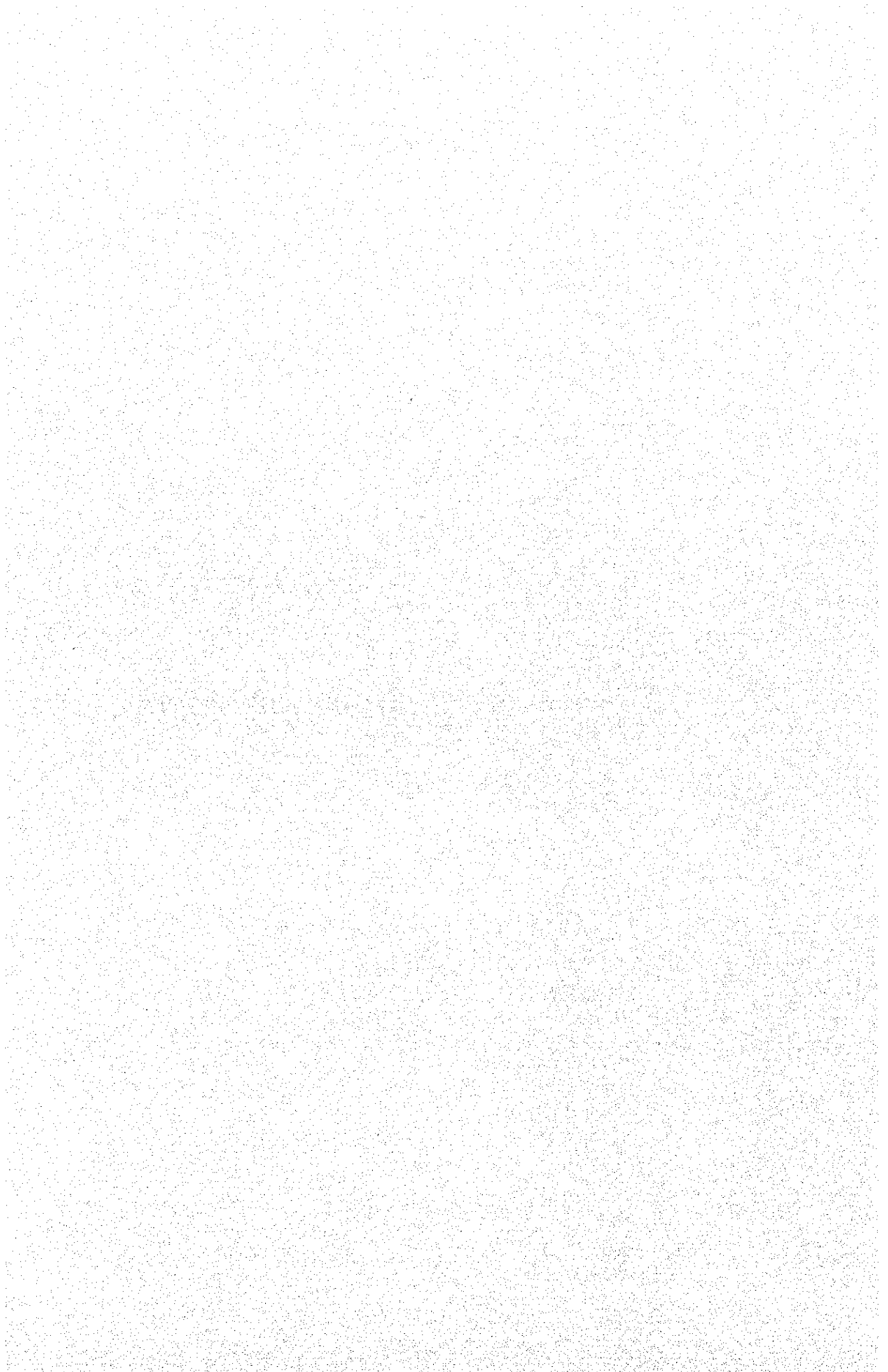


CHAPTER 11

PROJECT IMPREMETATION



CHAPTER 11 PROJECT IMPLEMENTATION

11.1 Implementation Method and Time Schedule

11.1.1 Executing System

Project Component

As mentioned in "CHAPTER 1, 1.1 Background", the Project "West Floodway/Garang River Improvement" is one of the three (3) components proposed for the urgent realization of the flood control, urban drainage and water resources development in Semarang City. The other two (2) components are "Construction of Jatibarang Multipurpose Dam" and "Urban Drainage System Improvement".

Construction of these three (3) components are expected to be implemented under one loan program.

Executing Organization

It is proposed that the component "West Floodway/Garang River Improvement" is executed as mentioned below.

The organization for project implementation is expected to be the Directorate General of Water Resources Development (DGWRD), Ministry of Public Works (MPW). Actual project execution is to be entrusted to the Office for Water Resources Development Projects for Iragun, Tuntang, Serang, Lusi and Juwana Rivers (JRATUNSELUNA Project Office).

This Detailed Design (D/D) Study (Component : West Floodway/Garang River Improvement) is presently being managed by the Directorate of Technical Guidance, DGWRD, under a Steering Committee composed of offices of DGWRD such as the Directorate of Planning and Programming, the Directorate of Construction Guidance for Central Indonesia, and the JRATUNSELUNA Project Office.

Executing Method

As mentioned before, the detailed engineering design for the Project is being conducted under the JICA Development Assistance Program. It is expected that construction of the Project will be carried out immediately after this D/D Study.

The construction of the Project is expected to be undertaken with financial assistance from the Overseas Economic Cooperation Fund of Japan (OECF). Therefore, the procedure for execution of construction will follow the guidelines of OECF as well as the laws and regulations of the Government of Indonesia for the procurement of engineering services and construction contractors. The implementation schedule as well as the acquisition of project funds, which are discussed below, are prepared assuming that the Project will be financed by the loan funds from OECF of Japan.

11.1.2 Project Packaging and Construction Schedule

Aiming at an effective implementation of the project, the whole construction works are divided into some sub-components (contract package). Packaging the project works is basically made based on factors such as nature of the project, topographical condition, construction method, project cost and so on.

The contract package for the project of West Floodway/Garang River Improvement was discussed between JRATUNSELUNA Project Office and the JICA Study Team. Consequently, the following three (3) contract packages were selected (refer to Fig. 11.1.1).

Package 1 : West Floodway/Garang River Improvement Works

(River mouth to confluence point with Kreo River, L = 9.76 km)

Package 2 : Reconstruction of Simongan Weir

Package 3 : Raising of Railway Bridge

Based on the construction plan, each work of the package, with regard to construction time, is allocated as shown in Figs. 7.2.2, 7.4.1 and 7.4.2. As the figures show, the whole construction period is estimated to be 36 months.

11.1.3 Implementation Schedule

The implementation schedule is prepared to achieve prompt construction of the Project so as to release properties from flood damage and improve the environmental conditions in and around Semarang City. Necessary undertakings and activities are incorporated in the Implementation Schedule as shown in Fig. 11.1.1.

This D/D Study is scheduled to be completed in March 2000 at the draft final stage, and the final report will be submitted in July 2000. During the D/D Study, environmental impact assessment and inventory survey for compensation such as land acquisition and house

evacuation are simultaneously undertaken. Furthermore, the preparation works for loan acquisition (foreign currency portion) and local fund for compensation will be executed as a pre-construction works. Then, construction of the Project is executed during the period from April 2001 and completed in March 2004.

The major work items for the project implementation are listed in the table below together with the period estimated.

Major Work Item	Period
1. Detailed Design	
1-1. Detailed Design including Tender Documents	Aug. 1997 - Mar. 2000
1-2. Approval on ANDAL and RKL/RPL	Sep. 1999
2. Required Administration Works	
2-1. Fund Requirement	Oct. 1999 - Dec. 1999
2-2. Land Acquisition and Compensation	Apr. 2000 - Sep. 2000
3. Loan Acquisition	
3-1. Request for Loan	Sep. 1999 - Dec. 1999
3-2. Loan Appraisal	Jan. 2000 - Mar. 2000
3-3. Pledge/Loan Agreement	Apr. 2000
4. Construction of the Project	
4-1. Selection and Contract of Consultant	May. 2000 - Jul. 2000
4-2. PQ, Tendering and Contract for Construction	Sep. 2000 - Mar. 2001
4-3. Construction	
Package 1	Apr. 2001 - Nov. 2003
Package 2	Feb. 2001 - Oct. 2003
Package 3	Apr. 2001 - Oct. 2002

11.2 Fund Requirement

11.2.1 Project Cost and Loan Amount

The total project cost is estimated at Rp. 293,716 million (¥4,864 million), excluding value added tax. Assuming that the Project is implemented with financial assistance from the OECF, Japan, the loan amount is estimated as follows:

- (1) In case the total eligible cost is larger than 85% of the total project cost, Upper limit of total loan amount shall be 85% of the total project cost.
- (2) In case the total eligible cost is less than 85% of the total project cost, the total loan amount shall be the total eligible cost.

Non-eligible costs are considered for the following categories, but they could be included in the total project cost:

- (1) Land acquisition fee
- (2) Compensation
- (3) Tax and duties as well as government administration cost
- (4) Interest during construction

The total project cost is adjusted so as to estimate the loan amount as follows:

Item	Amount (million Rp)	Amount (million ¥)
1. Construction Base Cost	208,995	3,461
2. Engineering Service Cost	18,170	301
3. Compensation Cost	710	12
4. Sub-Total (Items 1 to 3)	227,875	3,774
5. Administration Cost	14,679	243
6. Physical Contingencies (6% of 4)	13,673	226
7. Price Contingency	37,489	621
8. Total	293,716	4,864
9. Value Added Tax	27,554	456
10. Grand Total	321,270	5,320

From the table above, the ratio of eligible cost (construction base cost, engineering service cost and part of physical and price contingencies) is estimated at Rp. 275,544 million corresponding to 85.8 % of the total project cost including value added tax. Therefore, the total loan amount including physical contingencies is estimated to be Rp. 273,080 million.

11.2.2 Disbursement Schedule

The disbursement schedule is prepared as discussed below.

- (1) Annual Disbursement Schedule

Annual disbursement schedule for the Project is prepared in accordance with the implementation schedule as presented in Table 8.4.6.

- (2) Operation, Maintenance and Replacement Cost

Operation, maintenance and replacement cost was discussed in "CHAPTER 10, 10.3.3 Preparation of Schedule and Budget", and summarized below.

Annual O&M Cost for West Floodway/Garang River	Rp.413 million
Annual O&M Cost for Simongan Weir	Rp. 81 million
Replacement and Other Cost	Rp. 84 million
Total (Percentage to Total Constriction Base Cost)	Rp.578 million (0.27 %)

11.3 Works Required for Project Implementation

11.3.1 Clearance of Environmental Issue

Under the Ministry of Public Works (DPU), the study on environmental impact analysis is conducted taking account of the importance for the protection of natural and social environment. The Environmental Impact Study (AMDAL) has to be carried out at the stage of feasibility study, and its results seem to be of grate significance to judge whether the project is feasible or not.

During this D/D Study, in accordance with the government regulation "PP No.51/1993" and the regulation from the State Minister of Environment No. Kep. 39/MENKLH/8/1996, the following reports were duly prepared and submitted to the Central Committee (KOMPUS) for approval.

- (1) Terms of Reference of the Environmental Impact Statement (KA-ANDAL)
- (2) Environmental Impact Assessment (ANDAL)
- (3) Environmental Management Plan (RKL)
- (4) Environmental Monitoring Plan (RPL)

The results of AMDAL and ANDAL were discussed in the official meetings organized by both regional and central committees (called KOMDA and KOMPUS, respectively) to evaluate the project in terms of environment. Through the several meetings, ANDAL, RKL and RPL documents were modified based on the comments and suggestions from the committee members, and were submitted again. Then, the final reports were approved by KOMPUS.

11.3.2 Compensation Works

Compensation works consist of land acquisition and house evacuation.

Land acquisition is necessary for construction of the proposed earth dike and drainage by-pass channel on the right river bank in the river stretch between North Ring Road Bridge and

the river mouth. This area is a newly developed land by reclaiming the coastal area in recent years, and the reclamation is still being undertaken. The objective land, which has an area of about 25,000 m², belongs to a private land developer.

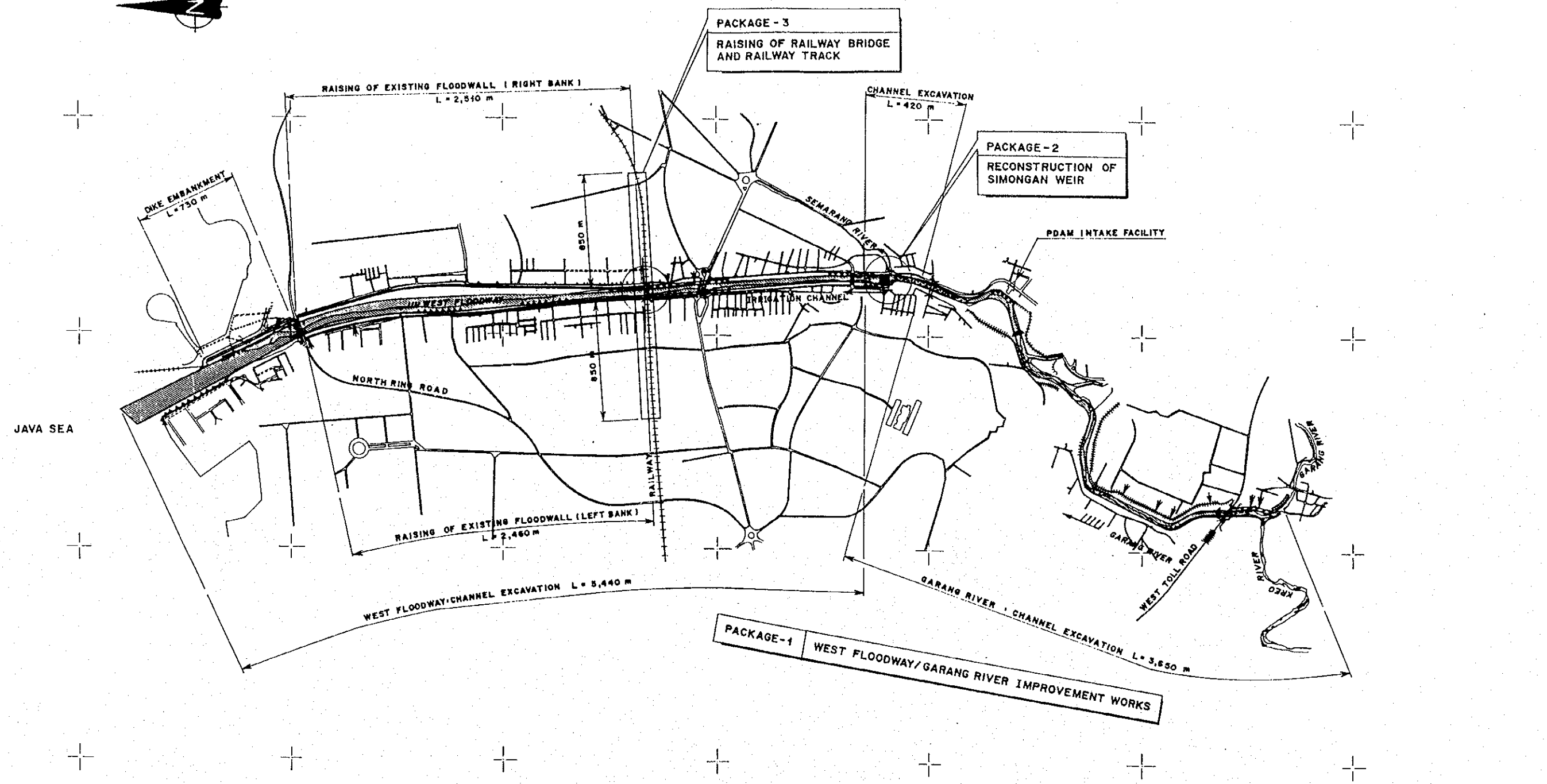
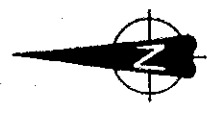
A meeting of which agenda is "Development and Improvement of River Mouth Area" was held at Provincial Public Works Office (DINAS PU) on September 3, 1998 among DINAS PU, JRATUNSELUNA Project Office, Semarang City, land developers and the JICA Study Team. On the occasion, DINAS PU informed the private land developers of the necessary land acquisition area for West Floodway Garang River improvement works. The developers, basically, accepted the request from the Public Works Office. Therefore, it is expected that the land acquisition will be executed smoothly without any delay after the completion of JICA's detailed design works.

As to the house evacuation, only two (2) units of house are affected by the project works in the upper reaches of Garang River. Apparently, these houses are placed in the category of semi-permanent house. It is recommended that the project office take necessary action for the house evacuation immediately after the detailed design.

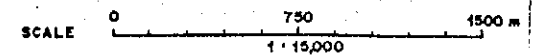
FIGURES

CHAPTER 11

PROJECT IMPREMETATION



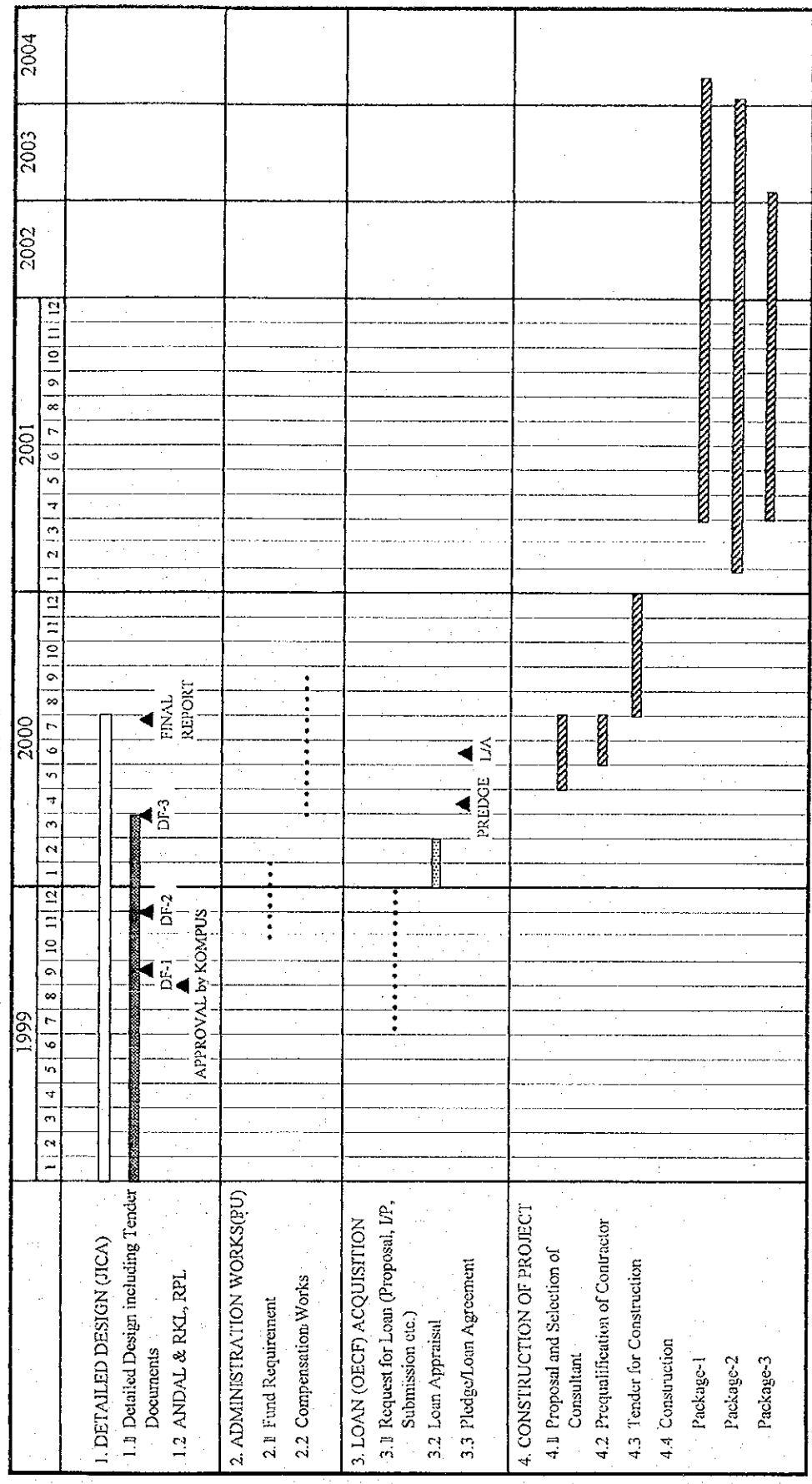
LEGEND	
	CHANNEL EXCAVATION
	DIKE EMBANKMENT
	RAISING OF EXISTING FLOODWALL
	GROUND SILL
	REVTMENT
	ORGIN
	DRAINAGE SLUICWAY/OUTLET WITH GATE



THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 11.1.1
PROJECT PACKAGING



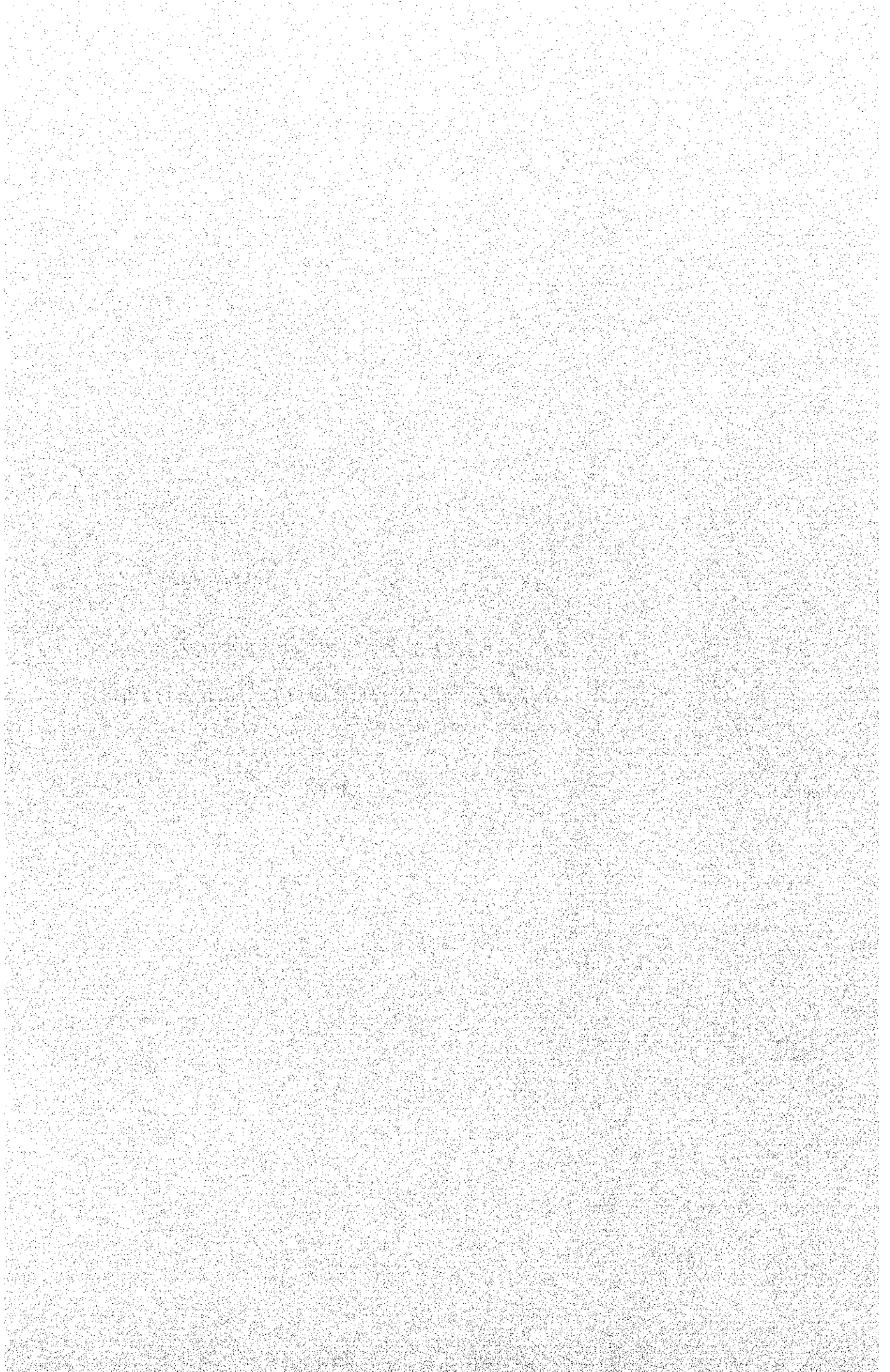
Legend : DF-1 : Draft final report for West Floodway/Garang River Improvement
 DF-2 : Draft final report for Urban Drainage System Improvement
 DF-3 : Draft final report for Construction of Jatibarang Multipurpose Dam

L/A : Loan Agreement

Fig. 11.1.2 IMPLEMENTATION SCHEDULE OF WEST FLOODWAY / GARANG RIVER IMPROVEMENT

ANNEX 1

**NINETIES OF MEETING ON
INCEPTION REPORT, JAKARTA**



MINUTES OF MEETING
ON
INCEPTION REPORT
OF
THE DETAILED DESIGN
OF
FLOOD CONTROL, URBAN DRAINAGE
AND WATER RESOURCES DEVELOPMENT
IN SEMARANG IN THE REPUBLIC OF INDONESIA

A meeting chaired by Mr. Marhuarar Napitupulu Dipl. H.E, the Director of Technical Guidance of the Directorate General of Water Resources Development (DGWRD), was held at the conference room of DGWRD on August 20, 1997 with the main purpose for explanation of contents of the Inception Report in the presence of DGWRD and Directorate General of Human Settlement (DGHS), Ministry of Public Works (hereinafter referred to as Indonesian Side), JICA Study Team headed by Mr. TOMIOKA Yoshiyuki (hereinafter referred to as the Study Team) and the Advisory Committee of the Japan International Cooperation Agency (JICA) for the Detailed Design of Flood Control, Urban Drainage and Water Resources Development in Semarang (hereinafter referred to as the Study). The Study Team submitted thirty (30) copies of the Inception Report to the Indonesian Side at the Meeting in accordance with the Scope of Works. The attendants are listed in the attached sheet.

The presentation of the Inception Report was made by the Study Team at the beginning of the meeting, subsequently discussion was made to exchange ideas of their mutual concerns.

All the contents of the Inception Report have been in principle understood and accepted by the Indonesian Side. The main points discussed and confirmed during the meeting are summarized as follows:

- (1) Site conditions in the study area have been changed compared with those of F/S stage. Sufficient site survey shall be done especially in terms of roads, bridges, intake/drainage structures.
- (2) Definitive plan for the urban drainage system shall be established so as to minimize both land acquisition and cost for operation and maintenance, considering the budgetary affordability of the municipal office.
- (3) Regarding the drainage system in the East Bandarharjo area, demarcation of the area and works between the JICA Study and Semarang Surakarta Urban Development Project (SSUDP) shall be made through the discussion with agencies concerned in Semarang so that there is no duplication by both projects.
- (4) For the improvement of water quality of Semarang River, the Indonesian Side emphasized the introduction of flushing water from Garang River. The Study Team explained that the minimum river maintenance flow of 0.5

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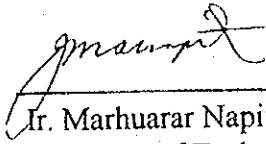
m³/s is secured by Jatibarang Dam and another 0.5 m³/s by Mundingan Dam under the future plan.

- (5) Land subsidence of the coastal area in Semarang City is continuing presently and the situation becomes worse year after year. The main cause of land subsidence is considered as a result of excessive pump up of ground water in the city. To prevent further land subsidence, change of water source from ground water to river water is indispensable. In that sense, Jatibarang Dam should be constructed urgently to supply water to Semarang City.
- (6) Maintenance roads along the West Floodway/Garang River shall be employed for the necessary sections in consideration of conditions of the existing roads and the right of way alongside the dikes.
- (7) The Indonesian Side requested the Study Team to discuss the design criteria for Jatibarang Dam with the Dam Safety Committee of Indonesian Government. The Indonesian Side also requested to study on the effect of dam failure in accordance with the guide line of the Dam Safety Committee. The study team replied to discuss the matter on condition that the purpose, methodology and level of the study are clarified in writing to the Study Team. The leader of the Study Team further mentioned that presently such analysis on dam failure is not conducted in Japan, since dams are designed to have enough safety.
- (8) To prevent Garang river bed elevation from lowering as a result of river bed excavation or Jatibarang Dam construction, 2 units of ground-sills are proposed on Garang River.
- (9) The effect of river bed excavation to river morphology will be considered not so big, since the improvement of West Floodway is executed by means of the excavation of high water channels and the improvement of Garang River is made by means of excavation of riverbed sedimentation by the existing Simongan Weir.
- (10) The Study Team requested the Indonesian Side to provide enough office space and to appoint counterparts in accordance with Minutes of Meeting agreed upon between Preparatory Study Team and the Indonesian Government.

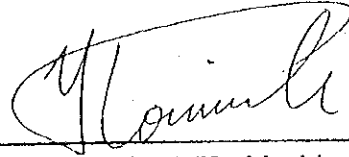
In the end, JICA requested the Indonesian Side to take prompt action in nominating members of the supporting unit for the Study as stated in the Scope of Works agreed upon between Preparatory Study Team and the Indonesian Government. The Indonesian Side agreed to nominate members as soon as possible for the smooth conduct of the Study.

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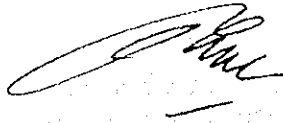
Jakarta, August 22, 1997



Ir. Marhuarar Napitupulu Dipl. H.E
Director of Technical Guidance,
Directorate General
of Water Resources Development,
Ministry of Public Works

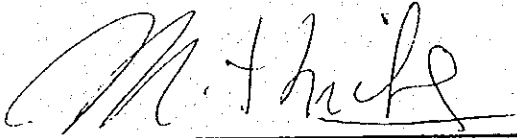


TOMIOKA Yoshiyuki
Team Leader
JICA Study Team



Ir. Hari Sidharta
Director of Technology Development,
Directorate General of
Human Settlements,
Ministry of Public Works

Witnessed by:



WATANABE Masayuki
Chairman
JICA Advisory Committee

Handwritten initials or signature in the bottom right corner.

LIST OF ATTENDANTS

Name	Position
<u>Indonesian Side</u>	
DGWRD	
1. Ir. M Napitupulu Dipl. H.E	Director of Rivers, Directorate of Technical Guidance
2. Ir. Ketut Kaler	Chief, Sub-Director of Rivers, Directorate of Technical Guidance
3. Ir. Moh Hasan	Chief, Sub-Director of General Planning, Directorate of Planning and Programming
4. Ir. Rustianti Dipl. H.E	Assistant of Planning, Jratunseluna Project
5. Ir. Dicky Supodo Dipl. H.E	Section Head of Large Structure in Central Region, Directorate of Technical Guidance
6. Ir. R.B. Sumarsono M.Eng.	Section Head of Rivers, Directorate of Water Resources Management and Conservation
7. Ir. S. Budi Santoso Dipl. H.E	Section Head of Rivers in Central Region, Directorate of Technical Guidance
8. Ir. S. Nurdin	Staff of Directorate of Water Resources Management and Conservation
9. Ir. B. Gultom	Staff of Directorate of Water Resources Management and Conservation
10. Ir. Gatot Eko	Staff of Directorate of Planning and Programming
DGHS	
11. Ir. Susmono	Sub-director of Central Region II
12. Ir. Azis Budiman	Housing Section, Head of Sub-directorate of Central Region II
13. Ir. Jojo B.N. Dipl. H.E	Environmental Sanitation, Section Head of Sub-directorate of Central Region II
14. Ir. Riefeldi M. Eng.	Section Head of Environmental Section, Sub-director of Technical Guidance Directorate
15. Ir. Dwityo A. Soeranto	Staff of Environmental Sanitation, Sub-director of Technical Guidance Directorate
<u>JICA Advisory Committee</u>	
1. WATANABE Masayuki	Chairman
2. OHNISHI Wataru	Member
3. Matumiya Yohsuke	Member
<u>JICA Study Team</u>	
1. TOMIOKA Yoshiyuki	Team Leader
2. FURUTAGUCHI Masasshi	Assistance Team Leader/River Planner
3. TOKUMASU Toshiaki	City Drainage Planner
4. KANESHIMA Yasuhisa	Hydrologist/Dam Planner

JICA Expert

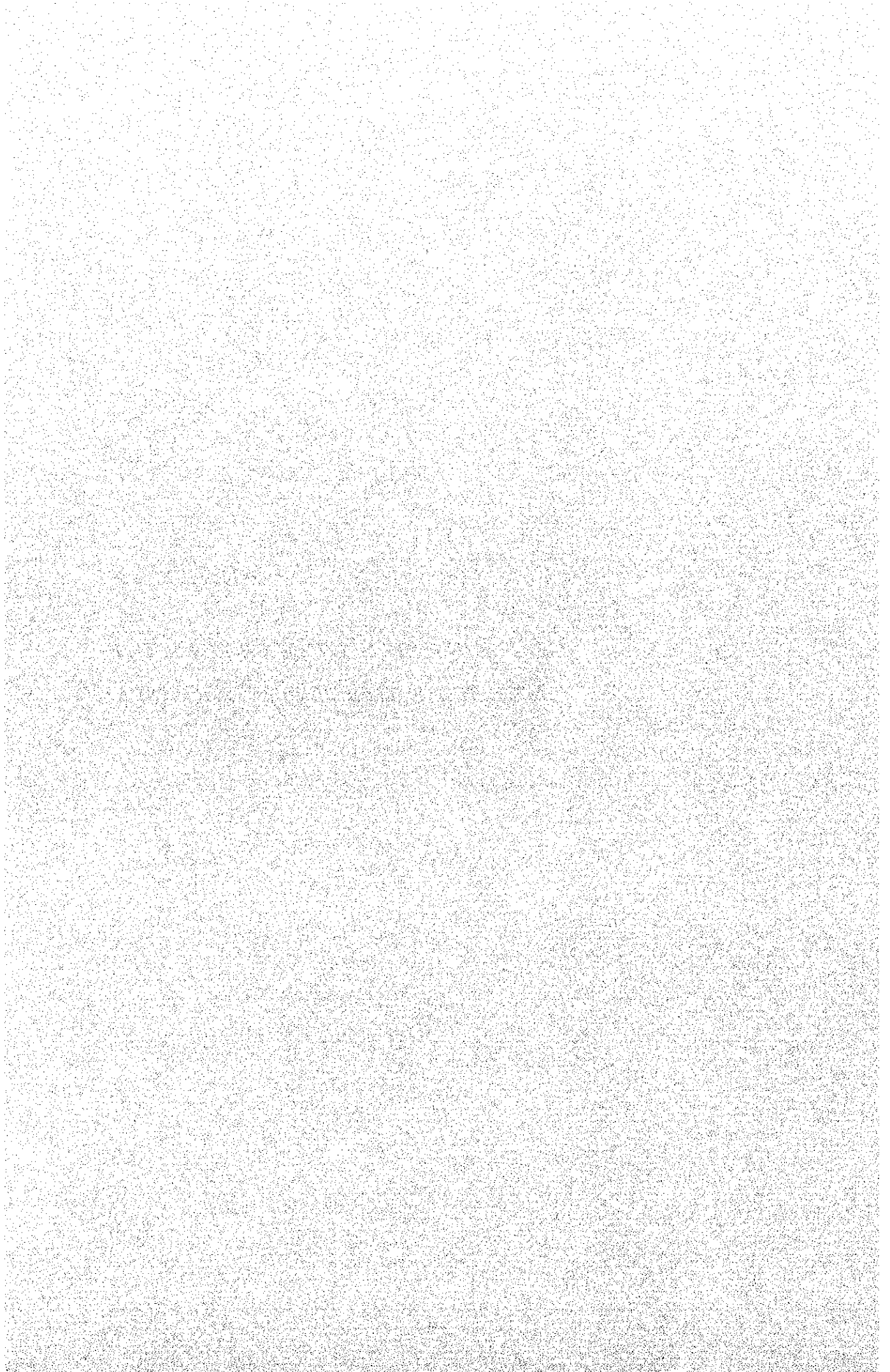
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|---------------------|--|
| 1. SHINTAKU Hiroaki | JICA Expert on Water Resources Planning & Management |
| 2. UEDA Tatsuhiro | JICA Expert on Wastewater & Stormwater Management |
| 3. TANAKA Tsuyoshi | JICA Expert on Wastewater & Stormwater Engineering |

JICA Head Office

- | | |
|-------------------|-------------------|
| 1. MIYATA Nobuaki | Coordinator, JICA |
|-------------------|-------------------|
-

ANNEX 2

**NINETIES OF MEETING ON
INTERIM REPORT(1), JAKARTA**



MINUTES OF MEETING
ON
INTERIM REPORT(1)
OF
THE DETAILED DESIGN
OF
FLOOD CONTROL, URBAN DRAINAGE
AND WATER RESOURCES DEVELOPMENT
IN SEMARANG IN THE REPUBLIC OF INDONESIA

Prior to the termination of the review on the Feasibility Study for Flood Control, Urban Drainage and Water Resources Development in Semarang conducted in 1993, the Directorate General of Water Resources Development (DGWRD) and Directorate General of Human Settlement (DGHS), Ministry of Public Works (hereinafter referred to as the Indonesian Side) organized a meeting with JICA Study Team (hereinafter referred to as the Study Team) and the Advisory Committee of Japan International Cooperation Agency (JICA), (hereinafter referred to as the Japanese Side) to discuss the review results on the basis of the Interim Report (1) prepared and submitted by the Study Team. The meeting was held at the conference room of DGWRD on November 24, 1997 and was chaired by Ir. Sutanto Mardjono Dipl. H.E and Ir. Ketut Kaler Dipl. H.E, Sub-Directors of Directorate of Technical Guidance of DGWRD. Those present are listed in the attached sheet.

The Study Team submitted thirty (30) copies of the Interim Report (1) to the Indonesian Side at the Meeting in accordance with the Inception Report.

Mr. TOMIOKA Yoshiyuki, Leader of the Study Team, outlined the review results at the beginning of the meeting. Then, discussion was made based on the comments/questions given by the Indonesian Side. Through the explanation and discussion, the contents of review results have been basically understood and accepted by the Indonesian Side except some technical matters which should be clarified in the next stage. Further, the Study Team made briefing on the progress of the Study as of the present time and informed the upcoming schedule of the Study.

The main points discussed and confirmed during the meeting are summarized as follows:

West Floodway/Garang River Improvement

- (1) There was a question about the riverbed stability at the West Floodway river mouth from Indonesian Side. Since there is no study on river mouth stability, the Study Team agreed to carry out the further study on river mouth stability considering the wave impact.

Water Resources Development

- (1) The Indonesian Side requested to the Japanese Side that the dam failure simulation for Jatibarang Dam be executed in this Study by the Study Team in

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accordance with the contents of the letter issued by the Director of Technical Guidance of DGWD and attached in the Interim Report (1). The Japanese Side insisted that this should be done by the owner of the dam (DGWRD) as stipulated in the Presidential Decree No. 72 /PRT/1997. Further, the Japanese Side replied that an official request to JICA should have been made from the Indonesian Side, if the Indonesian Side wants this matter to be included in the scope of works.

Urban Drainage

- (1) In the review of urban drainage system improvement, the Study Team found out that the existing North Ring Road, Ronggowarsito Street and railways have been habitually flooded by tidal water due to the serious land subsidence. To make the proposed drainage system effective, the Study Team suggested in the report that these roads and railways be raised up to the required height. Then, the Indonesian Side requested that the design of road and railway raising works be incorporated in the current scope of works. The study team suggested that the Indonesian Side request it to JICA Head Quarter through JICA Indonesia Office.
- (2) The location of pumping stations in Bandarharjo East and West drainage areas was studied based on the comparative study on alternatives. Consequently, one (1) pumping station has been proposed instead of two (2) pumping stations determined in the Feasibility Study. The Study Team was requested to show the comparative study results in the next study stage and the Study Team agreed to it.
- (3) The main drainage facilities to be covered by the JICA Project are confirmed as follows;

Drainage Area :	Asin area (4.252 km ²) Bandarharjo area (2.185 km ²)
Pumping Station :	Asin River Pumping Station (Q=8.50 m ³ /s) Baru River Pumping Station (Q=4.40 m ³ /s)
Primary channel :	Semarang River (6.90 km) Asin River Baru River
Connecting Channel :	Two drainage channels, which are indicated in Fig 4.4.12 of Interim Report (1), are proposed between a retarding pond and Baru River Pumping Station.

- (4) On consideration of the present land subsidence of the low lying area, the Study Team requested the Indonesian Side to continue monitoring survey of the bench marks established by the Study Team at the sites of proposed pumping stations.

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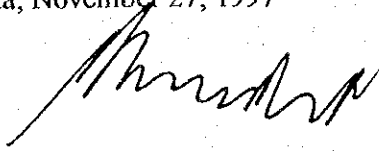
- (5) As to the item of (g) of 3.3.5 Related On-going Project in CHAPTER 3 in page 3-21 “- Construction of tidal gate and pumping station of Baru River”, demarcation has been clarified as described in the above section (3) between JICA Study Team and SSUDP.
- (6) In Urban Drainage System Improvement, works which are not stipulated in the Scope of Works will not be included in the Study without reasonable and concrete reasons.

At the end of the meeting, Mr. WATANABE Masayuki, the chairman of the JICA Advisory Committee stressed the following two (2) points, and the Indonesian Side basically understood them.

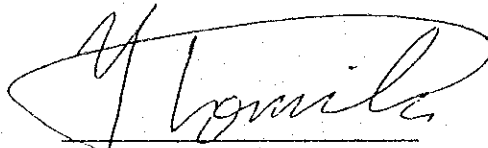
- (1) In general, a dam can not be built if any disadvantages are identified. Since any disadvantages on Jatibarang Dam are not identified, the Japanese Side does not find out reasons for the execution of dam failure simulation. Since the dam failure simulation for Jatibarang Dam is not included in the Scope of Works agreed upon between JICA Preparatory Study Team and the Ministry of Public Works (PU), the Government of Indonesia, PU may formally request it to JICA Head Office through JICA Indonesian Office.
- (2) Since land subsidence in Semarang City is very serious, to stop or mitigate the further progress of land subsidence, enacting effective regulation or laws to prohibit usage of deep wells and to change water sources to river surface water are quite necessary. The proposed flood control facilities or urban drainage facilities should become useless in the future by serious land subsidence without such effective regulation or laws.

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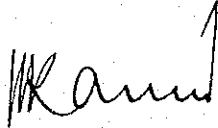
Jakarta, November 27, 1997



Ir. Hendratno Remiel Baswan, M.Sc
Director of Planning and Programming,
Directorate General
of Water Resources Development,
Ministry of Public Works

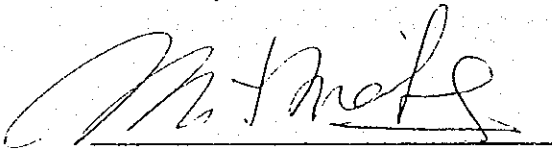


TOMIOKA Yoshiyuki
Team Leader
JICA Study Team



Ir. Asrap Hadiroso, M.Sc.
Acting Director of Technology
Development, Directorate General of
Human Settlements,
Ministry of Public Works

Witnessed by:



WATANABE Masayuki
Chairman
JICA Advisory Committee



LIST OF ATTENDANTS

Name	Position
<u>Indonesian Side</u>	
DGWRD	
1. Ir. Sutanto Mardjono Dip. H.E	Sub-Director of Large Structure, Directorate of Technical Guidance
2. Ir. Ketut Kaler Dipi. H.E	Sub-Director of Rivers, Directorate of Technical Guidance
3. Ir. Pujoko Dipl. H.E	Project Manager for River Basin Development, Jratunseluna Project
4. Ir. Setyadi	Section Head, Implementation Guidance for Central Region II, Directorate of Technical Guidance
5. Dr. / Ir. Sutardi	Section Head, General Planning for Priority, Directorate of Planning and Programming
6. Ir. Gatot Eko S	Section Head, General Planning for Central Region, Directorate of Planning and Programming
DGHS	
7. Ir. Susmono	Head of Sub-directorate of Implementation on Central Region II
8. Ir. Widia Alfisa	Head of Sub-Directorate of Environmental Sanitation, Directorate of Technical Development
9. Ir. Dwityo A. Soeranto	Staff of Environmental Sanitation, Directorate of Technical Development .
<u>JICA Advisory Committee</u>	
1. WATANABE Masayuki	Chairman
2. OHNISHI Wataru	Member
3. MATSUMIYA Yohsuke	Member
<u>JICA Study Team</u>	
1. TOMIOKA Yoshiyuki	Team Leader
2. FURUTAGUCHI Masashi	Assistance Team Leader/River Planner
3. KANESHIMA Yasuhisa	Hydrologist/Dam Planner
<u>JICA Expert</u>	
1. UMEDA Kazuo	JICA Expert on Water Resources Development

- | | |
|---------------------|--|
| 2. SHINTAKU Hiroaki | JICA Expert on Water Resources Planning and Management |
| 3. UEDA Tatsuhiro | JICA Expert on Wastewater & Stormwater Management |
| 4. TANAKA Tsuyoshi | JICA Expert on Wastewater & Stormwater Engineering |

JICA Head Office

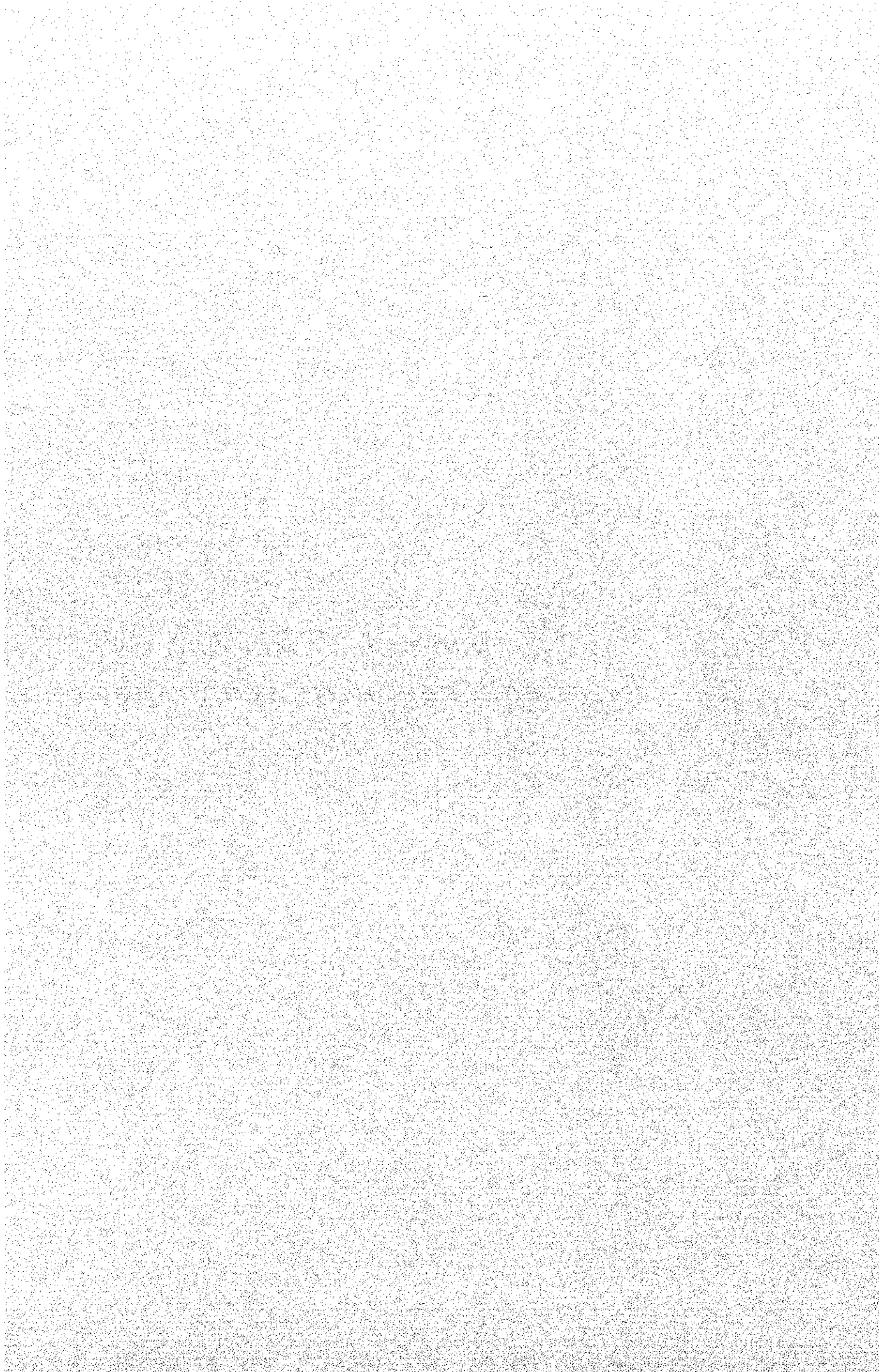
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| 1. SAITO Toru | Project Officer, JICA |
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JICA Indonesia Office

- | | |
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| 1. TAKEUCHI Tomoko | Assistant Resident Representative , JICA |
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ANNEX 3

**NINETIES OF MEETING ON
INTERIM REPORT(1), SEMARANG**



**MINUTES OF MEETING
ON
INTERIM REPORT (1)
OF
FLOOD CONTROL, URBAN DRAINAGE
AND WATER RESOURCES DEVELOPMENT
IN SEMARANG IN THE REPUBLIC OF INDONESIA**

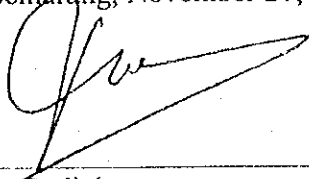
The meeting was held on November 21, 1997 at the conference room of JRATUNSELUNA office in Semarang to make briefing and presentation on the First Interim Report of the captioned Project prepared and submitted by the JICA Study Team. Ir. Pujaka, Project Manager of JRATUNSELUNA River Development Project, Semarang, was in the chair of the meeting in the presence of representatives of authorities concerned as per attached List of Attendants.

The presentation of the report was made by Mr. Tomioka, Leader of the JICA Study Team, at the beginning of the meeting, and discussion was held subsequently in the form of question and answer. All contents of the report are basically understood and accepted by the Indonesian side. The main points discussed and confirmed in the meeting are summarized as follows;

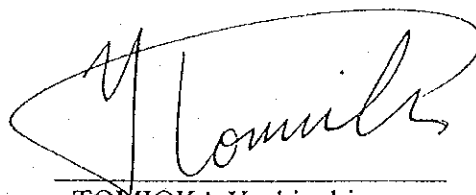
- (1) As a representative of BAPPEDA expressed the concern about land subsidence in low-lying areas of Semarang City, the JICA Study Team explained that it would be attributed to the excessive use of groundwater and emphasized the need of water resources development by Jatibarang Dam and Kedungombo Dam through Klambu Barrage to replace source of water.
- (2) With respect to the urban drainage plan, the Indonesian side proposed that one spare pump should be installed in each pumping station to achieve effective function of the drainage system. The JICA Study Team had no objection on the proposal under the condition of agreement of Indonesian Government on the rise of project cost resulting therefrom.
- (3) P.U.Cipta Karya (Province) posed a couple of questions on (1) how to protect flood-prone areas surrounding Semarang River from being inundated at high tide and (2) budget availability to cover the cost for operation and maintenance of the pumping stations. The JICA Study Team replied in such a way that, for the first question, dike would be constructed on both banks of Semarang River as a protective measure against flooding, and for the second question, it had been confirmed in the meeting with Mr. Murti Wibowo, Chief of P.U.(Municipality) that the budget would be available.
- (4) In response to the question raised by PDAM regarding the potential intake rate after the construction of Jatibarang Dam, the JICA Study Team showed it would be increased by 1.46 m³/sec making its total supply volume of 2.04 m³/sec.

As there is no more question from the Indonesian side, the meeting was closed amicably nearly at noon.

Semarang, November 21, 1997



Ir. Pudjaka
Project Manager
JRATUNSELUNA River
Development Project, Semarang
Ministry of Public Works



TOMIOKA Yoshiyuki
Team Leader
JICA Study Team

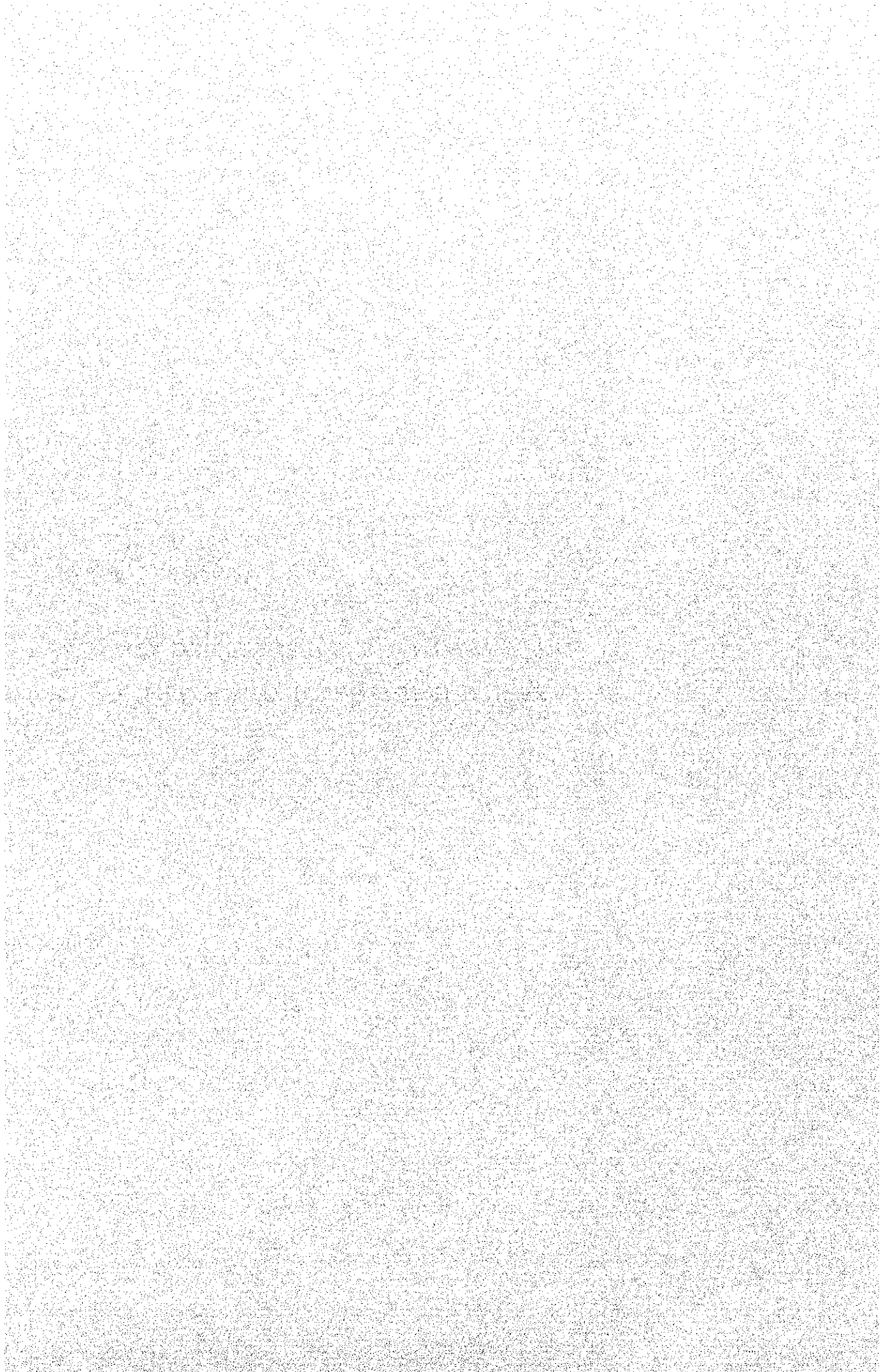
DAFTAR HADIR

Tanggal : 21 Nopember 1997
 Topik : Pembahasan Interim Report I
 Detailed Design of Flood Control, Urban
 Drainage and Water Resources Development in Semarang

NO	NAMA	JABATAN	UTUSAN DARI	TANDA TANGAN
1	TOMIOKA Yoshiyuki	Team Leader	JICA	
2	Furutaguchi Masashi	Rivior Engneer	"	
3	KAGEYAMA Kazuyoshi	Environment	"	
4	KANESHIMA Yasuhisa	Dam planner, Hydrologist	"	
5	SUPANSKAT BORO	Environment & Resettlement	PT Indah Karya	
6	Iskandar Zulkarnain	Ka Cabang	PT IK. Smg	
7	Makruf	Hydrologist	PT IK. Smg	
8	HWAIRANI RHMAT	Riv. Eng. Des	PT. IK. Smg.	
9	IRWADI	DINAS PU PERAIRAN	DINAS PU PENGEIRAN	
10	SUTOMO	PERUMKA	PERUMKA	
11	F. Sigit Hartono	PERUMKA	D 4 Sm	
12	Riwinto	INSPIR CATE	PT PLN PISL JPSM	
13	Rusliyanti	Operator Jarkel	Palasel	
14	Stamet Riyanto	As Cante	- 4 -	
15	Bambang Suroby	Kas Lab	"	
16	Sasmito Aetomo	Kabid FISPR	BAPECO JATENG	
17	Ponny P	Pirapro	PSAPK JATENG	
18	Ahek Sifawati	RAM	Smg	

ANNEX 4

***NINETIES OF MEETING ON
INTERIM REPORT(2), JAKARTA-1***



MINUTES OF MEETING
ON
INTERIM REPORT(2)
OF
THE DETAILED DESIGN
OF
FLOOD CONTROL, URBAN DRAINAGE
AND WATER RESOURCES DEVELOPMENT
IN SEMARANG IN THE REPUBLIC OF INDONESIA

Date : August 5, 1998

Place : Conference room of Secretary Directorate General
Cipta Karya, Cipta Karya Building, Jl. R.Patah I/1, Jakarta

Attendance : Please refer to the attached sheets.

A meeting regarding the captioned report was held between the Directorate of Technical Development, Directorate General of Human Settlements (DGHS), Ministry of Public Works and the local government of Semarang (hereinafter referred to as the Indonesian Side), and JICA Study Team (hereinafter referred to as the Study Team) in the presence of the Advisory Committee of Japan International Cooperation Agency (JICA) (hereinafter referred to as the Japanese Side).

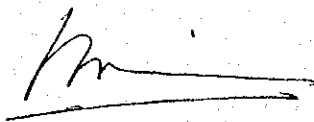
The meeting was called to order at 1:30 p.m. with Mr. Gembong Priyono, the Director General of DGHS, presiding. The Study Team explained the contents of the Interim Report (2) and the Indonesian Side, in principle agreed on the definitive plan of the Improvement of the Urban Drainage System in Semarang Area (hereinafter referred to as "the Project"). The main points discussed and confirmed in the meeting are summarized as follows.

- (1) Director General of DGHS told the meeting that the general concepts of the detailed design of the Urban Drainage Improvement which was established in the Definitive Plan and presented in the Interim Report (2), shall not be changed.
- (2) The Indonesian Side has their own urgent and temporary drainage plan in Bandarharjo Area (West Bandarharjo Area and the Old City Area). However, as the pump facilities by the above plan shall be temporary and be removed after the completion of the Project, it will not affect the detailed design and implementation of the Project.
- (3) The Indonesian Side may consider the reutilization of existing pump facilities (used pump from the other projects) for the proposed pumping stations. However, the Study Team shall continue the detailed design with an idea of new pump facilities.

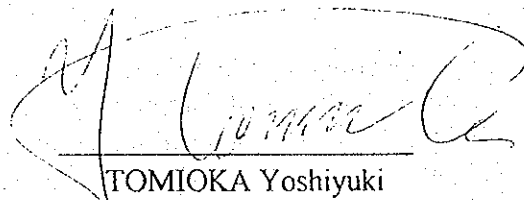
- (4) The Study Team included the cost of walls along both sides of the existing railways, However, the walls will bring problems to the railway, and these problems will be discussed between PERUMKA (National Railway Company) and DGHS. The detailed design of the subject mentioned above shall not be included in the Study but be conducted in the construction implementation stage.

The Indonesian Side, at the end of the meeting, expressed sincere and strong intention of urgent implementation of the Project and is expecting financial support from the Government of Japan.

Jakarta, August 6, 1998

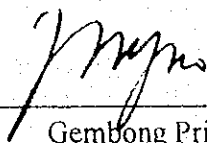


Aim Abdurachim Idris
Director of Directorate of Technical
Development, Directorate General of
Human Settlements,
Ministry of Public Works

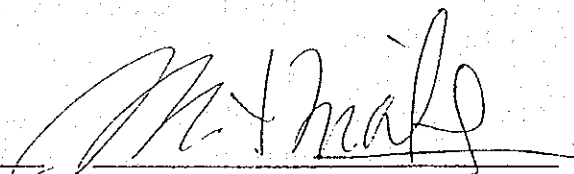


TOMIOKA Yoshiyuki
Team Leader
JICA Study Team

Witnessed by:



Gembong Priyono
Director General of Directorate
General of Human Settlements,
Ministry of Public Works



WATANABE Masayuki
Chairman
JICA Advisory Committee

LIST OF ATTENDANCE

Name	Position
<u>Indonesian Side</u>	
DGHS	
1. Gembong Priyono	Director General, Directorate General of Human Settlements
2. Aim Abdurachim Idris	Director of Directorate of Technical Development, Directorate General of Human Settlements
3. Hari. Sidharta	Secretary of Directorate General of Human Settlements
4. Widia Alfisa	Sub-Director of Environmental Sanitation, Directorate of Technical Development
5. Darminto	Sub-Director of Directorate of Foreign Aid Administration of DGHS
6. Tata Pradana	Project Manager of SSUDP, Semarang City
7. Susmono	Sub-director of Implementation on Central Region II
8. Murti Widowo	Chief of DPU Semarang City
9. Setia Budhy. A	Sub-Director of Directorate of Program Development
10. Reifeldi	Staff of Sub Directorate of Environmental Sanitation, Directorate of Technical Development .
11. Dwityo A. Soeranto	Staff of Sub Directorate of Environmental Sanitation, Directorate of Technical Development .
12. Cut Lisa	Staff of Sub Directorate of Environmental Sanitation, Directorate of Technical Development .
13. Faizal	Staff of Directorate of Program Development
14. Savitri R.	Staff of Sub Directorate of Environmental Sanitation, Directorate of Technical Development .
15. Mohammad S.	Staff of Directorate of Central Region
16. Djoko Ismono	Staff of Provincial PU of Central Jawa
<u>JICA Advisory Committee</u>	
1. WATANABE Masayuki	Chairman

2. MATSUMIYA Yosuke Member

JICA Study Team

1. TOMIOKA Yoshiyuki Team Leader
2. FURUTAGUCHI Masashi Assistance Team Leader/River Planner
3. MIURA Mitsuo City Drainage Engineer

JICA Expert

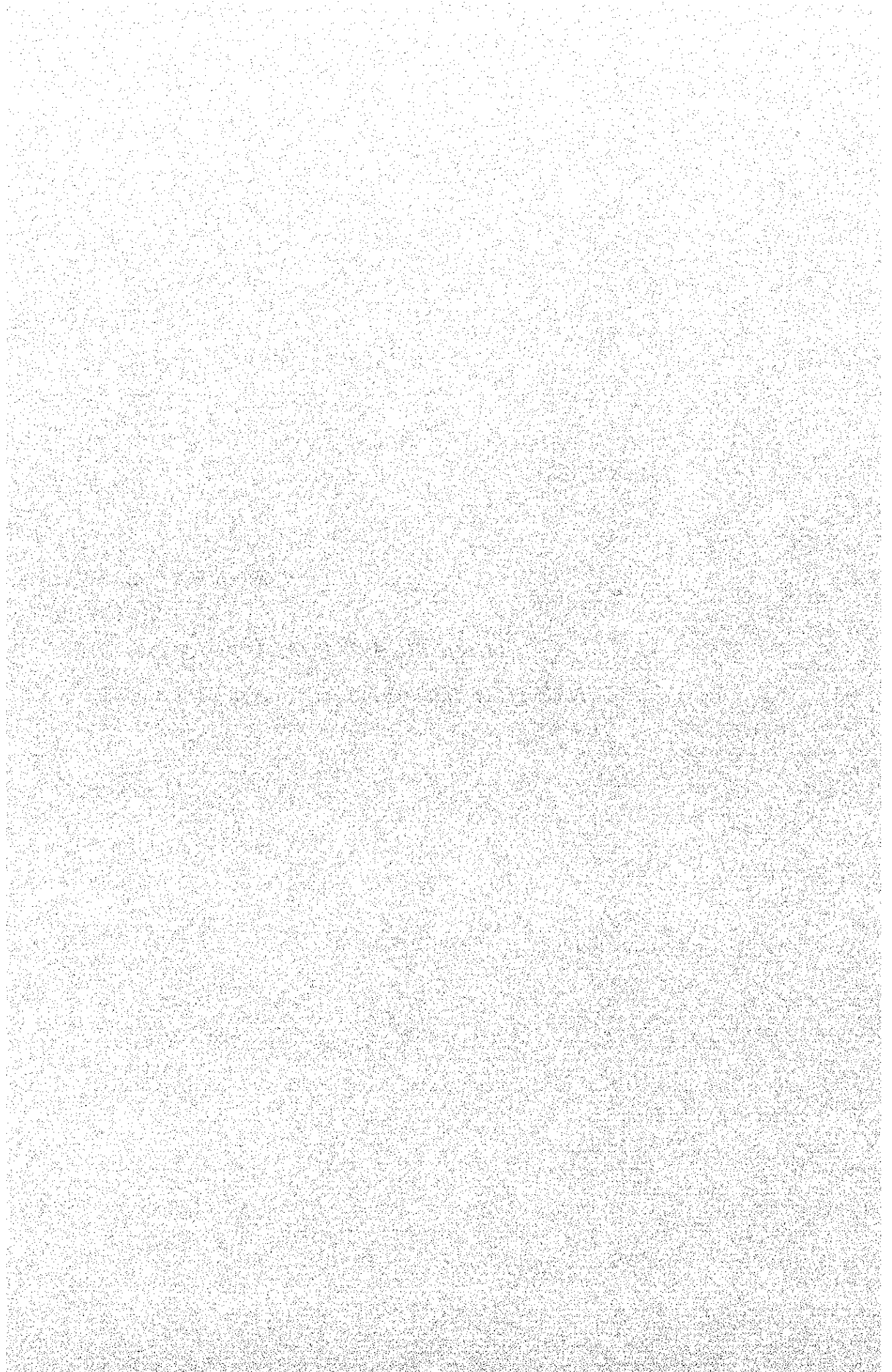
1. UEDA Tatsuhiro JICA Expert on Wastewater & Stormwater Management
2. UMEDA Kazuo JICA Expert on Water Resources Development
3. SHINTAKU Hiroaki JICA Expert on Water Resources Planning and Management

JICA Indonesia Office

1. Kazuto Kitano Assistant Resident Representative , JICA
-

ANNEX 5

**NINETIES OF MEETING ON
INTERIM REPORT(2), JAKARTA-2**



MINUTES OF MEETING
ON
INTERIM REPORT(2)
OF
THE DETAILED DESIGN
OF
FLOOD CONTROL, URBAN DRAINAGE
AND WATER RESOURCES DEVELOPMENT
IN SEMARANG IN THE REPUBLIC OF INDONESIA

A meeting regarding the captioned report was held between the Directorate of Technical Guidance, Directorate General of Water Resources Development (DGWRD), Ministry of Public Works (hereinafter referred to as the Indonesian Side), and JICA Study Team (hereinafter referred to as the Study Team) in the presence of the Advisory Committee of Japan International Cooperation Agency (JICA), (hereinafter referred to as the Japanese Side) on August 4, 1998 at the conference room of DGWRD.

The meeting was called to order at 9:45 a.m. with Ir. Marhuarar Napitupulu Dipl. H.E., the Director of Technical Guidance of DGWRD, presiding. Those present are listed in the attached sheet.

The Study Team gave a briefing on the contents of Interim Report (2) which presents the definitive plan for West Floodway/Garang River Improvement and the study progress regarding the selection of Jatibarang Dam Type.

The contents of Interim Report (2) were in principle, accepted by the Indonesian Side except some points. The main points discussed and confirmed in the meeting are summarized as follows.

- (1) Some questions were made by a staff of the DGWRD, and the Study Team answered them as follows:

(Question 1)

The necessity of the reconstruction of Simongan Weir.

(Answer 1)

The existing Simongan Weir was constructed more than 100 years ago as fixed type weir. Since the weir is fixed type, floods are always dammed up at an upstream side of the weir and it is apparently a main cause of the overtopping of floods in the upper reaches from the weir. A counter measure to delete dam up effect at the upper reaches from the weir is to reconstruct the weir to a gated weir.

(Question 2)

Reasons not to employ a rubber type dam for the reconstruction of Simongan Weir

(Answer 2)

A steel roller type gate was selected for the reconstruction of weir by two reasons; (1) Economically steel roller gate has advantage considering replacement cost and the cost of ceramic coating to resist against sharp edged matters and (2) Easiness to operate the gate to maintain the water level at the

upstream of the weir so that a purification plant of PDAM can intake water from Garang River at any time.

(Question 3)

Water quality test and analysis of sediment material for West Floodway /Garang River.

(Answer 3)

In the Environmental Study conducted in the phase I, water quality and sedimentation analysis were executed by the Study Team and any harmful materials nor heavy metals were found from West Floodway/Garang River.


(Question 4)

Necessity of maintenance excavation for West Floodway /Garang River.

(Answer 4)

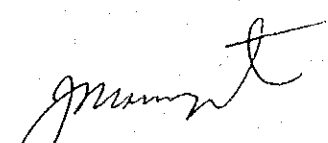
Maintenance excavation for West Floodway/Garang River is quite necessary. However, with regard to frequency of the excavation will be reported in the Maintenance and Operation Manual which is included in the final report.

- (2) As to the structural design of Simongan Weir, the Study Team was requested to clarify that the main gate length of 18.5 m was the most economical dimension and practicable for manufacturing in Indonesia.
- (3) If DGWRD found a better alternative plan for the reconstruction of Simongan Weir which needs cheaper construction cost, fulfill the function to maintain the water level at the upper stream of the weir and has a enough capacity for the design discharge, DGWRD will show the alternative plan to the JICA Study Team within one month.
- (4) Drawings and descriptions which clarify the necessary width of the river mouth of West Floodway, will be presented in the report of Improvement of West Floodway/Garang River to secure the width at the river mouth.
- (5) The sediment yield of $2,550 \text{ m}^3/\text{year}/\text{km}^2$ has been studied in the Feasibility Study to calculate the sediment capacity of Jatibarang Dam Reservoir. The Study Team was requested to show how the value was estimated in the previous Feasibility Study. The Study Team answered to do so.
- (6) With regard to the river basin management including ground water use, land development, quality of river water etc., the chairman requested the JICA Study Team to attend a meeting on Water Utilization and Conservation. The meeting will be held in the office of Directorate of Technical Guidance, DGWRD, and Indonesian Side will inform the date and meeting place to the Study Team.
- (7) JICA Study Team and DGWRD will hold a meeting concerning the structural design criteria for the detailed design. The meeting schedule will be informed later to the Study Team from DGWRD.

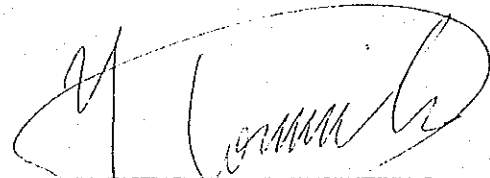
Toward the end of the meeting, Mr. WATANABE Masayuki, the chairman of the JICA Advisory Committee, stressed the following two (2) points: 

- (1) A strong intention to realize the Project should be shown to the Japanese Government.
- (2) In the face of current serious environmental issues in Semarang City, the importance of the river basin management including prevention of land subsidence and uncontrolled land development, improvement of river water qualification etc, should be reminded.

Jakarta, August 6, 1998

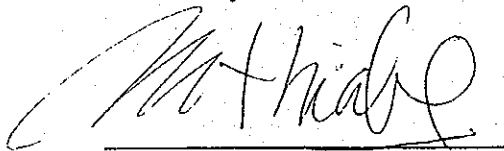


Ir. Marhuarar Napitupulu Dipl. H.E.
Director of Technical Guidance,
Directorate General
of Water Resources Development,
Ministry of Public Works




TOMIOKA Yoshiyuki
Team Leader
JICA Study Team

Witnessed by:



WATANABE Masayuki
Chairman
JICA Advisory Committee

LIST OF ATTENDANCE

Name	Position
<u>Indonesian Side</u>	
DGWRD	
1. Ir. Marhuarar Napitupulu Dipl. H.E.	Director of Technical Guidance, Directorate General
2. Ir. Ketut Kaler M.ENG	Sub-Director of Rivers, Directorate of Technical Guidance
3. Ir. Selamat Diyanto	Stuff of Jratunseluna Project Office
4. Ir. Slamet Budi Santoso Dipl HE	Section Head of Rivers, Directorate of Technical Guidance
5. Ir. Gatot Eko S	Section Head, General Planning for Central Region, Directorate of Planning and Programming
6. Ir. Dicky Supodo	Section Head of Large Structure in Central Region, Directorate of Technical Guidance
7. Djoko Sasongko MSc	Section Head, Directorate of Technical Guidance
8. Ir. Utama Sumintapura Dipl. HE	Section Head, Directorate of Technical Guidance
9. Ir. Zaimuddin	Stuff of Directorate of Technical Guidance
10. Ir. Slomet Diyonto	Stuff of Directorate of Planning and Programming
11. Ir. Triyono Tulus	Stuff of Directorate of Planning and Programming
12. Ir. Baru Panjaitan	Stuff of Directorate of Planning and Programming
<u>JICA Advisory Committee</u>	
1. WATANABE Masayuki	Chairman
2. MATSUMIYA Yohsuke	Member
<u>JICA Study Team</u>	
1. TOMIOKA Yoshiyuki	Team Leader
2. FURUTAGUCHI Masashi	Assistance Team Leader/River Planner
3. MIURA Mitsuo	City Drainage Engineer
4. MISHINA Takahiro	Dam Engineer 

JICA Expert

1. UMEDA Kazuo

JICA Expert on Water Resources Development

2. UEDA Tatsuhiro

JICA Expert on Wastewater & Stormwater Management

JICA Indonesia Office

1. TAKEUCHI Tomoko

Assistant Resident Representative, JICA



