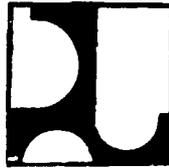


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REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL CIPTA KARYA
DIRECTORATE OF SANITARY ENGINEERING

CONTRACT FOR CONSULTANT SERVICES
FOR
SURAKARTA WATER SYSTEM
NO. 01/WS-S/II/AID/78
AID LOAN 497-U-044

MONTHLY PROGRESS

REPORT NO. 6
MARCH 1979

BURNS & McDONNELL ENGINEERING COMPANY, INC.
AND
TRANS-ASIA ENGINEERING ASSOCIATES, INC.
A JOINT VENTURE

BEST AVAILABLE DOCUMENT

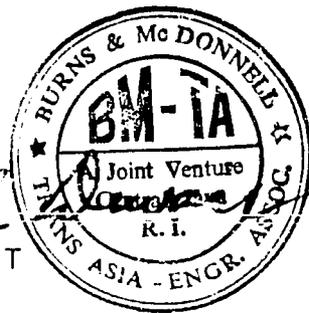
REPORT NO. 6

SURAKARTA WATER SYSTEM
CONSULTING ENGINEERING SERVICES

PROGRESS REPORT
FOR THE MONTH OF MARCH
1979

SUBMITTED BY :

Donald Dewart
DONALD DEWART
Chief Engineer



PREPARED BY :

BURNS & Mc DONNELL ENGINEERING CO., INC
TRANS-ASIA ENGINEERING ASSOCIATES, INC
A Joint Venture
KOTAK POS 105
SURAKARTA, INDONESIA

TABLE OF CONTENTS

SECTION		PAGE
1	NARRATIVE SUMMARY	1
1A	GENERAL	1
1B	MAJOR PROBLEMS	1
2	ADMINISTRATION	2
2A	SUBMISSIONS/APPROVALS	2
2B	CONFERENCES	2
3	SCHEDULES	4
3A	PROGRESS	4
3B	WORK SCHEDULED FOR NEXT MONTH	5
4	ENGINEERING AND MANAGEMENT	7
4A	CONSTRUCTION OF TRANSMISSION PIPELINE	7
4B	GROUNDWATER INVESTIGATION AND DEVELOPMENT	7
4C	MANAGEMENT ASSISTANCE TO SURAKARTA WATER ENTERPRISE	8
4D	OPERATION AND MAINTENANCE ASSISTANCE TO SURAKARTA WATER ENTERPRISE	8
5	PERSONNEL	9
6	APPENDIX	

cont.d/.....

TABLE OF CONTENTS
(Continued)

SECTION

- 6 APPENDIX
 - I LETTERS SENT DURING MARCH
 - II LETTERS RECEIVED DURING MARCH
 - III REPORT OF MAN-MONTHS EXPENDED BY
THE CONSULTANT
 - IV REPORT OF ENGINEERING COSTS
 - V ACTIVITY FLOW DIAGRAM
CONSTRUCTION OF TRANSMISSION PIPELINE
 - VI ACTIVITY FLOW DIAGRAM
GROUNDWATER EXPLORATION AND
DEVELOPMENT
 - VII ACTIVITY FLOW DIAGRAM
MANAGEMENT ASSISTANCE TO SURAKARTA
WATER ENTERPRISE
 - VIII ACTIVITY FLOW DIAGRAM
OPERATION AND MAINTENANCE ASSISTANCE
PROGRAM
 - IX SCHEDULE OF ENGINEERING ACTIVITIES
PERCENT COMPLETED END OF MARCH 1979
 - X UPPER SOLO BASIN MAP
 - XI PROJECT LOCATION MAP
 - XII MEMORANDUM OF MONTHLY CONFERENCE

SECTION 1
NARRATIVE SUMMARY

1A GENERAL

Preliminary engineering work is continuing prior to letting contracts for construction of the proposed water supply transmission pipeline from Cokrotulung spring to Surakarta.

Groundwater exploration work is continuing; data is being organized for a preliminary report in May.

Investigation of well drilling contractors was completed. Draft of well drilling contract was prepared.

The Management Specialist and the Operation and Maintenance Specialist continued involvement in the activities of the Surakarta Water Enterprise, including assistance in planning for expansion of the O & M support facilities and personnel.

1B MAJOR PROBLEMS

A permit is still pending, to be issued by Bina Marga to Cipta Karya, to locate the proposed transmission pipeline in the right-of-way of the Yogyakarta-Kartasura-Surakarta highway, from the Wonosobo River to the Surakarta City boundary.

SECTION 2
ADMINISTRATION

2A SUBMISSIONS/APPROVALS

Consultant's Invoice No. 5 for February U.S. Dollar reimbursible expenses was submitted to Cipta Karya in Jakarta on 4 March.

Consultant's Rupiah Invoice No. 3 was submitted to Cipta Karya in Semarang on 12 March.

Consultant's Invoice No. 6 for March U.S. Dollar reimbursible expenses was submitted to Cipta Karya in Jakarta on 31 March.

The third rupiah payment to the Consultant, in accordance with Schedule B of APPENDIX II of the Contract, was received in Surakarta on 8 March.

2B CONFERENCES

2B1 Meeting with P.T. Geodata.

In Yogyakarta on 7 March, Dr. Sukendar Asikin, Director of P.T. Geodata discussed with BM/TAE representatives the possibility of making underground electrical resistivity studies at Surakarta.

2B2 Monthly Project Conference on 13 March.

The monthly project conference was held in Jakarta at the Cipta karya office on 13 March, attended by representatives of Directorate of Sanitary Engineering, Surakarta Water Enterprise, US Agency for International Development, and Burns & McDonnell/Trans-Asia.

Topics of discussion were :

Permit from Bina Marga to locate the transmission pipeline in the right-of-way of the Yogyakarta - Surakarta highway from Wonosobo River to Solo City boundary.

Additional space and personnel requirements of the Surakarta Water Enterprise.

Transportation contract for trucking off-shore purchased pipeline materials from Semarang to Solo.

Storage areas at Solo from pipeline materials.

Status of work on the groundwater exploration program.

Management and O & M assistance to the Surakarta Water Enterprise.

Additions to the Surakarta Water distribution system.

A detailed memorandum of the conference is in the APPENDIX.

2B3 Meeting at Central Java Potable Water office in Semarang.

At Semarang on 20 March the contract for trucking off-shore purchased materials from Semarang to Solo was discussed by Messrs. Suwandi and Harsono of Central Java Potable Water Project, and Donald Dewart and A.F. Dengah of BM/TAE.

2B4 Conference at Surakarta Water Project office in Solo.

On 29 March, Messrs. Suwandi Sanudi and Oemarsidik Hadiasmoro of Directorate of Sanitary Engineering and Mr. Soedarto of the Surakarta Water Enterprise visited the BM/TAE office in Solo to discuss the contract for trucking off-shore purchased materials, and the areas available in Solo for locating facilities required for expansion of operation and maintenance services by the Surakarta Water Enterprise.

**SECTION 3
SCHEDULES**

3A PROGRESS

3A1 Procurement Off-Shore Material.

Pipe, fittings, appurtenances, and equipment are being produced by factories in the U.S.A. First shipment left New Orleans on 19 March, and is due to arrive at Semarang on 30 April. Coordination work is 99% complete.

3A2 On-Shore Transportation of Off-Shore Purchased Material.

Investigation of facilities and capacities of prospective transportation contractors has been completed. Report of ratings will be complete and submitted on 2 April. Contract document for transport of material from Semarang to Surakarta storage is complete and will be submitted 2 April. Advisory work is 50% complete and is on schedule.

3A3 Construction of Transmission Pipeline.

Investigation of prospective construction contractors is under way and will be completed during May. Advisory work is 25% complete. Pipeline construction is rescheduled to start 1 August.

3A4 Groundwater Investigation and Development.

Hydrogeological data taking and analysis is on schedule and 85% complete.

Prequalifying, tendering, and awarding drilling contract. Advisory work is 95% complete and is 4 weeks behind schedule.

Prequalifying of prospective drilling contractors is complete.

Drilling contract has been drafted. Work is 80% complete.

3A5 Management Assistance to Surakarta Water Enterprise.

Work is on schedule and is 31% complete.

3A6 Operation and Maintenance Technical Assistance to Surakarta Water Enterprise.

Advisory work is on schedule and is 15% complete.

3A7 Meter Maintenance Assistance

Work scheduled to start 1 June 1979.

3B WORK SCHEDULES FOR NEXT MONTH

Continue coordination of procurement of off-shore purchased material.

Assist Cipta Karya in issuing bid invitations to prospective contractors for on-shore transportation contract.

Continue investigation of prospective contractors for construction of transmission pipeline.

Complete groundwater data taking. Complete writing report. Submit report on investigation of prospective well drilling contractors.

Submit well drilling contract documents, and assist in bid tendering, bid analysis and awarding of contract.

Continue management advisory services to the Water Enterprise:

Assistance implementing of recommended procedures on Construction Cost Accounting.

Assistance in implementation of recommended procedures on purchasing inventory.

Monitoring of the progress in the preparation of materials needed for the implementation of cycle billing.

Supervision and assistance in the general accounting work.

Continue O & M assistance to the Water Enterprise.

Continue preparing O and M Manual.

Continue preparing a program of O & M training.

SECTION 4 ENGINEERING AND MANAGEMENT

4A CONSTRUCTION OF TRANSMISSION PIPELINE

Off-shore Purchase of Pipeline Materials.

Production continues on materials purchased in U.S.A.

First shipment of pipe and materials departed New Orleans 19 March on Motorship "Green Harbor", estimated to arrive at Semarang on 30 April.

On-shore transportation of Materials Purchased Off-shore.

Draft of transportation contract will be submitted to Cipta Karya in early April, with report on results of inspection of eligible transportation contractors' facilities. Locations of sites approved for materials storage areas are shown in APPENDIX, XII

Transmission Pipeline .

Plans showing proposed location of the pipeline in the highway right-of-way between Wonosobo River bridge and Surakarta City boundary have been submitted to Bina Marga. Also cross-sections of the highway showing the proposed pipe location have been submitted.

4B GROUNDWATER INVESTIGATION AND DEVELOPMENT

Completed draft of drilling contract.

Completed evaluation of eleven drilling contractors.

Prepared description of standards for types of soil and rocks.

Discussed proposal for conducting electrical resistivity underground studies with Dr. Sukendar Asikin, Director of P.T. Geodata. His written proposal was forwarded to Central Java Potable Water Project, Semarang on 19 March.

Reconnaissance of areas 1 - 4 was a basis for proposed resistivity study.

Suitable locations were found in each project area. This reconnaissance also included an area located within the Surakarta city limits.

Continued plotting hydrogeological data on 1 : 25,000 scale topographic maps.

Development of structural Geology of area No. 1 and adjacent areas west and east which included: strike and dip survey, photographic documentation of outcrops and structural Geology, collation of acquired well log information with the site Geology of the Project Area.

4C MANAGEMENT ASSISTANCE TO SURAKARTA WATER ENTERPRISE

4C1 Work Done

Furnished assistance to the Accounting Staff in general accounting work.

Furnished assistance and supervision in the implementation of the new cycle billing schedule.

Reviewed the present procedures on purchasing, receipt and issuance of materials and supplies.

Assisted in developing an expanded organization structure of the Water Enterprise.

Assisted in preparing a new water rate schedule.

4D OPERATION AND MAINTENANCE ASSISTANCE TO SURAKARTA WATER ENTERPRISE

Continued preparation of O & M Manual.

Participated in preparing a brief report on the additional personnel and space requirements of the Surakarta Water Enterprise up to the year 2000 A.D. The report will be submitted to Cipta Karja on 2 April.

Assisted in supervision of construction of the new building at the Water Enterprise center to be used for storing and maintenance of new equipment purchased off-shore.

SECTION 5
PERSONNEL

The Surakarta office personnel in March were as follows :

Donald Dewart, Chief Engineer
arrived 20 September 1978

Bernardo Bayongan, Management Specialist
arrived 5 November 1978

James T. Beirn, Hydrogeologist
arrived 5 November 1978

Thomas G. Fodor, O & M Specialist
arrived 25 December 1978 with spouse

Joseph J. Palka, Drilling Specialist
arrived 22 March 1979

A.F. Dengah, Counterpart Chief Engineer
arrived 8 November 1978

Suyatno Yuwono, Counterpart Hydrogeologist
arrived 5 January 1979

Mohammad Khalil, Materials Coordinator
arrived 2 October 1978

Dradjat Atmardjo, Office Manager
arrived 2 October 1978

Danardio, Draftsman
arrived 22 January 1979 - left 31 March 1979

Ambar Istiningsih, Secretary
arrived 1 January 1979

Yonathan Djowi, Accountant
arrived 2 December 1978

Aryani Karnasih, Administrative Clerk
hired 8 January 1979

Soeparmanto Soekiman, Technical Translator
hired 14 February 1979

Hariyanto Santosa, Interpreter/Labourer
hired 7 February 1979

Rubiyo, Clerk
hired 1 November 1978

Dewi Yulianti, Typist
hired 7 February 1979

Ermita Taher, Supply Clerk
hired 19 March 1979

Arum Munawar, Copy Machine Operator
hired 8 March 1979

Djumhan Hardy, Expeditor/Labourer
hired 2 January 1979

Pamudji Rahardjo, Driver
hired 2 October 1978

Budi Dwi Putranto, Driver
hired 4 January 1979

Bambang Sugiyanto, Driver
hired 20 February 1979

Soewarno, Office Boy

hired 1 November 1978

Mulyatmono, Watchman /Labourer

hired 9 October 1978

LETTERS SENT DURING MARCH 1979

NUMBER & DATE	TO	FROM	SUBJECT
43/BM/TAE/SKA/79 3 March 1979	Gaveksi, Semarang.	BM/TAE, Surakarta.	Requesting list of ship cargo expeditors in Semarang.
44/BM/TAE/SKA/79 1 March 1979	Directorate of Sanitary Engineering Cipta Karya, Jakarta.	do.	Forwarding project monthly progress reports No. 4 and 5.
45/BM/TAE/SKA/79 5 March 1979	Sycep, Gorres, Velayo & Co., Jakarta.	do.	Forwarding a copy of February Report by B. Bayongan.
46/BM/TAE/SKA/79 5 March 1979	Trans-Asia Engr. Assoc. Inc., Manila, Phillipines.	do.	Personal letter by J.T. Beirn.
47/BM/TAE/SKA/79 6 March 1979	USAID, Jakarta.	do.	Forwarding a copy of Feb. project progress report.
48/BM/TAE/SKA/79 6 March 1979	P.T. Advaita, Jakarta.	do.	Sending request for information from prospect- ive drilling contractor.
49/BM/TAE/SKA/79 6 March 1979	P.T Citra Indonesia, Jakarta.	do.	do.
50/BM/TAE/SKA/79 6 March 1979	P.T. Djasa Ubersakti, Jakarta.	do.	do.
51/BM/TAE/SKA/79 6 March 1979	P.T. Pem- angunan, Jakarta.	do.	do.
52/BM/TAE/SKA/79 6 March 1979	P.T. Cakra Enterprise, Yogyakarta.	do.	do.
53/BM/TAE/SKA/79 6 March 1979	P.T. Sarang Tehnik, Jakarta.	do.	do.
54/BM/TAE/SKA/79 6 March 1979	P.T. Sumber Cipta Jaya, Jakarta.	do.	do.

LETTERS SENT DURING MARCH 1979 (cont'd)

NUMBER & DATE	TO	FROM	SUBJECT
55/BM/TAE/SKA/79 6 March 1979	P.T. Sigma Tirta, Jakarta.	do.	Sending request for information from prospect- ive drilling contractor.
56/BM/TAE/SKA/79 6 March 1979	P.T. Panca Niaga, Jakarta.	do.	do.
57/BM/TAE/SKA/79 6 March 1979	P.T. Nindya Karya, Jakarta.	do.	do.
58/BM/TAE/SKA/79 6 March 1979	P.T. Lepen Kencana, Jakarta.	do.	do.
59/BM/TAE/SKA/79 6 March 1979	P.T. karsa Tulada Utama, Jakarta.	do.	do.
60/BM/TAE/SKA/79 6 March 1979	P.T. Kali Raya Sari, Jakarta.	do.	do.
61/BM/TAE/SKA/79 6 March 1979	P.T. Indisi, Bandung.	do.	do.
62/BM/TAE/SKA/79 6 March 1979	P.T. ise Tehnik Jakarta.	do.	do.
63/BM/TAE/SKA/79 6 March 1979	P.T. Hari Subur & Sons, Jakarta.	do.	do.
64/BM/TAE/SKA/79 6 March 1979	P.T. Engineera Indonesia, Jakarta.	do.	do.
65/BM/TAE/SKA/79 6 March 1979	P.T. Jacolin Fitrab, Jakarta.	do.	do.
66/BM/TAE/SKA/79 6 March 1979	P.T. Tehnik Umum, Jakarta.	do.	do.
67/BM/TAE/SKA/79 6 March 1979	P.T. Waskita Kajima Corp. Jakarta.	do.	do.

LETTERS SENT DURING MARCH 1979 (cont'd)

NUMBER & DATE	TO	FROM	SUBJECT
68/BM/TAE/SKA/79 6 March 1979	P.T. Waskita Karya, Semarang.	BM/TAE, Surakarta.	Sending request for information from prospective drilling contractor.
69/BM/TAE/SKA/79 6 March 1979	P.T. Wijaya Karya, Semarang.	do.	do.
70/BM/TAE/SKA/79 6 March 1979	P.T. Tukad Mas, Surabaya.	do.	do.
71/BM/TAE/SKA/79 6 March 1979	Central Java Potable Water Project, Surakarta.	do.	Sending a copy of February monthly progress report.
72/BM/TAE/SKA/79 6 March 1979	Directorate of Sanitary Engineering, Jakarta.	do.	Sending 15 copies of February monthly progress report.
73/BM/TAE/SKA/79 7 March 1979	American Cast Iron Pipe Co., Birmingham, U. S. A.	do.	Requesting information on handling water pipes.
74/BM/TAE/SKA/79 7 March 1979	Dr. Sukendar Asikin, Bandung.	do.	Requesting confirmation of verbal proposal for subsurface electrical resistivity studies.
75/BM/TAE/SKA/79 15 March 1979	P.T. Sumber Tjipta Djaya, Jakarta.	do.	Requesting a copy of the manifest of shipments of material from American Cast Iron Pipe Co.
76/BM/TAE/SKA/79 15 March 1979	Central Java Potable Water Project, Semarang.	do.	Confirming sending 10 copies of February monthly progress report.
77/BM/TAE/SKA/79 15 March 1979	Surakarta Water Enterprise.	do.	Sending one copy of monthly progress report
78/BM/TAE/SKA/79 15 March 1979	Directorate of Sanitary Engineering, Jakarta.	do	Sending 15 copies of monthly progress reports No. 1, 2, 3 & 5.

LETTERS SENT DURING MARCH 1979 (cont'd)

NUMBER & DATE	. TO	FROM	SUBJECT
79/BM/TAE/SKA/79 15 March 1979	Directorate of Sanitary Engineering, Jakarta.	BM/TAE, Surakarta.	Sending copy each of monthly progress reports No. 1, 2, 3 & 4. and confirming sending report No. 5.
80/BM/TAE/SKA/79 15 March 1979	USAID, Jakarta.	do.	Confirming transmittal 8 copies of each monthly progress reports No. 1, 2 and 3.
81/BM/TAE/SKA/79 19 March 1979	Central Java Potable Water Project, Surakarta.	do.	Confirming transmittal of maps of proposed location of Water Supply Pipeline.
82/BM/TAE/SKA/79 19 March 1979	Central Java Potable Water Project, Semarang.	do.	Proposal for electrical resistivity work by Geodata.
83/BM/TAE/SKA/79 21 March 1979	Directorate of Sanitary Engineering, Cipta Karya, Jakarta.	do.	Groundwater exploration program.
84/BM/TAE/SKA/79 22 March 1979	Central Java Potable Water Project, Semarang.	do.	Revision of electricity supply to Solo office.
85/BM/TAE/SKA/79 28 March 1979	Central Java Potable Water Project, Surakarta.	do.	Memo of Monthly Conference on 13 March.
86/BM/TAE/SKA/79 29 March 1979	Tax Office Directorate General of Taxes, Semarang.	do.	1978 Income tax inform- ation.
87/BM/TAE/SKA/79 31 March 1979	BM/TAE, Jakarta.	do.	Monthly account report for the month of March.
Telex 17 March 1979	Burns & MacDonnell, Kansas City, Mo. (copy to BM/TAE, Surakarta).	do.	Requesting pipe manufacturer's recommend- ations on pipe storage.

LETTERS RECEIVED DURING MARCH 1979

NUMBER & DATE	TO	FROM	SUBJECT
72/TU/2/79 28 February 1979	BM/TAE, Surakarta.	Health Laboratory Section, Semarang.	Physical and chemical potable water tests.
334/Sp.3/III/79 2 March, 1979	do.	First Indra Co., Jakarta.	Johnson Water Well Screens.
754/PAM/JT/III/79 3 March 1979	Immigration Office, Semarang. (copy to BM/TAE, Surakarta).	Central Java Potable Water Project, Semarang.	Exit/Reentry Visa for Thomas G. Fodor.
178/PAM/I/II/79 24 February 1979	Surakarta Water Enter- prise. (copy to BM/TAE, Surakarta).	Central Java Potable Water Project, Surakarta.	Confirming the need for an English speaking person & for more space at the Water Enterprise.
BM/192/sI/79 8 March 1979	BM/TAE, Surakarta	CV. Bengawan Motor, Surakarta.	Accessories for Toyota Land Cruiser.
769/PAM/JT/III/79 7 March 1979	do.	Central Java Potable Water Project, Semarang.	Notice of monthly meeting on 13 March 1979.
28 February 1979	BM/TAE, Surakarta.	Burns & McDonnell, Kansas City, MO.	Sending copy of the "Handbook of PVC Pipe.
26 February 1979	do.	do.	Water Department specifications and regulations.
6 March 1979	do.	GAVEKSI Storage & Expediting Company, Semarang.	List of expeditors in Semarang.
6 March 1979	do.	Burns & McDonnell, Kansas City, MO.	Depth of cover on water pipe under highway.

LETTERS RECEIVED DURING MARCH 1979 (Continued)

NUMBER & DATE	TO	FROM	SUBJECT
27 February 1979	Clow Corporation International sales, Birmingham AL., U. S. A. (copy to BM/TAE, Surakarta).	Burns & McDonnell, Kansas City, MO.	Acceptance of bill of materials list E, Gate Valve Acces- sories.
2/B4/i/k.79 9 March 1979	Central Java Potable Water Project, Semarang. (copy to BM/TAE, Surakarta).	Mayor of Surakarta Municipality.	Approving proposed transmission pipe- line construction in Solo.
3/1/B4/K/79	do.	do.	Approval of 4 sites for storing pipe and fittings.
-	BM/TAE, Surakarta.	Central Java Potable Water Project, Semarang.	Vehicle No. 4 Toyota Land Cruiser.
07-9/Pens.PLN/III /79.	do.	Pensiunan Electric Bureau,	Confirming completion of electric changes at Jl. Gumuk 7.
9 March 1979	The Rohan Company, Moore, U. S. A. (copy to BM/TAE, Surakarta).	Burns & McDonnell, Kansas City, MO.	Off-shore purchase List L- Water Meters.
12 March 1979	Clow Corporation International Divisions, U. S. A. (copy to BM/TAE, Surakarta).	do.	Off-shore purchase List F - Control Valves.
12 March 1979	BM/TAE, Surakarta.	do.	Sending handbook Ductile Iron and Cast Iron Pipe.

LETTERS RECEIVED DURING MARCH 1979 (Continued)

NUMBER & DATE	TO	FROM	SUBJECT
509/D/79 16 March 1979	BM/TAE, Surakarta.	P. T. Geodata, Jakarta.	Proposal to make subsurface electrical resistivity studies in Solo and vicinity.
343/PAM/1-/79 19 March 1979	do.	Surakarta Water Enterprise.	Transmitting map of their property lay out in Solo.
HL 01 02 11 23 February 1979	USAID, Jakarta. (copy to BM/TAE, Surakarta).	Directorate of Sanitary Engineering,	Secondary/Tertiary distribution system potable water project.
14 March 1979	BM/TAE, Surakarta.	Burns & McDonnell, Kansas City, MO.	Sending clay Pipe Engineering Manual.
1700/11b 17 March 1979	do.	Telecommunication State Enterprise, Surakarta.	Telephone exchange.
786/PAM/JT/111/79 10 March 1979	do.	Central Java Potable Water Project, Semarang.	Reminder that budget year ends 31 March.
31 January 1979	Clow Corporation International, U. S. A. (copy to BM/TAE, Surakarta).	Burns & McD II, Kansas City, MO.	Off-shore purchase Lists N and E, castings and Gate Valves.
2 February 1979	do.	do.	Off-shore purchase Lists D and F, Valve accessories and air release valve.
16 March 1979	Dietrich Standard Corporation U. S. A. (copy to BM/TAE, Surakarta).	do.	Off-shore purchase List G, Flow Meters.

LETTERS RECEIVED DURING MARCH 1979 (Continued)

NUMBER & DATE	TO	FROM	SUBJECT
190/PAM.I/III/79 26 March 1979	BM/TAE, Surakarta.	Central Java Potable Water Project, Surakarta.	Transmitting prints of four drawings, sections & layout of transmission pipeline in highway right of way.
19 March 1979	do.	American C.I. Pipe Company, Birmingham, AL.	Handling and storage of ductile iron pipe.
192/PAM I/III/79 27 March 1979	Central Java Public Works, Surakarta. (copy to BM/TAE, Surakarta).	Central Java Potable Water Project Surakarta.	Requesting estimate of cost of replacing asphalt pavement in road where transmission pipeline will be located.
12 March 1979	BM/TAE, Surakarta.	PT. EMKL. Mega Laut, Semarang.	Prospective off-shore purchase trucking contractor's response to information request.
9 March 1979	do.	PT. EMKL. Marabunta Semarang, Semarang.	do.
9 March 1979	do.	PT. EMKL. Intra veem, Semarang.	do.
12 March 1979	do.	PT. Bintang Harapan, Semarang.	do.
12 March 1979	do.	PT. Veem & EMKL. Mpu Tantular Lyoyd, Semarang.	do.
12 March 1979	do.	PT. EMKL. Rama Sinta, Semarang.	do.
10 March 1979	do.	PT. EMKL. Central Mar, Semarang.	do.
20117479 14 March 1979	do.	PT. Advaita, Jakarta.	Prospective drilling contractor's response to information request.

LETTERS RECEIVED DURING MARCH 1979 (Continued)

NUMBER & DATE	TO	FROM	SUBJECT
066/CE/111/79 19 March 1979	BM/TAE, Surakarta.	PT. Cakra Enterprise, Yogyakarta.	Prospective drilling contractor's response information request
15 March 1979	do.	PT. Citra Indonesia, Jakarta.	do.
16 March 1979	do.	PT. Engineera Indonesia, Jakarta.	do.
227/3-79/ind 14 March 1979	do.	PT. Indisi, Bandung.	do.
606/A.7/JF/3/79 16 March 1979	do.	PT. Jacolin Fitrib, Jakarta.	do.
KRS/UD/DT 80/316/79 15 March 1979	do.	PT. Kaliraya Sari Jakarta.	do.
221/KTU/JKT/79 16 March 1979	do.	PT. Karsa Tulada Utama, Jakarta.	do.
15 March 1979	do.	PT. Lepen Kencana, Jakarta.	do.
14 March 1979	do.	PT. Pantja Niaga, Jakarta.	do.
005/K/U.pta.li. 79 17 March 1979	do.	TT. Pembangunan Malang.	do.
17 March 1979	do.	PT. Sarang Tehnik, Jakarta.	do.
04/P/STE/111/79 12 March 1979	do.	PT. Sigma Tirta Engineering, Jakarta.	do.
007/U/DT/1979 17 March 1979	do.	PT. Sumber Tjipta Djaya, Jakarta.	do.
J.100/Toku/081 15 March 1979	do.	PT. Tehnik Umum, Jakarta.	do.

LETTERS RECEIVED DURING MARCH 1979 (continued)

NUMBER & DATE	TO	FROM	SUBJECT
14 March 1979	BM/TAE, Surakarta.	PT. Tukadmas, Surabaya.	Prospective drilling contractor's response to information request.
052/Waska/IV-3/79 17 March 1979	do.	PT. Waskita Kajima Corp. Indonesia, Jakarta.	do.
14 March 1979	do.	PT Waskita Karya, Yogyakarta.	do.
022/Prakw/VIII/79	do.	PT. Wijaya Karya, Surabaya.	do.
TELEX 19 March 1979	BM/TAE, Jakarta. (forwarded to BM/TAE, Solo).	Burns & McDonnell, Kansas City, MO.	Information about storage of ductile iron pipe.
28 March 1979	BM/TAE, Surakarta.	Ratna Electric Bureau, Surakarta.	Bid proposal to rewire the Surakarta office of Cipta Karya.
28 March 1979	Directorate of Sanitary Engineering Cipta Karya, (copy to BM/TAE, Surakarta).	PT Sumber Tjipta Djaya, Jakarta.	Off-shore purchase shipping information- copy of TELEX from American C.I. Pipe Company.
28 March 1979	BM/TAE, Surakarta.	Burns & McDonnell, Kansas City, MO.	Sending Water Construction Standard Manual.

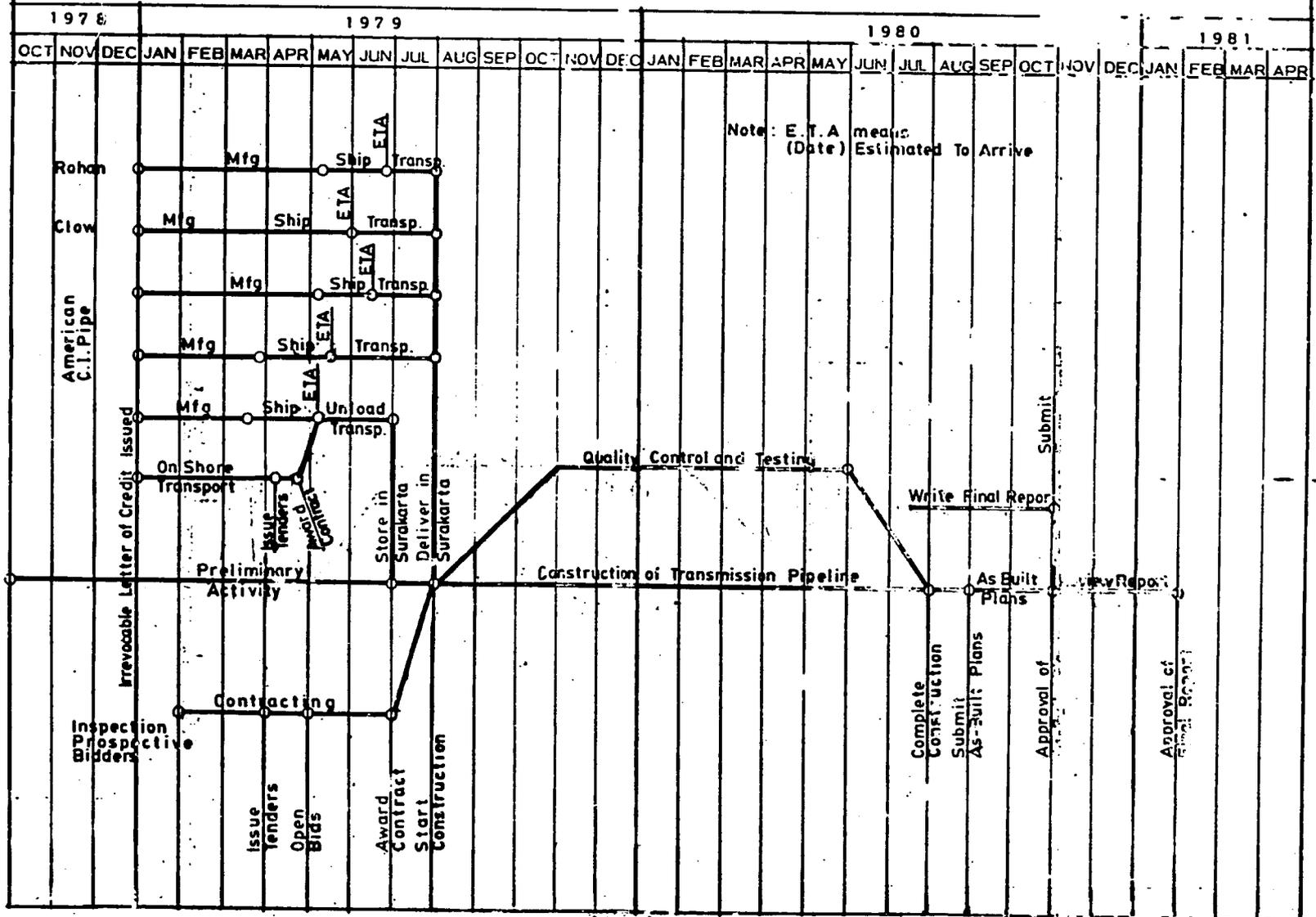
SURAKARTA WATER PROJECT
 REPORT OF MAN-MONTHS EXPENDED BY CONSULTANT
 BURNS & MCDONNELL/TRANS-ASIA ENGINEERING ASSOCIATES

CONTRACT NUMBER 01/WS-S/AID/78 AID LOAN 497-U-044	MAN - MONTHS			
	FOR MARCH 1979	CUMULATIVE THROUGH 31 MARCH	% OF TOTAL SCHEDULE	TOTAL IN CONTRACT SCHEDULE
PERSONNEL				
EXPATRIATES				
Principal Liaison Officer	0	0.3	15 %	2
Procurement Engineer	0.03	0.45	20.2	3
Chief Engineer	0	6.5	100	6.5
Pipeline Engineer	1	6.0	30	20
Hydrogeologist	0	0	0	16
Drilling Specialist	1	4.6	38.3	12
Management Specialist	0	0	0	12
O & M Specialist	1	4.6	28.8	16
Meter Specialist	1	3.4	16.2	21
EXPATRIATE TOTAL	0	0	0	8
	4.03	25.8	22.2 %	116.5
INDONESIAN PROFESSIONAL & TECHNICAL				
Counterpart Chief Engineer	1	4.6	23 %	20
Construction Supervisor	0	0	0	14
Hydrogeologist	1	2.8	18.7	15
Materials Coordinator	1	6	42.8	14
Inspectors	0	0	0	48
Draftsman	0.4	1	6.2	16
Translator	1	1.8	15	12
Accountant	1	4	18.2	22
INDON. PROF. & TECH	5.4	20.2	12.5 %	161
INDONESIAN ADMINISTRATIVE				
Office Manager	1	6	30 %	20
Secretary	1	6	30	20
Typist	1	1.6	7.3	22
Clerks	3	8.7	19.8	44
Drivers	3	10	12.5	80
Laborers	4.1	16.3	10.2	160
ADMINISTRATIVE TOTAL	13.1	48.6	14.0 %	346

SURAKARTA WATER PROJECT
REPORT OF ENGINEERING COSTS
BURNS & MCDONNELL/TRANS-ASIA ENGINEERING ASSOC.

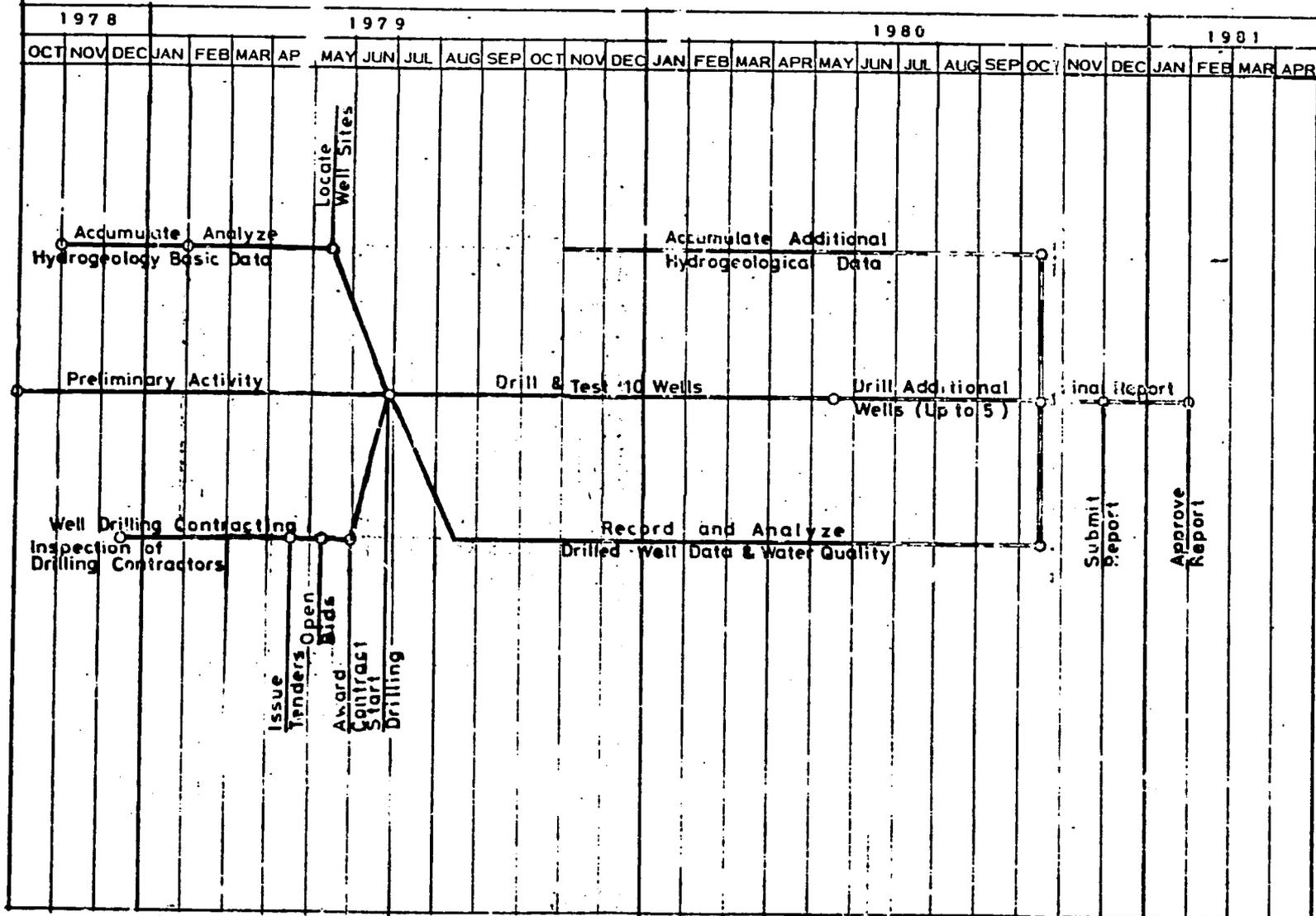
CONTRACT NO. 01/WS-S/AID/78 SIGNED 26 OCT. 1978 START 1 JAN. 1978 END 31 JAN. 1981 REIMBURSABLE EXPENDITURE	COSTS FOR MARCH, 1979	RELATIVE COSTS THROUGH 31 MARCH 1979		CUMULATIVE PAYMENTS THROUGH 31 MARCH 1979			TOTAL BUDG. ESTIMATE FOR CONTRACT
		AMOUNT	% OF TOTAL BUDGET ESTIMATE	AMOUNT RECEIVED IN MARCH	TOTAL AMOUNT RECEIVED THROUGH 31 MARCH	% OF TOTAL BUDGET ESTIMATE	
U S DOLLARS							
Salaries and Related Costs	21,891.06	159,051.59	25.9 %	21,891.06	137,160.53	22.4 %	\$612,922
Transportation	1,077	10,864.54	17.9	-	9,787.54	16.1	60,638
Equipment	-	-	-	-	-	-	36,000
Miscellaneous	1,500	26,981	81.3	-	25,481	77.2	33,181
Training	-	-	-	-	-	-	14,544
Contingencies	-	-	-	-	-	-	75,779
TOTAL DOLLARS	24,468.06	196,897.13	23.6 %	21,891.06	172,429.07	20.7 %	\$ 833,014
INDONESIAN RUPIAH							
Salaries	3,025,000	11,209,999	15.7 %	5,386,666	8,334,999	11.7 %	71,150,000
Transportation	1,451,357	9,161,640	32.4	2,212,205	7,831,333	27.8	29,195,000
Housing	-	23,200,000	72.6	-	23,200,000	72.6	31,950,000
Vehicle Costs	7,210,771	24,007,591	95.8	6,250,843	16,832,820	67.2	25,050,000
Equipment Costs	297,500	5,340,610	40.6	2,373,300	4,746,610	36.1	13,153,000
Miscellaneous	1,196,590	8,332,020	33.7	1,430,515	7,423,305	30.1	24,670,000
Contingencies	5,136,000	5,921,800	30.4	5,785,800	5,785,800	29.8	19,416,960
TOTAL RUPIAH	18,317,218	87,173,660	40.8 %	26,000,000	74,154,867	34.7 %	213,586,560

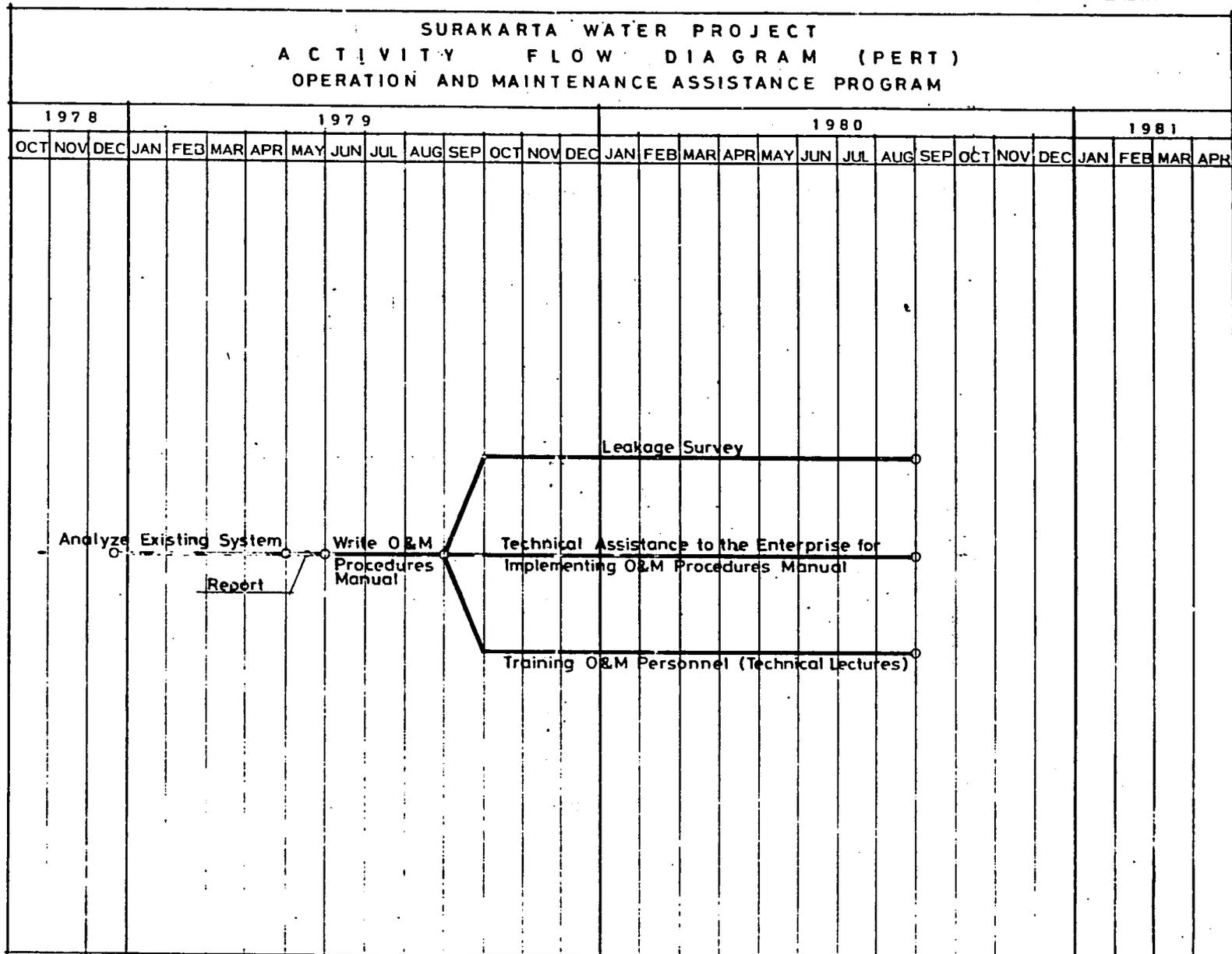
**SURAKARTA WATER PROJECT
ACTIVITY FLOW DIAGRAM (PERT)
CONSTRUCTION OF TRANSMISSION PIPELINE**



BURNS & MCDONNELL ENGINEERING CO.
TRANS-ASIA ENGINEERING ASSOCIATES, INC.

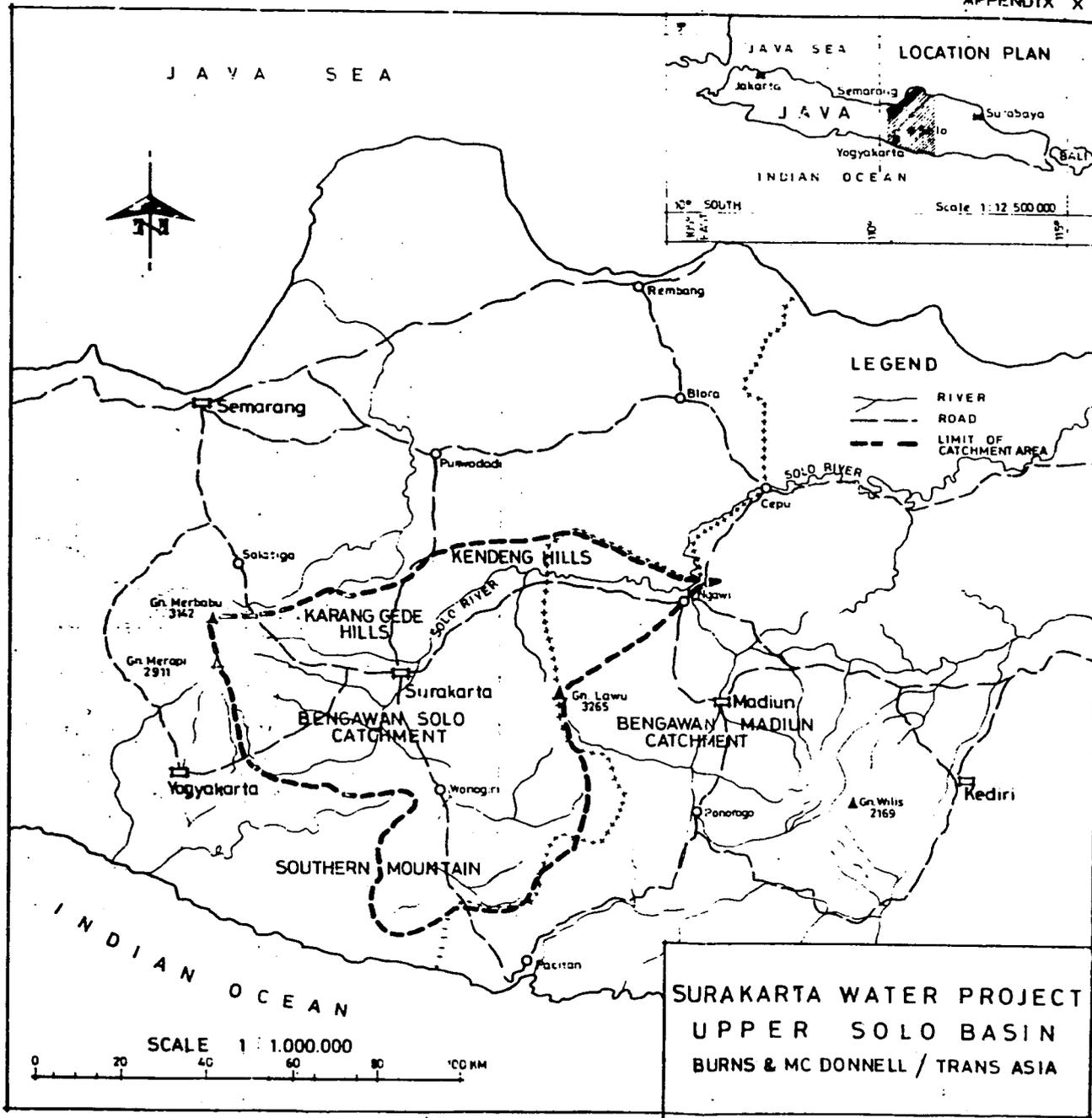
**SURAKARTA WATER PROJECT
ACTIVITY FLOW DIAGRAM (PERT)
GROUND WATER EXPLORATION AND DEVELOPMENT**



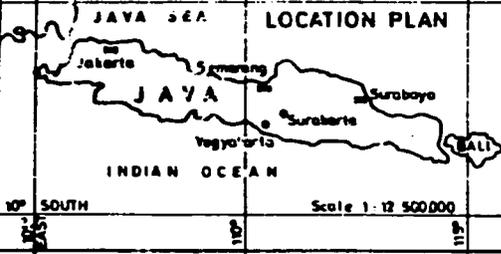
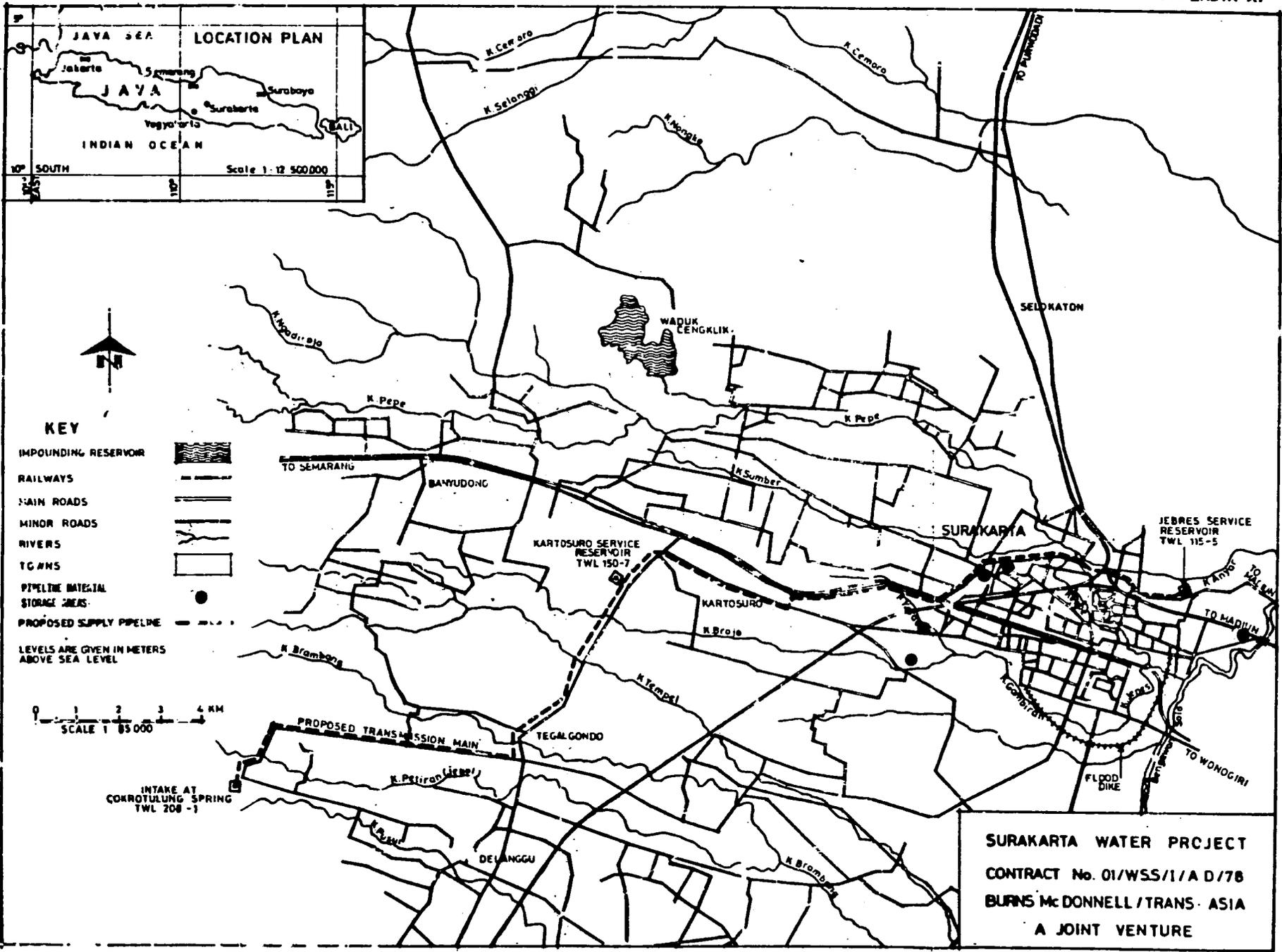


**SURAKARTA WATER PROJECT
SCHEDULE OF ENGINEERING ACTIVITIES
PERCENT COMPLETED AT END MARCH 1979**

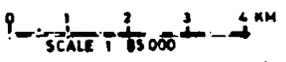
CONTRACT NO. 01/WS-S/11D/78 SIGNED 26 OCT 1978. END 31 JAN. 1981.	1978			1979												1980					1981														
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB						
PROCUREMENT OF OFF-SHORE MATERIAL OFF-SHORE COORDINATION ADVISE DURING UNLOADING AND TRANSPORTATION TO STORAGE	0																																		
	99%		10%		50%		100%		0																										
CONSTRUCTION OF TRANSMISSION PIPELINE ADVISE ON PREQUALIFYING, TENDERING & AWARDED CONTRACT CONSTRUCTION SUPERVISION PREPARATION OF AS BUILT DRAWINGS AND FINAL REPORT	0																																		
	25%		100%		0																														
	0																																		
	100%																																		
GROUNDWATER DEVELOPMENT HYDROGEOLOGICAL DATA TAKING AND ANALYSIS, AND WELL SITE DETERMINATION PREQUALIFYING, TENDERING, AND AWARDED DRILLING CONTRACT SUPERVISION OF DRILLING AND DEVELOPING WELLS PREPARE FINAL REPORT	0																																		
	85%		100%		0																														
	80%		100%		0																														
	0																																		
	100%																																		
MANAGEMENT TRAINING PROGRAM	0																																		
	100%																																		
OPERATION AND MAINTENANCE TRAINING	0																																		
	100%																																		
METER REPAIR TRAINING	0																																		
TOTAL WORK SCHEDULED	0																																		
TOTAL WORK COMPLETED	28%																																		



SURAKARTA WATER PROJECT
UPPER SOLO BASIN
 BURNS & MC DONNELL / TRANS ASIA



- KEY**
- IMPOUNDING RESERVOIR
 - RAILWAYS
 - MAIN ROADS
 - MINOR ROADS
 - RIVERS
 - TGAMS
 - PIPELINE INTAKE
 - STORAGE AREAS
 - PROPOSED SUPPLY PIPELINE
- LEVELS ARE GIVEN IN METERS ABOVE SEA LEVEL



INTAKE AT
KOKROTULUNG SPRING
TWL 208-1

SURAKARTA WATER PROJECT
 CONTRACT No. 01/WSS/1/A D/78
 BURNS Mc DONNELL / TRANS-ASIA
 A JOINT VENTURE

MEMORANDUM OF MONTHLY CONFERENCE

The Surakarta Water Project monthly conference was held at Cipta Karya office in Jakarta on 13 March 1979, attended by :

Mr. Oemarsidik Hadasromo	Directorate of Sanitary Engineering, Cipta Karya (DSE).
Mr. Prijono Salim	do.
Mr. Soepeno Moeksan	do.
Mr. Nur Burhanuddin	do.
Mr. Darmawan Saleh	do.
Mr. Soewandi Sanudi	do.
Mr. Harsono	do.
Mr. Soedarto	Surakarta Water Enterprise (SWE).
Mr. Robert Davis	US Agency for International Development (USAID).
Mr. Paul Thorn	do.
Mr. Eddie Kristiawan	do.
Mr. Fred Midgett	Burns & McDonnell/Trans-Asia Engineering Assoc. (BM/TAE).
Mr. Donald Dewart	do.
Mr. Thomas Fodor	do.
Mr. James Beirn	do.
Mr. Bernado Bayongan	do.
Mr. A.F. Dengah	do.

At 10.30 a.m. Mr. Oemarsidik opened the meeting.

BM/TAE were invited to report on the status of the work.

Transmission Pipeline

A set of plans, scale 1 : 1000, showing dimensions of proposed location of pipeline in the public highway right-of-way between Wonosobo River and the City boundary in the Yogyakarta to Kartasura to Surakarta highway, (under the jurisdiction of Bina Marga) has been sent to Bina Marga to obtain a permit for construction.

Advisory services to Surakarta Water Enterprise.

BM/TAE reported immediate need to plan and execute expansion of office and maintenance building at headquarters area in Solo, to provide classroom space for operation and maintenance educational activities and for storage and operation of the new equipment (now under production) to be delivered in Solo within six months.

BM/TAE further described requirements for additional personnel, for a central maintenance and repair facility, and for other O & M centers to be developed and staffed at convenient locations in Solo as the need becomes apparent.

At the suggestion of USAID, BM/TAE agreed to prepare a brief report and recommendation on immediate and long range additional personnel and space requirements for the Water Enterprise, for use in budget planning. The report to be ready on 1 April.

Contract for transportation of off-shore purchased material from Semarang port to Solo.

DSE discussed the procedures required for clearing duty-free materials through the customs agency at Semarang port. DSE has appointed agent in Semarang who will receive shipping documents and expedite clearance through the port.

DSE, Semarang will issue bid tenders for the transportation contract upon receipt of a cablegram from the U.S shipper listing materials included in each ship's manifest documents, as the ship departs from U.S. port.

Responsibility for damage during shipping :

Shipper, - until material has been placed on the dock in Semarang port.

Cipta Karya, - while material is stored in the dock area at Semarang.

Transportation contractor, - from dock area onto truck and until in place in Cipta Karya storage areas at Solo.

Cipta Karya, - while material is in storage in Solo.

Construction contractor, - while loading, transporting, unloading, and laying in permanent location in pipe trench.

BM/TAE will inspect materials (1) in Semarang dock storage, (2) after unloading into Solo storage areas, and (3) when being installed in permanent location by construction contractor.

BM/TAE will submit first draft copy of transportation contract to DSE, Semarang on 15 March.

Material storage areas in Solo.

Six sites have been selected and approved. Sketches of recommended pipe stockpiling arrangements in storage are being prepared by BM/TAE.

Groundwater exploration program.

BM/TAE reported on geological formations in Solo area. The scope of the forthcoming electric resistivity underground study was discussed.

DSE expressed desire to locate one of the planned deep-wells in the southwest part of urban Solo. BM/TAE agreed to examine this proposal and report their findings.

Management assistance to the Surakarta Water Enterprise.

The program was discussed. BM/TAE answered some questions about the progress in implementing the program.

Operation and maintenance assistance to the Surakarta Water Enterprise.

BM/TAE agreed to submit a report of preliminary findings describing additional personnel requirements, a work program, and the results to be obtained, to be ready on 1 April.

Additions to the Surakarta water distribution system.

BM/TAE stated that their proposal for the engineering of the additions has been referred to the Kansas City office of the Joint Venture for their input and approval.

Meeting ended at 1:50 p.m.