



**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/I/AID/78
AID LOAN 497-U-044**

MONTHLY PROGRESS

**REPORT NO. 41
MAY 1982**

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



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BURNS & McDONNELL Engineering Co.

Architect - Engineers

A JOINT VENTURE

Consultants - Planners

TRANS - ASIA Engineering Associates, Inc.

Please Reply to : Kotak Pos 105
Surakarta

114/BM/TAE/SKA/82
01 June 1982

Mr. Soesanto Mertodiningrat, Director
Directorate of Sanitary Engineering
Directorate General Cipta Karya
Jl. Pattimura No. 20
Kebayoran Baru
Jakarta Selatan

Subject : Contract for the Consultant Services for
Surakarta Water System No. 01/WS.S/I/AID/78
dated 28 October 1978 as Amended 23 July 1981.

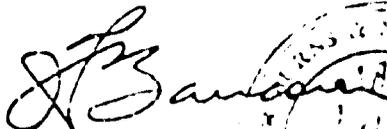
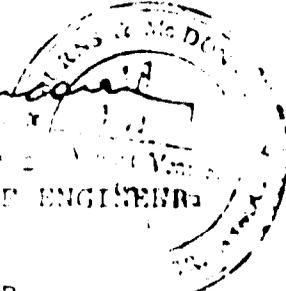
Dear Sir,

In accordance with Section 4.12 and Appendix I of the subject
Contract, we are pleased to submit fifteen copies of the Month-
ly Report No. 44 for the Month of May 1982.

We trust that this report will meet with your approval.

Very truly yours,

BURNS & MC DONNELL ENGINEERING CO.
TRANS-ASIA ENGINEERING ASSOC., INC.

J.F. BAUCUM
ACTING CHIEF ENGINEER

cc	: CJWSP	Semarang	(10 copies)
	USAID	Jakarta	(5 copies)
	SM/TAE	Jakarta	(2 copies)
	Burns & McDonnell	Kansas City	(1 copy)
	CJWSP I	Surakarta	(1 copy)
	SNE	Surakarta	(1 copy)
	Mayor of Surakarta	Surakarta	(1 copy)
	File		

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TABLE OF CONTENTS

SECTION	TITLE	PAGE
I	GENERAL	1
I-A	NARRATIVE SUMMARY	1
I-B	PROBLEMS AND PROPOSED SOLUTIONS	2
II	ADMINISTRATION	3
II-A	SUBMISSIONS/APPROVALS	3
II-B	CONTRACT STATUS	3
II-C	PERSONNEL	3
III	ENGINEERING AND MANAGEMENT	6
III-A	OFF-SHORE PURCHASED MATERIALS	6
III-B	CONSTRUCTION SUPERVISION	7
III-C	GROUNDWATER EXPLORATION AND WELL DEVELOPMENT PROGRAM	9
III-D	MANAGEMENT ASSISTANCE PROGRAM	9
III-E	O & M TRAINING AND ASSISTANCE PROGRAM	10
III-F	METER REPAIR TRAINING PROGRAM	11
III-G	NEW WATER DISTRIBUTION NETWORK DESIGN	11
III-H	CONFERENCES	11
III-J	ACTIVITIES PLANNED FOR NEXT MONTH	12

Cont'd

TABLE OF CONTENTS
(Continued)

SECTION	TITLE	PAGES
IV	APPENDICES	
I	REPORT OF MAN-MONTHS EXPENDED BY THE CONSULTANT	1 of 1
II	REPORT ON ENGINEERING COSTS	1 of 1
III	CHART-TECHNICAL WORK APPROACH	1-3 of 3
IV	MAP OF SURAKARTA PROJECT COMPLETION STATUS	1 of 1
V	MAP OF 1985 DISTRIBUTION SYSTEM SHOWING PHASES - REPLACEMENT PROGRAM	1 of 1
VI	OFF-SHORE PROCUREMENT SHIPPING SCHEDULE	1 of 1
VII	FINAL INSPECTION - PUNCH LIST PHASE I DISTRIBUTION MAINS	1-2 of 2
VIII	BID EVALUATION PHASE III DISTRIBUTION PIPE MAINS	1-3 of 3
IX	FINAL INSPECTION - PUNCH LIST PHASE II BATH HOUSE NOS. 3-5 & 3-7	1-2 of 2
X	SURAKARTA WATER ENTERPRISE STATUS REPORT-CUSTOMERS, METERS & PUBLIC FACILITIES	1-3 of 3
XI	MINUTES OF MONTHLY PROGRESS MEETING	1-2 of 2
XII	DIGEST OF TERTOMOYO SWIMMING POOL OPERATIONS PREPARED BY SURAKARTA WATER ENTERPRISE	1-12 of 12 & Att. 1
XIII	CHART - SURAKARTA WATER SUPPLY PROJECT WITH PROJECT STATUS RECAP. NO. 11-3	1-4 of 4

SECTION I
GENERAL

I-A NARRATIVE SUMMARY

Phase IV Contractor on the restoration of the public latrines began work 10 May which will make his completion date 07 September 1982. There remains some problems with the public at various locations in that some parts of the planned work is objected to by them for one reason or another. The Surakarta D.P.U. has been requested to provide a determination on the matter and advise the Project.

A final inspection was conducted on the first phase of the distribution main construction. The second phase is to a point that a final inspection could be made at any time. Notice to proceed was given to the lowest responsive bidder for Phase III the last week of May. He is presently in the process of mobilization for the start of work.

The Director General, Cipta Karya, has signed the Amendment 3 to the Consultant Contract and it has been passed on to other agencies in the process of gaining for Cipta Karya tax exemption for the import of the off-shore procurement. A waiver was received for one shipment to come on other than Code 941 vessel from AID. All suppliers have provided estimated shipping and delivery to Port dates along with shipping weights. This information was forwarded to the Project Manager to implement a freight forwarding Contract for the goods from Semarang to the O & M Facilities at Surakarta.

A final inspection was started on Phase II of the bath house construction and public latrine restoration work. Due to not having the water turned on at all locations, the inspection was postponed to allow time for such work to be completed. To expedite completion, the Phase II Distribution Main Contractor was requested to install the ϕ 75mm main to bath house No. 3-5 in Kelurahan Pucangsawit in lieu of the replacement ϕ 75 mm adjacent to Pasar Legi. It has been decided the latter will not be done.

The leak survey is nearing the halfway mark on the first time around the City. The Consultant has been requested to attempt completion of the first 360° survey prior to the terminal date of the Consultant Contract. It has been impressed to all by the Consultant that such a survey is a never-ending process. The second time around, however, the individual customers will not have to be contacted as the meter readers should be doing that in the normal course of their daily work. The Surakarta Water Enterprise continues to expand their network and customer count.

I-B PROBLEMS AND PROPOSED SOLUTIONS

It appears that time is being lost through the procedures required to add to the original pipe and accessory supply Contract. The project Manager is following up on the requirement with the DSE Logistics to get an early commitment to ship.

Deletions of work as a result of actions by the local public will have to be resolved by the Surakarta Department of Public Works as they are the maintaining agency of the City. Based upon their determination, the Project and/or Consultant will direct the Contractor.

SECTION II
ADMINISTRATION

II-A SUBMISSIONS/APPROVALS.

Consultant's Invoice No. 44 for April 1982 U.S. Dollar reimbursible expenses was submitted to Cipta Karya on 06 May 1982 and was approved by Cipta Karya on 15 May 1982.

Consultant's Rupiah Invoice No. 29 for April 1982 submitted to Cipta Karya on 12 May 1982 was approved on the same date.

These submittals are in accordance with the Contract Appendix II, page II-15.

II-B CONTRACT STATUS.

Appendix I shows the continuation of Consultant's effort in man-months from the beginning of the Contract.

Appendix II shows the billing of approved expenditures to date.

II-C PERSONNEL.

The Surakarta Office personnel in May 1982 were as follows

E x p a t r i a t e s

- James F. Baucom, Acting Chief Engineer
arrived 26 September 1979
- Albert G. Ringler, O & M Specialist
arrived 09 May 1980

Indonesian Professional and Technical

- Mohammad Khalil, Materials Coordinator
arrived 09 October 1978
- Mohamad Syarif Lembah, Construction Supervisor
arrived 01 May 1979
- Gatot Bramono, Inspector
arrived 19 November 1979
- Soewanto, Inspector
arrived 11 March 1980
- Abdul Rasyid, Inspector
arrived 11 June 1981
- Susena, Draftsman
arrived 20 October 1980

Administrative :

- Dradjat Atmardjo, Office Manager
arrived 02 October 1978

- Haryani Pudyastuti, Secretary
hired 17 November 1980

- Rubiyo, Clerk
hired 01 November 1978

- Pamudji Rahardjo, Driver
hired 02 October 1978

- Sutrisno, Driver
hired 02 April 1979

- Puranto, Driver
hired 17 October 1980, Resign on 14 May 1982

- Tukino, Office Boy/Labor
hired 10 November 1980

SECTION III
ENGINEERING AND MANAGEMENT

III-A OFF-SHORE PURCHASED MATERIALS	US.\$ COMMITTED	% PAID (ASSUMED)	US. \$ BAL. DUE
III-A-1 Direct Cipta Karya Procurement Contract			
III-A-1-1 American Cast Iron Pipe Co. Ductile Iron Pipe & Fittings Contract certified complete 01/02/80	2,595,511.60	100	- 0 -
III-A-1-2 Colcorindo Raya Flow Metering Equipment Contract certified complete 07/04/80	3,462.00	100	- 0 -
III-A-1-3 Rohan Corporation Water Meters, Repairs Parts- Tools & Equipment Contract certified complete 06/07/81	668,712.83	100	- 0 -
III-A-1-4 Clow Corporation Casting, Auto Air Vents & Valves. Contract certified complete 15/05/81	125,912.00	100	- 0 -
III-A-1-5 Ford Meter Box Company Brass Valves Parts & Acces- sories. Contract certified complete 12/02/81	390,775.15	100	- 0 -
Sub Total III-A-1 :	3,784,373.58	100	- 0 -

III-A-2 Special Equipment Procurement/Consultant Contract

III-A-2-1	Western International Leak Detectors & Pipe Locators Complete	2,496.14	100	- 0 -
III-A-2-2	Kennedy,MacLane Distribution Network Valves Complete	58,546.40	100	- 0 -
III-A-2-3	Laboratory Equipment-Variou Sources - Complete	11,303.54	100	- 0 -
III-A-2-4	Publication & Reference Data Various Sources - Complete	1,465.85	100	- 0 -
III-A-2-5	Repair Parts For Clow Various Sources - Complete	228.51	100	- 0 -
III-A-2-6	O & M Facility Outfitting Various Sources - Partial	83,901.30	15.1	71,202.61
III-A-2-7	Well Water Pumping Equipment Various Sources	156,439.66	- 0 -	156,439.66
	Sub Total III-A-2 :	314,381.40	27.59	227,642.27
	Total US \$	4,098,754.98	94,446	227,642.27

III-B CONSTRUCTION SUPERVISION

A final inspection was made on Phase I Distribution Main construction (see appendix VII) during the month of May. The contractor has turned in as-built drawings and photograph albums as required by the Contract Documents. Upon correction of the discrepancies noted on the punch list, the work will be certified as complete.

The Phase II contractor has completed all of the scheduled work with the exception of replacement of an old main adjacent to Pasar Legi which has been determined to be in better condition than as first believed. The Project has made an agreement with the contractor to install a like amount of the same size pipe near bath house 3-5 to help expedite delivery of needed water to that facility. It is expected the final inspection on Phase II will be conducted by mid June.

The bid evaluation of the Phase III Tenders was completed and a recommendation made by the Consultant to award the Contract to the lowest responsive bidder (see appendix VIII). On 26 May the Consultant was informed the Contractor for Phase III would, in fact, be P.T. Teknik Umum. It will be early June before construction will be started on Phase III with the priorities as : complete supply to bath house No. 3-5 ; Kelurahan Gajahan, Keprabon, Jayengan and Nusukan. Completion of the work in those areas will satisfy the total twenty two kelurahan which were agreed to be included in the distribution design. Phase III will also include a sizeable amount of secondary loop piping and attendant fire protection system expansion. Twenty nine fire hydrants have been included in Contracts to date and when Phase III is completed the number will have increased to forty three.

The fourth phase of the public latrine restoration program officially started 10 May with an anticipated completion date of 07 September 1982. As of this report, this contractor has procured all water service and door material and is working on twelve units all for a total completion percentage of 26.34. The other three contractors continue on their respective Contracts and a

final inspection was started on Phase II. The contractor did not have water service connections at various locations so the inspection was stopped pending being able to observe structures with water for testing purposes (see appendix IX). The progress has been hampered somewhat because of the shortage of funds. The contractors held off submitting their invoices too long so that they had to stop work until payment could be made. These contractors are economically weak but are used as part of the GOI effort to help small businesses. The project has enlisted the Consultant to prepare invoices for the contractors to further help them in the administration of this work. It is necessary that USAID expedite the funds to the Project to ensure payment may be made to the contractors on time. The entire bath house and public latrine work is considered to be in excess of 75% finished. There are still isolated cases where latrines that are scheduled to be remodeled are being demolished by the citizens of the adjacent kampungs for one reason or another. The Consultant has requested DPU to provide their recommendation regarding the situation.

The PLN electric poles have now been erected near test well TW-2 at Jabung village. It is anticipated the last of the water well pumping equipment will be in port on the first of September 1982 (see appendix VI). Final pump house layout drawings are being held pending receipt of the generator and the electrical panel dimensional data from the supplier.

III-C GROUNDWATER EXPLORATION AND WELL DEVELOPMENT PROGRAM

Completed.

III-D MANAGEMENT ASSISTANCE PROGRAM

Completed.

III-E O & M TRAINING AND ASSISTANCE PROGRAM

The leak survey is presently being conducted along Jl. Urip Sumoharjo and in Kelurahan Jebres. Drawings of the replacement transmission main at the former location done in 70/71 and 74/75 are being studied in an effort to locate an obvious large loss of water. It is believed that there remains one or more old connections which need to be disconnected from the old transmission main. The equivalent of 170⁰, or 47.2% of the old system has been surveyed to date. The same general conditions prevail regarding follow-up work as has been previously reported. The Project has requested the Consultant to concentrate on the survey and canvassing of the customers in the remaining time the Consultant is on the job.

The Surakarta Water Enterprise has been moving water meters and supplies out of the proposed O & M machine shop so that the equipment can be positioned as it is received. The first major shipment of O & M equipment was loaded for shipment from the United States on 25 May with an anticipated arrival at the Port of Semarang on or about 25 June 1982. To date, none of the work has been done to build the storage bins or shelves. The Project has been requested to expedite the work so that training may begin upon setting of the equipment in its proper place.

The Surakarta Water Enterprise continued to install ϕ 50 mm tertiary piping during the month of May in Kelurahan Manahan and Nusukan. Their contractor also installed 650± meters of replacement piping in Kelurahan Gilingan, 100 ± meters north from Line "L" in Kelurahan Nusukan so that bath house No. 3-1 could be supplied with water and set fire hydrant No. 29 at the Pasar Nusukan.

The contractor used the test pump bought in the original off-shore procurement from The Rohan Co. to test the Gilingan installation to six atmospheres. The test proved to be good and was witnessed by the O & M Specialist. The replacement program is now 57.6% complete and the Surakarta Water Enterprise has reported 1,076 water meters have been installed of the 2,000 purchased for replacement (see appendix X).

During the monthly meeting (see appendix XI) the Surakarta Water Enterprise provided their digest of the operations of the Tirtomoyo Swimming Pool (see appendix XII). The statements made by the Surakarta Water Enterprise backs up the statement regarding the wasted water made by the Consultant in Monthly Report No. 38 for November 1981 under Section I-B PROBLEMS AND PROPOSED SOLUTIONS.

III-F METER REPAIR TRAINING PROGRAM

Completed.

III-G NEW WATER DISTRIBUTION NETWORK DESIGN

Completed.

III-H CONFERENCES

11 May 1982 : Meeting with Phase IV Public Latrine contractor who advised he had already surveyed 15 sites and will start 5 septic tanks immediately. He was cautioned to keep the facilities operational. The valve and fitting samples he presented were accepted for use. The contractor was asked submit a sample of the proposed PVC water pipe.

12 May 1982 : Meeting at the Perumnas Project Office in Surakarta with their representatives, a representative of their consultant, DHV Engineers, the Project and PDAM wherein the Consultant advised DHV Engineers to revise their water distribution plan to incorporate the line sizes for the loop as indicated on the Project's master plan. A preliminary pump house layout drawing was provided to DHV Engineers for defining the interface between the piping to be installed as part of the pump house and the distribution piping installed by the Perumnas Project. A preliminary shipping schedule was also provided on the water well pumping equipment. It was stated the first housing would be ready for occupancy in July of 1982 but without any source of water, they may have to postpone sales. A suggestion was made that Perumnas have as a part of their distribution main contract a requirement for the contractor to supply a temporary well pump and make it operational on the well head of test well TW-1. The bridge being constructed on the proposed route of the Ø150 distribution main to be installed by the Phase III contractor will have sleeves and anchor bolts cast in place by the Perumnas contractor as coordinated to support the distribution pipe. DHV Engineers were advised the permanent well pump was planned to only operate 12 to 20 hours per day and it appeared their proposed reservoir would be too small.

18 May 1982 : Monthly Progress Meeting in Surakarta (see appendix XI).

III-J ACTIVITIES PLANNED FOR NEXT MONTH

Continue with final inspections on the work as it becomes ready. Start Phase III construction work and continue with other ongoing activities. Try to expedite receipt of goods, both in-country and

off-shore procurement. Complete cleaning out the O & M machine shop space and attempt to have necessary work done so equipment can be set. The O & M training and leak survey will be continued.

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

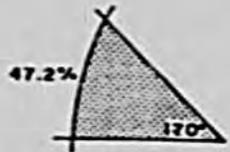
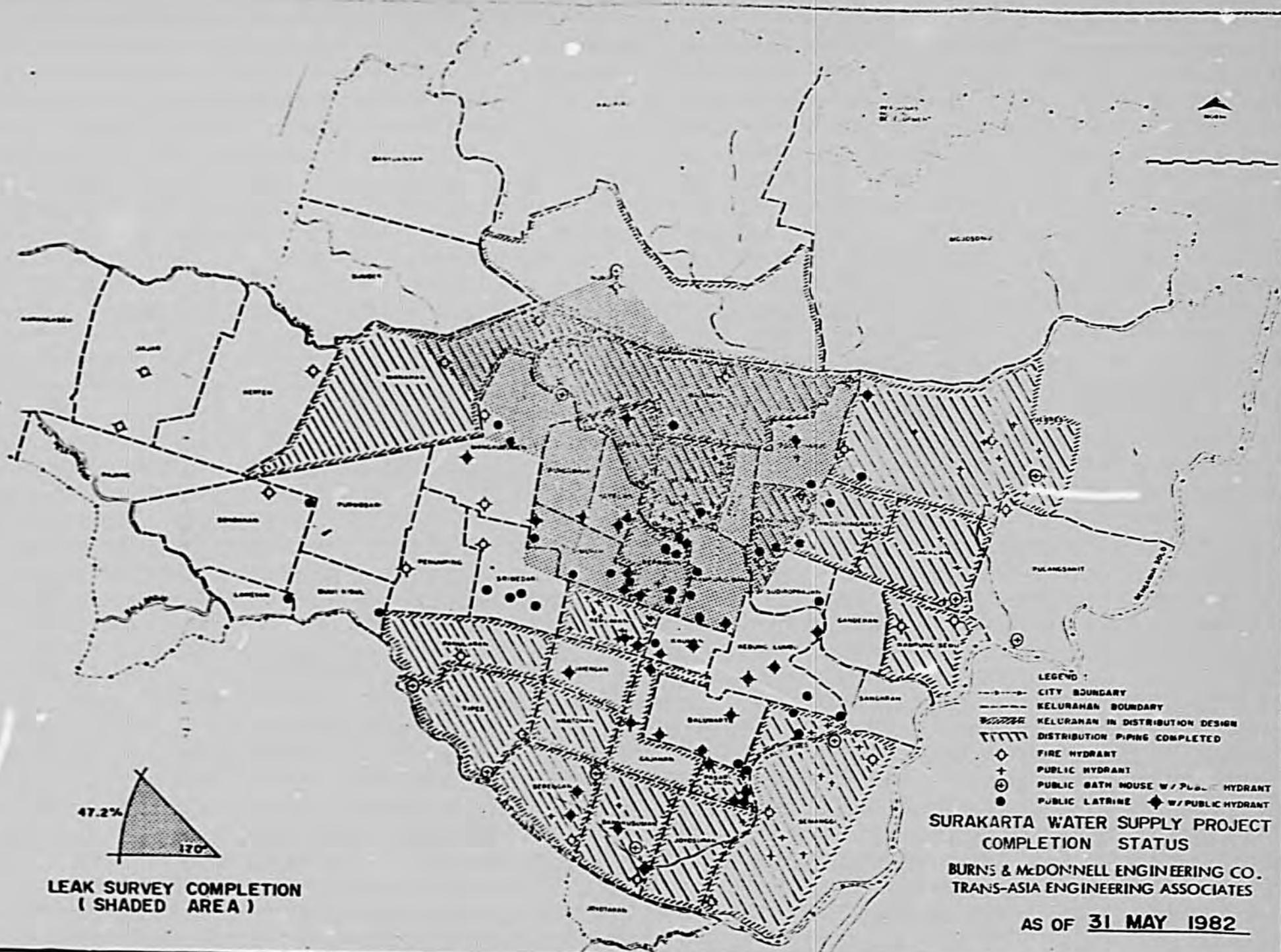
CONTRACT NUMBER OI/WS-S/AID/78 AID LOAN 497-U-044	MAN - MONTHS					
	FOR		CUMULATIVE	TOTAL IN	% OF TOTAL	BALANCE
	MAY	1982	THROUGH MAY 1982	CONTRACT SCHEDULE	USED PER SCHEDULE	
EXPATRIATES						
PROCUREMENT ENG.	0		10.97	14.5	75.6	3.53
CHIEF ENGINEER	0		26.2	30	87.3	3.8
CONSTRUCTION SPECIALIST	1		32.1	36	89.1	3.9
LIAISON OFFICER	0.16		5.47	7.5	72.9	2.19
PRINCIPAL	0		0.17	2	8.5	1.83
HYDROGEOLOGIST	0		8.1	12	67.5	3.9
DRILLING SPECIALIST	0		10.5	12	87.5	1.5
O & M SPECIALIST	1		39.4	41.5	94.9	2.1
METER SPECIALIST	0		8	8	100	0
MANAGEMENT SPECIALIST	0		20.2	21	96.1	0.8
SPECIALIST	0		0	3	0	3
DESIGN SPECIALIST	0		12	12	100	0
EXPATRIATE TOTAL	2.16		173.11	190.5	86.7	26.39
INDONESIAN PROFESSIONAL & TECHNICAL						
COUNTERPART CHIEF ENG.	0		28.6	33	86	4.4
CONSTRUCTION SUPERVISOR	1		22.5	36	62.5	13.5
HYDROGEOLOGIST	0		20.7	26	79.6	5.3
MATERIALS COORDINATOR	1		44	48	91.6	4
INSPECTORS	3		131	146	89.7	15
DRAFTSMAN	1		55	66	83.3	11
ACCOUNTANT	0		34	32	106.2	(2)
TECHNICAL TRANSLATOR	0		17.8	18	98.8	0.2
DESIGN ENGINEER	0		6	8	75	2
SPEC. / COST ESTIMATOR	0		4.6	3	153.3	(1.6)
SR. SURVEYOR / PLOTTER	0		5.4	5	108	(0.4)
SURVEYOR	0		5	5	100	0
INSTRUMENTMAN	0		6.3	5	126	(1.3)
INDON. PROF. & TECH.	6.0		380.9	431	88.3	50.1
INDONESIAN ADMINISTRATIVE						
OFFICE MANAGER	1		44	43	91.6	4
SECRETARY (BI-LINGUAL)	1		42.6	54	78.8	11.4
TYPIST	0		27.2	51	53.3	23.8
CLERKS	1		105.6	88	120.0	(12.6)
DRIVERS	2.4		170.7	223	76.5	52.3
LABORERS	1		171.2	258	66.3	86.8
RODMEN / CHAINMEN	0		13.8	10	138	(3.8)
ADMINISTRATIVE TOTAL	6.4		575.1	732	78.5	156.9

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

CONTRACT NO OI/WS-S/AID/78 SIGNED 26 OCT. 1978 START 1 JAN. 1978 END 30 SEP. 1982 REIMBURSABLE EXPENDITURES	COSTS FOR	CUMULATIVE COSTS THROUGH		CUMULATIVE PAYMENTS THROUGH			TOTAL BUDGET ESTIMATE FOR CONTRACT
	MAY 1982	AMOUNT	% OF TOTAL BUDGET ESTIMATE	AMOUNT RECEIVED IN MAY 1982	TOTAL AMOUNT RECEIVED THROUGH MAY 1982	% OF TOTAL BUDGET ESTIMATE	
US DOLLARS							
Salaries and Related Costs	13,966.90	1,060,002.90	93.6	16,412.82	1,046,036.00	92.4	1,132,179
Transportation	-	75,631.72	88.3	-	73,631.72	88.3	83,343
Equipment	-	12,455.16	77.8	-	12,455.16	77.8	16,000
Miscellaneous	-	63,563.48	109.4	-	63,563.48	109.4	56,063
Contingencies	-	58,865.85	93.0	5,322.40	58,865.85	93.0	63,271
TOTAL DOLLARS	13,966.90	1,208,519.11	92.7	21,735.22	1,254,552.21	92.7	1,352,656
INDONESIAN RUPIAH							
Salaries	3,461,000	187,334,384	83.7	-	183,873,384	82.1	223,759,250
Transportation	1,436,000	75,585,123	90.0	-	74,149,123	88.3	83,952,600
Housing	-	64,000,000	101.6	-	64,000,000	101.6	62,975,000
Vehicle Costs	597,500	52,321,472	97.4	-	51,723,972	96.3	53,672,000
Equipment Costs	-	24,610,860	101.4	-	24,610,860	101.4	24,255,000
Miscellaneous	154,235	85,516,275	93.1	-	85,362,040	92.9	91,810,000
Contingencies	-	33,144,580	99.7	-	33,144,580	99.7	33,236,460
TOTAL RUPIAH	5,648,735	522,512,694	91.0	27,926,831 *	536,483,959 **	90.1	573,661,310

* Payment for Rupiah Invoices # 23, 24, 25, 26, 27 and 28,
October 1981 through March 1982 respectively.

** Includes Amend. # 2 Mobilization of 19,620,000

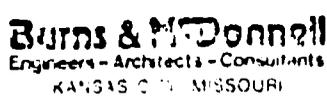


LEAK SURVEY COMPLETION
(SHADED AREA)

- LEGEND :
- CITY BOUNDARY
 - - - - - KELURAHAN BOUNDARY
 - ~~~~~ KELURAHAN IN DISTRIBUTION DESIGN
 - ||||| DISTRIBUTION PIPING COMPLETED
 - ◇ FIRE HYDRANT
 - + PUBLIC HYDRANT
 - ⊕ PUBLIC BATH HOUSE W/ PUBL. HYDRANT
 - PUBLIC LATRINE
 - ◆ W/ PUBLIC HYDRANT

**SURAKARTA WATER SUPPLY PROJECT
COMPLETION STATUS**
 BURNS & McDONNELL ENGINEERING CO.
 TRANS-ASIA ENGINEERING ASSOCIATES

AS OF 31 MAY 1982



Client CIPTA KARYA
Project No 78-877-2-003 Date 31/05/82 Made By JFB
Checked By _____

OFF-SHORE PROCUREMENT: O & M TOOLS AND

WEEK	Maclane PO-2115	Wacker PO-2118	Robin PO-2119	G. Schmidt PO-2229	Western In. PO-2296	In. Cummins PO-2442	TRW Pleu. PO-2443	CL2 Inc. PO-2444	Maclane PO-2445
03 APR.		S 2/4 A			Received				
10 APR.				Received					
17 APR.		534 lbs							
24 APR.		242.7 kg							
01 MAY									
08 MAY									
15 MAY		13/5 P							
22 MAY									
29 MAY	S 25/5 A								
05 JUN.	3,710 lbs								
12 JUN.	1,716.2 kg								
19 JUN.			S 14/6			S 10/6		S 1/6 A	S 10/6
26 JUN.	25/6 P							100 lbs	4,000 lbs
03 JUL.								45.5 kg	1,818.2 kg
10 JUL.								8/7 P	
17 JUL.									
24 JUL.									
31 JUL.			9,300 lbs						
07 AUG.			4,227.3 kg						
14 AUG.									
21 AUG.									
28 AUG.			18/8 P						
04 SEP.									
11 SEP.									
18 SEP.									
25 SEP.									
02 OCT.									
09 OCT.									
16 OCT.									
23 OCT.									
30 OCT.									
06 NOV.									
13 NOV.									
20 NOV.									
27 NOV.									
04 DEC.									

..... TERMINAL DATE OF CONSULTANT CONTRACT 30 SEP. 1982

NOTE: S = SHIPPED PLANNED; P = PORT ARRIVAL PLANNED; A = ACTUAL

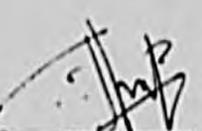
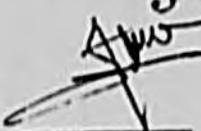
BURNS & MCDONNELL ENGINEERING CO.
TRANS - ASIA ENGINEERING ASSOCIATES, INC.
A JOINT VENTURE

FINAL INSPECTION - PUNCH LIST

PHASE: 1 CONTRACTOR: P.T. ANTAR PRIBUMI DATE: 19 MAY 1982

DISTRIBUTION MAINS 1981/1982

1. KELURAHAN MANAHAN - SHEETS 6, 7, 8 & 9
 - A. Drainage Span (1) *BARS WIRE SPIRAL MISSING*.....
 - D. Fire Hydrant #1 & #2 (2) *#1 BOX LOW #2 TURN BOX*.....
 - C. Valves & Valve Boxes *NEED NET FOR DETAIL NUT #10 11 CUT #23 24*.....
 - D. Street Repair & Cleanup *FIX & CLEAN UP FROM GUY TO CONCRETE*.....
 - E. As-Built Drawings *OK. SEE OTHER "G."*.....
2. KELURAHAN GILINGAN - SHEETS 10, 11, 12, 13, 14, 15, 16 & 17
 - A. Stream Crossing Beam (Shop Dwg. I-5) *NEED BARS WIRE*.....
 - B. Drainage Span (2) (Shop Dwg. I-2) *NEED UNITS PARAWING*.....
 - C. Fire Hydrant #1, #4 & #5 (3) *CUT PVC #4 REMOVE EXCESS FILL SLOPE OUT*.....
 - D. Valves & Valve Boxes *NEED NET FOR DETAIL NUT #27 29 CUT PVC #15 16 17 18 19 20 21 22 23 24*.....
 - E. Street Repair & Cleanup *FILL & CLEAN UP FROM GUY TO CONCRETE*.....
 - F. As-Built Drawings *SEE OTHER "G."*.....
3. KELURAHAN JEBRES - SHEETS 18, 19, 20, 21, 22, 23, 24 & 25
 - A. Drainage Span (Shop Dwg. I-1A) *OK*.....
 - B. Railroad Crossing *NEED WOOD BRCS. SUPPORTS*.....
 - C. Fire Hydrant #6, #7 & #8 (3) *RAISE VD OFF IN GUY CHAIN #4 LOWER VD*.....
 - D. Valves & Valve Boxes *NEED NET FOR DETAIL NUT #25 26 CUT PVC #14 15 16 17 18 19 20 21 22 23 24*.....
 - E. Street Repair & Cleanup *ADD FILL TO GUY TO CONCRETE*.....
 - F. As-Built Drawings *SEE OTHER "G."*.....
4. KELURAHAN JAGALAN - SHEETS 26, 27, 28 & 29
 - A. Stream Crossing Beam (Shop Dwg. I-7) *NEED BARS WIRE AT*.....
 - B. Drainage Span (7) (Shop Dwg. I-3) *NEED ONCE MORE AT*.....
 - C. Valves & Valve Boxes *NEED NET FOR DETAIL NUT #28 29 CUT PVC #10 11 12 13 14 15 16 17 18 19 20 21 22 23 24*.....
 - D. Street Repair & Cleanup *ADD FILL TO GUY TO CONCRETE*.....
 - E. As-Built Drawings *ADD KEL. JAGALAN TO*.....
5. KELURAHAN KAMPUNG SEWU - SHEETS 30, 31 & 32
 - A. Fire Hydrant #9 & #10 (2) *CUT PVC #10 MOVE OR TURN BOX 170*.....
 - B. Valves & Valve Boxes *NEED NET FOR DETAIL NUT #30 31 CUT PVC #27 28 29 30 31 32 33 34*.....
 - C. Street Repair & Cleanup *SEE OTHER "G."*.....
 - D. As-Built Drawings *ADD KVL. KAMPUNG SEWU TO*.....
6. KELURAHAN KRATONAN - SHEETS 33, 34 & 35
 - A. Valves & Valve Boxes *NEED NET FOR DETAIL NUT #35 36 CUT PVC #19 20 21 22*.....
 - B. Street Repair & Cleanup *OK. SEE OTHER "G."*.....
 - C. As-Built Drawings *OK*.....

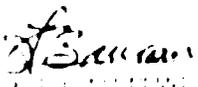
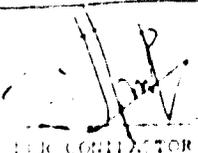
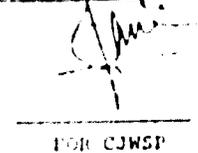
 FOR CONSULTANT
 FOR CONTRACTOR
 FOR PDAM
 FOR PDAM
 24 MAY 1982
 SURONG
 PAGE 1 of 2

DISTRIBUTION MAINS 1981/1982

FINAL INSPECTION - PUNCH LIST

PHASE: I CONTRACTOR: P.T. ANTAR PRIBUMI DATE: 19 MAY 1982

- 7. KELURAHAN KESTALAN - SHEETS 36 & 37
 - A. STREAM CROSSING BEAM (Shop Dwg. I-4) *NEED BARB WIRE*.....
 - B. FIRE HYDRANT #27 (1). *FILL & COMPACT & REPAIR SIDEWALK*...
 - C. Valves & Valve Boxes *CUT #230*.....
 - D. Street Repair & Clean up *REPAIR #5 ARE OTHER 'G'*.....
 - E. As-Built Drawings *OK*.....
- 8. KELURAHAN KEPATIHAN WETAN - SHEETS 38 & 39
 - A. Drainage Span (Shop Dwg. 7-8) *NEED PAINT & BARB WIRE*.....
 - B. Fire Hydrant #28 (1). *NEED LIFTING HANDLE*.....
 - C. Valves & Valve Boxes *CUT #10*.....
 - D. Street Repair & Cleanup *REPAIR EXHAUST #3 SEE OTHER 'G'*.....
 - E. As-Built Drawings *OK*.....
- 9. JALAN NUSUKAN - ADDENDUM DRAWING SHEET ADD. I-1
 - A. STREAM CROSSING BEAM (Shop Dwg. I-6B) *SMOKE L & BARB WIRE NEEDED*
 - B. Valves & Valve Boxes *OK*.....
 - C. Street Repair & Cleanup *OK SEE OTHER 'G'*.....
 - D. As-Built Drawings *OK*.....
- JALAN KOL. SUTARTO - ADDENDUM DRAWING SHEET ADD. I-2
 - A. Valves & Valve Boxes *ADD #12 CUT BY 47*.....
 - B. Street Repair & Cleanup *REMOVE OLD GAS PIPE SEE OTHER 'G'*
 - C. As-Built Drawings *ADD BY 49*.....
- 11. CHANGE ORDERS
 - A. Jalan Candi Rejo
 - 1. Valves & Valve Boxes *OK*.....
 - 11. Street Repair & Cleanup *LETTER FROM DPU NEEDED SEE OTHER 'G'*
 - 111. As-Built Drawings *OK*.....
 - B. Jalan Tirtomoyo
 - 1. Valves & Valve Boxes *OK*.....
 - 11. Street Repair & Cleanup *OK SEE OTHER 'G'*.....
 - 111. As-Built Drawings *OK*.....
- 12. OTHER
 - A. INVESTIGATE LEAK BETWEEN (2) & (3) KEL. MANAWAN.
 - B. REPLACE PRIVATE DRAINWAY AT (3) & (4) KEL. GILINGAN & BACKFILL ACROSS STREET.
 - C. LEAK AT J. MAM JEN SUTONO BETWEEN (1) & (2) TO BE REPAIRED KEL. GILINGAN.
 - D. LEAK BETWEEN (2) AND (3) KEL. JEOROS.
 - E. LEAK AT (2) KEL. JAGALAN.
 - F. LEAK AT (1) KEL. KAMPUNG SEWU.
 - G. CONTRACTOR MUST HAVE LETTER FROM DPU ACCEPTING ALL STREET REPAIRS.

 J.F. BINKLEY ACCOUNT MANAGER 24 MAY 1982	 FOR CONTRACTOR GUPOND	 FOR CJWSP Buleyone	 FOR PAM Sugiyanda
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No.	ITEM REVIEWED	P.T.		C.V.	P.T.		P.T.		AVERAGE
		TEHNIK UMUM	ANTAR PRIBUMI	TT.PEMBANGUNAN	TRI KOMODO	CANDI LAKSANA	PANDAN WARINGIN	SARANA DWIPA	
1.	Total Bid (Rp.)	108,894,000	109,661,000	128,672,000	117,163,000	117,317,000	111,534,000		115,540,000
	Preliminaries	8,000,000	5,000,000	7,000,000	10,200,000	4,500,000	6,500,000		6,866,666
	Earth Work	34,694,924	38,017,215	48,551,961	44,623,472	60,671,634	27,387,255		42,325,910
	Civil Work	23,297,000	20,604,500	20,976,500	13,571,625	18,304,525	26,345,000		20,516,525
	Pipe Installation	34,246,939	34,865,293	44,006,225	36,910,975	24,880,077	46,046,225		36,825,956
	Miscellaneous	6,000,000	8,500,000	5,000,000	9,000,000	6,100,000	1,814,000		6,069,000
2.	Total Price	Correct	Correct	Correct	Correct	Correct	Correct		
3.	Analysis	Correct	Wrong in Item 11	Item 4,6,7,8,9 10 no Analysis	Items 4,5,6,7,8 11 no analysis	Correct	Item 6,7,8 no analysis		
4.	Time Schedule	Acceptable	No Schedule for Demobilization	No Acceptable	No Acceptable	Acceptable	No Acceptable		
5.	Working Method	Acceptable	Acceptable	Acceptable	No Clear	Acceptable	Acceptable		
6.	Field Personnel	Enough	Enough	Enough	Enough	Enough	Enough		
7.	Equipment	Sufficient	Sufficient	To be Completed	To be Completed	Sufficient	To be Completed		
8.	Unit Price								
	Material	Some too high	Some too low	Some too high	Acceptable	Acceptable	Acceptable		
	Labor	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable		
9.	Unit Cost	High in Flushing test and Chlor. Low in Valves & Fitting	High in Air Valve vault Low in Joint & Lay pipe	High in Joint and Lay Pipe High in Transport	High in Mobilization Low in Remove and Replace Pavement	High in Exc. B:FL and Comp. Low in install valve fitting	High in install valve fitting Low in exc. B:FL and comp.		

SURABAYA WATER SUPPLY PROJECT
 BURNS & MCDONNELL/TRANS-ASIA ENGINEERING
 EVALUATION ON TENDER PHASE III 1982 - 1983
 TECHNICAL ADEQUACY OF BIDS

VIII-2
 (2).

No.	ITEM	P.T. TEHNIK UMUM	P.T. ANTAR PRIBUMI	CV T.T.PEMBANGUNAN	P.T. TRI KOMODO	P.T. CANDI LAKSANA	P.T. PANDAN WADINGIN	(NO BID)	AVERAGE
								P.T. SARANA DWIPA	
1.	Mobilization & Demob.	3,000,000	3,000,000	2,000,000	7,200,000	2,000,000	4,000,000		3,533,333
2.	Temporary Field Office	5,000,000	2,000,000	5,000,000	3,000,000	2,500,000	2,500,000		3,333,333
3.	Exc. Backfill Compact & Disposal of excess Materials.	34,694,924	38,017,215	48,551,962	44,623,372	60,671,634.33	27,387,255		42,324,410
4.	Transport & String pipe to site	4,112,200	3,381,060	6,777,275	4,645,400	1,873,315	2,056,100		3,807,558
5.	Joint & Lay Pipe	14,252,179	7,433,933	22,057,050	15,918,875	6,329,550	20,101,350		14,348,822
6.	Remove & Replace Pavement	8,047,000	8,775,000	6,500,000	5,850,000	7,316,400	6,500,000		7,164,733
7.	Install Valves Fitting	5,667,000	19,402,000	10,028,400	11,033,500	5,946,500	21,269,000		12,224,400
8.	Install Stream Crossing Spans Single & Dual Beam	13,300,000	8,766,000	12,547,500	12,139,125	9,132,175	15,845,000		12,224,400
9.	Install Concrete Encasement & Thrust Block	1,950,000	3,063,500	1,929,000	2,582,500	1,855,950	4,000,000		1,542,325
10.	Flushing Testing & Chlor.	10,115,560	1,491,020	4,893,500	5,123,200	10,280,712	3,211,450		5,852,574
11.	Air Valve Vault	100,000	3,157,280	250,000	190,000	450,000	130,000		712,880
12.	Miscellaneous Permits	6,000,000	8,500,000	5,000,000	9,000,000	6,100,000	1,814,000		6,069,000
LABOUR UNIT PRICE									
	FOREMEN	1,500	1,500	1,750	2,500	2,500	2,000		1950
	SENIOR SKILLED	2,500	2,000	2,000	2,200	2,250	2,500		2242
	SKILLED	2,250	2,000	1,750	2,000	2,000	2,000		2000
	UNSKILLED	1,000	1,000	1,000	1,500	1,500	1,500		1167

DATE: 5/18/82

BY: [Signature]

BEST AVAILABLE DOCUMENT

1.
 - A. 27 LM OK
 - B. 40 LM OK
2. RET. CONCRETE COLUMNS 14 EA OK
3.
 - A. 103 SM OK
 - B. 16 SM PENDING TEST
4.
 - A. 11 SM OK
 - B. 75 SM

ALL LOOSE WALL TILES TO BE RESET
5. 115 SM TOUCH UP HOLES
6. NAIL SPICE AND ALIGN 1 LOT TOUCH UP WOOD RESERVE
7. NO TRANSFER PIPE BETWEEN ROOMS 1 EA NEED TEST & FIGHT VALVE
NEED DRAIN PLUGS
8. WCM DOOR WILL NOT LOCK 3 EA
9.
 - A. 1 LOT NEED TEST & MAKE PARTS
 - B. 1 LOT CLEAN OUT NEEDS HANDLE
 - C. 1 LOT NEED TEST
10. CONCRETE FLOOR & SAND B D 23 SM OK
11. 1 LOT OK
12. 35 SM
RESERVOIR COVER NOT PAINTED
13. 1 LOT OK
14. 1 LOT NOT TESTED
15. **GENERAL CLEANUP - BROOM CLEAN PROVIDE HANGERS**
SITE PREPARATION 1 LOT
16. **NEED 45° OUTSIDE FILL AT BLDG.**
REFILL HILES WHERE FIRST SEPTIC TANK DUG
OUTSIDE UTILITIES
- A. 2" & 1" WATER SERVICE INCL. 21 LM
TIE-IN TO 2" PVC
NOT TESTED
METER NOT SET OR SERVICE LINE CONNECTED
3. **MAN HOLE COVER CANNOT BE REMOVED**
VENT PIPE TO HAVE (2) 90° BENDS AT TOP

25 MAY 1982

NOT PRESENT

SEE LAST PAGE FOR ALL ITEMS (Listed for all Bath Houses)

BEST AVAILABLE DOCUMENT

- | | | | |
|--|---|-----|--|
| 1. | PLASTER WALL FINISH | | |
| | A. 45 sq yds | 27 | EA OK |
| | B. 45 sq yds | 40 | EA OK |
| 2. | REPAIR CONCRETE COLUMNS | 14 | EA REPAIR SOUTHWEST CORNER AFTER 6 BELOW IS COMPLETE |
| 3. | ROOF FLASHING | | |
| | A. 11 sq ft | 119 | SM OK |
| | B. 94 sq ft | 16 | SM OK |
| 4. | FLOOR FINISH | | |
| | A. 20 x 20 tile | 11 | SM OK |
| | B. 179 x 179 tile | 75 | SM OK |
| 5. | PLASTER WALL FINISH | 116 | SM FILL HOLES ABOVE TILE |
| 6. | ROOF FLASHING & GROUTING NOT SUPPORTED BY BEAM SOUTHWEST SIDE OF WALL WITH 4" x 4" FLASHING | 1 | LOT TOUCH UP WOOD PRESERVE |
| 7. | WATER LEAKS FROM DRAIN HOLES | 1 | EA CUT OFF SCREWS OF HINGES |
| | REPAIR LEAKS AND FURNISH DRAIN PLUGS | | |
| 8. | WATER LEAKS FROM DRAIN HOLES | 3 | EA OK |
| 9. | WATER LEAKS FROM WALL | | |
| | A. WATER LEAKS FROM WALL | 1 | LOT OK |
| | B. DRAIN FLUVE TO SEPTIC TANK | 1 | LOT CANNOT REMOVE CLEANOUT |
| | C. FLOOR DRAINS & WATER CLEANOUT | 1 | LOT OK |
| 10. | CONCRETE FLOOR & SAND BED | 23 | SM OK |
| 11. | ELECTRICAL | 1 | LOT OK |
| 12. | PAINTING - METAL WORK ONLY | 35 | SM RESERVOIR COVER NOT PAINTED |
| 13. | WALLS FOR CARPENTER ROOM | 1 | LOT BE RAISE WIRE MESH |
| 14. | RAIN GUTTER & DOWNSPOUTS | 1 | LOT OK |
| NEED GENERAL CLEAN UP BROOM CLEAN | | | |
| 15. | SITE PREPARATION | 1 | LOT OK |
| 16. | SEPTIC TANK & LEACH FIELD | 1 | EA |
| | NO VENT AND CANNOT OPEN MANHOLE | | |

SUBTOTAL ITEMS 15 & 16:

ADD SUBTOTAL FROM PAGE 11-4 FOR (1) STANDARD UNIT:

NOT TOTAL FOR BATH HOUSE NO. 3-7

PRESENT

J. Johnson

Or Consultant For Contractor For COMSP For DPW For P&P/DM: TAG at 2.5

25 MAY 1982

TOTAL

SURAKARTA WATER ENTERPRISE
STATUS REPORT-CUSTOMERS, METERS & PUBLIC FACILITIES

Consumers Status Report

- Meters installed by Project 1,100 consumers
- New Consumers target in year 1982 3,000 consumers

New connection from January through 17 May 1982

totalled : 567 consumers

Installed by Project : 109 consumers

- Installation by SWE from January through 17 May 1982 458 consumers

Consumers projection is as follows :

- Total consumers before the Project starts : 7,483 consumers
- Installed by Project : 1,100 consumers
- Total consumers after Project : 8,583 consumers
- Total active consumers through 17 May 1982 : 8,918 consumers
- Total disconnected consumers : 306 consumers
- Total active and non active consumers through
17 May 1982 : 9,224 consumers
- Applicants for new connection through 17 May 1982
total 3,477
- Consumers projection through end of year 1982 :
 - 9,224 + (3,000 - 485)
 - 9,224 + 2,542
 - = 11.766 consumers.

LAPORAN KEADAAN LANGGANAN

- Pemasangan yang dikerjakan oleh Proyek sebanyak = 1.100 langganan
- Target penambahan pelanggan baru dalam tahun 1982
sebanyak = 3.000 langganan
- Pemasangan dari bulan Januari sampai dengan
tanggal 17 Mei 1982 seluruhnya = 567 langganan
- Pertanggung jawaban pemasangan
Proyek Air Bersih = 109 langganan
- Pemasangan yang dikerjakan P D A M dari
bulan Januari s/d 17 Mei 1982 sebanyak = 458 langganan
- Dengan demikian dapat diperhitungkan :
- Jumlah langganan sebelum ada proyek sebanyak = 7.483 langganan
- Yang dikerjakan oleh proyek sebanyak = 1.100 langganan
- Jumlah langganan setelah ada proyek sebanyak = 8.583 langganan
- Jumlah langganan aktif sampai tanggal
17 Mei 1982 sebanyak = 8.910 langganan
- Jumlah langganan yang ditutup sebanyak = 306 langganan
- Jumlah langganan aktif dan non aktif sampai
dengan tanggal 17 Mei 1982 sebanyak = 9.224 langganan
- Pendaftar sampai dengan tanggal 17 Mei 1982
sebanyak 3.477 calon langganan.
- Perkiraan jumlah langganan sampai akhir 1982
sebanyak = $9.224 + (3.000 - 458)$
= $9.224 + 2.542$
= 11.766 langganan.

Report on Public Hydrants &
Public Latrines and Bath Houses

I.	<u>Public Latrine</u> :	
	- Total P.L.	102 locations
	- Restored	61 locations
	- To be restored	41 locations

II.	<u>Public hydrant</u>	
	- Public Hydrant as SWE consumers	153 locations
	- Addition PH by Project	52 locations

Total	205 locations
-------	---------------

- One hydrant used by 10 families in average.

III.	<u>Bath house</u>	
	- Bath house, existing	10 locations
	- On construction by Project	10 locations

Note : Public Hydrant, of 52 addition PH is located at PL locations.

LAPORAN KEBADAAN HYDRANT UMUM &
PUBLIC LATRINES DAN BATH HOESE

I. Adanya W.C.

- Jumlah W.C. keseluruhan	102 tempat
- Yang telah direhab. sebanyak	61 tempat
- Yang belum direhab. sebanyak	41 tempat

II. Hydrant Umum.

- Hydrant umum yang telah menjadi langganan P D A M Surakarta sebanyak	153 tempat
- Penambahan hydrant umum yang dikerjakan oleh proyek sebanyak	52 tempat
Jumlah	<u>205 tempat</u>

- Satu hydrant umum rata-rata dipakai
untuk 10 Kepala Keluarga.

III. Bath House.

- Bath House sebanyak	10 tempat
- Telah dikerjakan oleh proyek	10 tempat

Catatan :

Public hydrant, penambahan sebanyak 52 tempat
terdapat pada lokasi public latrines.

Report on Water Meter disposition

- Received from BM/TAE	15,200 ea.
- Installed for new consumers	1,534 ea.
- Installed to replace broken ones	<u>1,076 ea.</u>
- Totalled installed	<u>2.610 ea.</u>
- On hand	<u><u>12.590 ea.</u></u>

LAPORAN POSISI METER AIR

- Penerimaan meter air dari P M T A sebanyak	= 15.200 buah
- Dipasang untuk langganan baru sebanyak	= 1.534 buah
- Dipasang untuk penggantian sebanyak	= <u>1.076 buah</u>
- Jumlah yang sudah dipasang sebanyak	= <u>2.610 buah</u>
- S i s a meter air sebanyak	= <u>12.590 buah</u> *****

MEETING MEMORANDUM - MONTHLY PROGRESS

DATE: 18 May 1982
TIME: 1015 - 1230
PLACE: PAB-I, Jl. Brig. Jen. Sudiarto 534, Surakarta
IN ATTENDANCE:

- Ir. Krisno Darusman CJWSP
- Ir. Hari Wahyudi PAB-I
- Ir. Djaelani Saberani PDAM
- Hary S. PDAM
- Suranto PDAM
- David E. Warner USAID
- Clare W. Copleman BM/TAE
- J. F. Baucom BM/TAE
- Albert G. Ringler BM/TAE
- M. Khalil BM/TAE
- Syarif L. BM/TAE

CONCLUSIONS:

A letter was passed out to the parties concerned by USAID which delineated the committed amounts of the AID Loan considering the latest inputs for equipment procurement and public latrine restoration. The bottom line shows there remains ninety thousand Dollars uncommitted. The Project Manager made a suggestion that 25 to 30 millions of Rupiah be used of the uncommitted Dollar amount to upgrade the Tirtomoyo swimming pool which would leave 28.5 to 33.5 millions for rehabilitation of the piping system. The Director of PDAM inquired if the estimate on the swimming pool included more than the equipment and was advised it did not. It was assumed the Water Enterprise personnel could install the equipment and furnish and install the piping. The Project Manager advised the Director of PDAM that plans for the rehabilitation of the piping would have to be supervised by the Consultant. The Consultant advised there was still 2400 AC pipe to be installed at Delunggu for which there was no budget and approximately 2.7 km of smaller piping to be done.

The total Phase IV replacement program as outlined one year ago called for 9.5 km of \varnothing 200 and smaller piping, 4.0 km of \varnothing 400 and 0.8 km of \varnothing 450. As of the completion of Phase I, we only have the \varnothing 400 pipe plus the 2.7 km of smaller pipe to go. The Consultant also reminded those present that the Loan Agreement between Cipta Karya and the Surakarta Water Enterprise amounted to \$6,281,000.00. The Project Manager is to verify the amounts which apply to the CK/SWE Loan in order to determine if additional funds may be spent. The first payment from the Surakarta Water Enterprise on their Loan is January 1983.

The Surakarta Water Enterprise passed out their accounting of people being served now and by the end of 1982 along with their evaluation for upgrading the Tirtomoyo Swimming pool. It was stated there are now 8,918 metered customers along with 205 public hydrants. By the end of 1982, there is estimated to be 11,766 metered customers and ten more public hydrants. It was stated the public hydrants serve 200⁺ persons per day (the USAID Project Paper considers 300) and the individual outlets which would handle a family of six each. NOTE: None of this accounting includes the 3,300 family units being constructed in Mojosongo which are to be served by TW-1.

The Project Officer inquired about questions raised in one of their letters but a copy was not available in order to verify. The Surakarta Water Enterprise has made some rate adjustment between high and low income groups and stated a substantial percentage of their annual income went back into rehabilitation work - up to 48%. Regarding the water testing equipment, USAID advised that half of the total quantity is to be assigned to the laboratory in Jakarta. The Consultant advised the whole lot was now at the Water Enterprise's Surakarta Laboratory and inquired if there was anything further required by the Consultant regarding this equipment. The Project stated the Consultant would not be required to do anything more with the laboratory equipment.

The Project asked for clarification on the withholding of five percent from the funds for the bath house and public latrine Contracts. It was stated the balance would be funded and that payment could be made after the sixty day maintenance period.

The Project Manager advised the additional materials from P. T. Eslon Jaya were still in process. The Consultant recommended the Phase III Contract be awarded immediately as there is sufficient materials to keep progress for up to three months, after which the additional material from P.T. Eslon Jaya should be on site. It was said the Phase III Contract would be awarded within a week.

The Consultant gave a synopsis of present progress of the various activities of the project and said the entire completion status of the project was considered to be 92.2%. The shipment from Wacker Corporation was understood to be in Singapore at the time. A report on the recent meeting with the Parumnas Project was made and their first houses were said to be ready for occupancy in July - long before the water well pumping equipment will be on site. It is thought that if all is available except the emergency electric generators, the well could be made operational, by using PLN permanent power to the panel supplied with the pump by TRW-Pleuger.

The Project Manager inquired about the leak survey - and the Surakarta Water Enterprise Director replied they were having difficulties in allocating repair costs. Of the approximate forty percent of the survey done, the repairs amount to 15⁺%. When asked, the Consultant stated the leak survey could reach the starting point by the end of the Consultant Contract provided personnel continue to be provided by the Surakarta Water Enterprise. The Project Manager stated he would like to see the Consultant concentrate on the leak survey in the time left and the Project would provide people also for training and to help where the Surakarta Water Enterprise may be short of people. Next meeting to be 22 June 1982.

JIGEST OF TIRTOMOYO SWIMMING POOL
OPERATIONS PREPARED BY SURAKARTA WATER ENTERPRISE

I. FOREWORD

II. CALCULATION CRITERION

1. Tirtomoyo Swimming Pool Visitors
2. Tirtomoyo Swimming Pool Admission Fee
3. Water Consume By Swimming Pool
4. Utilization of Water Saved From The Pool

III. CALCULATION

IV. CONCLUSION



I. PENDAHULUAN

II. KRITERIA PERHITUNGAN :

1. Keadaan pengunjung Kolam Renang Tirtomoyo Surakarta.
2. Tarif masuk Kolam Renang Tirtomoyo Surakarta.
3. Penggunaan air untuk Kolam Renang Tirtomoyo Surakarta.
4. Pemanfaatan dari air yang dihemat.

III. PERHITUNGAN.

IV. KEGIMPULAN.

I. FOREWORD.

Simultant with the present development, potable water has its own priority in the progress. It shows with the inauguration of water supply project in cities throughout of Indonesia.

Based on the present development of potable water, SWE try to tender their services to the water consumers as best it could.

For instance by increasing water consumers numbers in Surakarta city and the surrounding area.

The above action is in conformity with the social function of SWE in giving priority to water services, especially unending flow of potable water to the consumers.

This give us reason to save water wherever it's possible i.e. water consumed by Tirtomoyo Swimming Pool, which in the first place using water that is changed periodically, twice a month switched to a circulation system which lengthen use of water by 6 to 10 month between changes.

While every water change is made, Tirtomoyo swimming pool needs 3,000 m³ of clean water.



I. PENDAHULUAN :

Sejalan dengan derap pembangunan dewasa ini masalah air bersih kelihatan mendapatkan prioritas tersendiri. Terbukti dengan banyaknya peresmian proyek-proyek air bersih dikota-kota yang banyak tersebar diseluruh Indonesia.

Bertitik tolak pada kemajuan pembangunan masalah air bersih dewasa ini, kami Perusahaan Daerah Air Minum Kotamadya Daerah Tingkat II Surakarta berusaha meningkatkan pelayanan air minum pada langganan sebaik mungkin. Diantaranya dengan usaha memperbanyak jumlah langganan untuk daerah Kotamadya Surakarta dan sekitarnya.

Hal diatas sejalan dengan fungsi sosial dari Perusahaan Air Minum yang mengutamakan service pada langganan, terutama masalah kelancaran air yang sangat dibutuhkan oleh para langganan.

Sehubungan dengan itu kami berusaha untuk mengadakan penghematan air antara lain yang digunakan untuk Kolam Renang Tirtomoyo Surakarta. Yang semula menggunakan air dengan sistim berkala yaitu satu bulan airnya diadakan penggantian dua kali, ke sistim sirkulasi yang dapat memperpanjang penggunaan air sampai jangka waktu antara 6 sampai 10 bulan.

Padahal sekali ganti air, Kolam Renang Tirtomoyo membutuhkan air bersih sebanyak 3.000 m³.

By using circulation system, SWE saves large quantity of water and from the water saved SWE can serve new consumers.

It should add here that by circulation system the pool users feel more comfortable and will not affect the income of the pool, but on the other hand it will increase income of the pool because up to present pool users are reluctant to visit the pool if the water in it is unclean.

This tendency shows 4 days after the water has been changed.

Moreover by adding children's pool, the income which may be getting by SWE will surely increased.

SWE has monitored that many families would like to have recreational moment by visiting the pool, especially of children's age.

The following factors drive SWE to rehabilitate Tirtomoyo Swimming Pool i.e. :

- a. Tirtomoyo swimming pool is the only swimming pool which is adequate and the most popular in the city of Surakarta.



Dengan menggunakan sistim sirkulasi, kita akan menghemat air yang tidak sedikit jumlahnya dan dari penghematan air tersebut dapat dimanfaatkan untuk menambah pelanggan baru.

Perlu ditambahkan bahwa dengan sistim sirkulasi tersebut tidak akan meresahkan penakai kolam renang dan tidak akan mengurangi pendapatan yang diterima dari sektor kolam renang. Malainkan justru meningkatkan penghasilan, karena selama ini ada rasa enggan dari penakai kolam jika airnya sudah kotor yang berlangsung mulai pada hari ke 4 setelah penggantian airnya.

Apalagi dengan menambah kolam renang untuk anak-anak (kindor bak) maka pendapatan yang akan diterima Perusahaan Air Minum Kotamadya Daerah Tingkat II Surakarta pasti akan meningkat lagi.

Berdasar pada pengamatan kami selama ini bahwa banyak sekali peminat yang menginginkan untuk berekreasi bersama keluarga, terutama dari golongan anak-anak sekaligus sebagai obyek rekreasi keluarga.

Adapun faktor-faktor yang mendorong kami untuk merobahilitir Kolam Renang Tirtomoyo Surakarta adalah sebagai berikut :

- a. Kolam renang Tirtomoyo Surakarta merupakan satu-satunya kolam renang yang ada di kota Surakarta yang cukup memadai dan modern airnya perawat yang akan berwujud, terutama dari dalam kota Surakarta sendiri.

- b. Tirtomoyo swimming pool supports the sport activities for Surakarta people. Evidence shows that many schools inside city of Surakarta becomes regular users of the pool for their sport curriculum.
- c. As recreation means for families, particularly on holidays.
- d. Strategic location, accessible from a main street.

Hopefully all of what we have tried to represent above will become true and will be supported by all interested parties.



- b. Kolam Renang Tirtomoyo Surakarta merupakan sarana olah raga renang didaerah Surakarta. Hal ini terbukti dengan banyaknya Sekolah - sekolah di Surakarta yang menggunakan kolam tersebut sebagai tempat Pendidikan Olahraga.
- c. Sebagai sarana untuk rekreasi keluarga, terutama pada hari-hari libur.
- d. Letaknya yang strategis, yaitu dipinggir jalan raya yang mudah dan memungkinkan peminat untuk menjangkaunya.

Semoga apa yang menjadi harapan kami tersebut diatas bisa terlaksana dan mendapat dukungan dari berbagai pihak.

II. CALCULATION CRITERION.

1. Visitors of Tirtomoyo Swimming Pool.

By using our present system, by changing the pool's water twice a month the visitors of Tirtomoyo swimming pool is like the following list:

After water is changed, visitors on :

Days		General Users	Schools Users
I	Friday	+ 200 people	100 people
II	Saturday	+ 100 people	100 people
III	Sunday	+ 800 people	-
IV	Monday	+ 25 people	100 people
V	Tuesday	+ 25 people	100 people
VI	Wednesday	+ 25 people	100 people
VII	Thursday	+ 25 people	100 people
VIII	Friday	+ 25 people	100 people
IX	Saturday	+ 25 people	100 people
X	Sunday	+ 25 people	-

It should be known that by using the present system days the pool open is 20 days only.

2. Tirtomoyo swimming pool admission fee .

For those admitted to the pool's area



II. KRITERIA PERHITUNGAN:

1. Keadaan pengunjung kolam renang Tirtomoyo.

Dengan menggunakan sistim yang kami lakukan sekarang, yaitu satu bulan air pemandian Tirtomoyo Surakarta diganti dua kali maka keadaan pengunjung dapat dilihat sebagai berikut :

Setelah air diganti minat pengunjung pada:

H a r i	Pengunjung		Utk. Olahraga Sekolah
	Umum		
I/ Jum'at	7 200 orang	1	100 orang
II/ Sabtu	7 100 "	1	100 "
III/ Minggu	7 200 "	1	-
IV/ Senin	7 25 "	1	100 "
V/ Selasa	7 25 "	1	100 "
VI/ Rabu	7 25 "	1	100 "
VII/ Kamis	7 25 "	1	100 "
VIII/ Jum'at	7 25 "	1	100 "
IX/ Sabtu	7 25 "	1	100 "
X/ Minggu	7 25 "	1	-

Perlu diketahui bahwa dengan sistim diatas hari-hari yang bisa digunakan untuk buka sebulan hanya 30 hari buka.

2. Tarif masuk kolam renang Tirtomoyo Surakarta.

Kami kemukakan disini bahwa untuk pengunjung yang masuk ke wilayah kolam renang

had to pay admission fee. For students, the tariff is slightly lower.

After the pool's water is changed the tariff's table is in the following :

<u>Days</u>	<u>General Users</u>	<u>Students</u>
1st - 3rd	Rp. 200/person	Rp. 127,50/ person
4th - 10th	Rp. 175/person	Rp. 60/per- son.

3. Tirtomoyo swimming Pool Water Usage.

By using circulation system, the pool's operational days may be increased. Also use of water will be far smaller in quantity compared with the present system.

That because pool's water changes may be done in 6 months interval while present system allows $3,000 \text{ m}^3$ of water per change.

The following comparison present the difference:

Present condition :

By changing the pool's water twice a month in 6 months time the pool consumers $2 \times 6 \times 3,000 \text{ m}^3$
 $= 36,000 \text{ m}^3$

By Circulation System:

In 6 months time the pool needs only $3,000 \text{ m}^3$
water saved : $33,000 \text{ m}^3$.

diharuskan membayar karcis masuk.

Disini untuk siswa-siswa Sekolah ada kebijaksanaan tersendiri, yaitu lebih murah bila dibanding dengan tarif umum.

Setelah air diganti perincian tarifnya adalah sebagai berikut :

<u>Hari ke :</u>	<u>Tarif pengunjung umum.</u>	<u>Tarif anak-anak Sekolah.</u>
I --- III	Rp. 200,-/orang	Rp. 127,50/orang
IV --- X	Rp. 175,-/orang	Rp. 60,- /orang

3. Penggunaan air untuk Kolam Renang Tirtomoyo.

Dengan menggunakan air sistem sirkulasi, maka hari yang kita gunakan untuk beroperasi akan bertambah banyak. Pun juga penggunaan air untuk pengisian kolam renang akan jauh lebih sedikit bila dibanding dengan sistem yang sekarang dijalankan.

Karena air baru diganti setelah selama 6 bulan dipakai, padahal sekali isi air bak pemandian Tirtomoyo memerlukan air sebanyak 3.000 m^3 .

Disini dapat kami bandingkan sebagai berikut:

Keadaan sekarang :

Dengan sistem pengisian sebulan dua kali dalam waktu 6 bulan memerlukan air se-

$$\text{banyak : } 2 \times 6 \times 3000 \text{ m}^3 = 36.000 \text{ m}^3.$$

Dengan sistem sirkulasi :

Selama 6 bulan hanya memerlukan air sebanyak

$$= 3.000 \text{ m}^3.$$

$$\text{Merupakan penghematan air} = 33.000 \text{ m}^3.$$

4. Utilization of the Saved Water :

By saving 33,000 m³ of water SWE can add consumers of up to 230 consumers, calculation is as follows :

$$\frac{33,000 \times 1,000 \text{ liters}}{100 \times 8 \times 6 \times 30} = 230 \text{ consumers.}$$

Notes :

33,000	=	saved water
1,000	=	1 m ³
100	=	standard use of water per person.
8	=	total head in a family
6	=	months
30	=	days

4. Pemanfaatan dari air yang dihemat.

Dari penghematan air yang 33.000 m³ tersebut dapat dimanfaatkan untuk menambah langganan baru kira-kira sebanyak 230 pelanggan, perhitungannya ialah :

$$\frac{33.000 \times 1.000 \text{ lt}}{100 \times 8 \times 6 \times 30} = 230 \text{ pelanggan.}$$

Keterangan :

33.000 = penghematan.

1.000 lt = 1 m³.

100 = standart pemakaian air/orang/hari.

8 = jumlah penghuni dalam satu rumah tangga.

6 = bulan.

30 = hari.

III. CALCULATION.

By using circulation system, pool's operational days will be increased, from 20 days/month to 30 days/month.

To drain, clean and refill the pool will take 5 days.

So, by using circulation system in 6 months time :

$$6 \times 30 - 5 = 175 \text{ days}$$

With present system :

$$6 \times 20 = 120 \text{ days}$$

$$\text{Increase of operational days} = 55 \text{ days}$$

=====

Based on visitors at present condition, average visitors per day

- General Users = 135 persons

- Students = 100 persons

So in 6 months time using present system visitors may be calculated as follows :

- General Users :

$$6 \times 20 \times 135 = 16,200 \text{ persons}$$

- Students :

$$6 \times 20 \times 100 = 12,000 \text{ persons}$$

Total visitors per

$$6 \text{ months} = 25,800 \text{ persons}$$



III. PERHITUNGAN :

Dengan sistim sirkulasi maka hari buka kolam renang akan meningkat/bertambah banyak, yaitu dari semula 20 hari tiap bulan menjadi 30 - hari buka tiap bulan.

Untuk menguras dan mengisinya pada kolam renang Tirtomoyo Surakarta dibutuhkan waktu 5 hari.

Jadi dengan sistim sirkulasi jumlah hari - buka selama 6 bulan :

$$6 \times 30 - 5 = 175 \text{ hari}$$

Sedang dengan sistim yang so-

$$\text{karang : } 6 \times 20 \text{ hari} = 120 \text{ hari}$$

$$\text{Merupakan peningkatan hari buka} = 55 \text{ hari}$$

Dengan pengertian keadaan pengunjung sama seperti keadaan sekarang, yaitu rata-rata pengunjung per hari :

$$\text{- Pengunjung umum rata-rata} = 135 \text{ orang}$$

$$\text{- Untuk Olahraga/ Sekolah} = 100 \text{ orang}$$

Sehingga dalam 6 bulan dengan sistim sekarang - dapat diperhitungkan jumlah pengunjungnya sebanyak :

$$\text{Umum} = 6 \times 30 \times 135 = 24.300 \text{ orang}$$

$$\text{Sekolah} = 6 \times 16 \times 100 = 9.600 \text{ orang}$$

$$\text{Jumlah pengunjung 6 bulan} = 25.300 \text{ orang}$$

By using circulation system visitors in 6 months time is as follows :

- General users :

175 x 135 = 22,625 persons

- Students :

6x4x6-5x100 persons*

(144 - 5) x 100 13,900 persons

Total visitors per

6 months = 37,525 persons

Notes :

6 = one week six days

4 = one month, four weeks

6 = six months period

-5 = time required to drain, clean and refill the pool.

So in 6 months period total visitors will have an increase of :

- By circulation system, total visitors :

37,525 persons

- By present system,

total visitors 25,800 persons

Increase of visitors in a

6 months period 11,725 persons

Then during one month there is an increase of 11,725 persons : 6 = 1,954 persons or 45 %.

With an assumption that admission fee to the pool average Rp. 150,- SWC financially will get increased income of :



Sedang dengan sistim sirkulasi jumlah pengunjung selama 6 bulan sebanyak :

- Umum = 175 x 135 orang = 23.625 orang
- Sekolah = $(6 \times 4 \times 6 - 5 \times 100)$ orang^{*}
 $(144 - 5) 100$ orang = 13.900 orang

Jumlah pengunjung selama 6 bulan = 37.525 orang

*) Keterangan :

- 6 = satu minggu 6 hari.
- 4 = satu bulan 4 minggu.
- 6 = selama 6 bulan.
- 5 = waktu untuk menguras dan mengisi air.

Jadi selama 6 bulan jumlah pengunjung akan mengalami kenaikan sebesar :

- Dengan sistim sirkulasi
 banyaknya pengunjung = 37.525 orang
- Dengan sistim yang sekarang
 banyaknya pengunjung = 25.800 orang
- Peningkatan pengunjung selama 6 bulan sebanyak. = 11.725 orang

Dengan demikian sebulan mengalami peningkatan pengunjung = 11.725 orang : 6 = 1.954 orang atau 45

Dengan asumsi harga karcis masuk Kolan Rong Tirtanoyo Jakarta rata-rata Rp. 150,- maka bagi finantialnya selama 6 bulan Perusahaan akan mengalami kenaikan sebesar :

- By circulation system in 6 months time :		
37,525 x Rp. 150,-		Rp. 5,628,750
- Present income in 6 months		
time : 25,800 x Rp. 150,-		Rp. 3,870,000
		<hr/>
Increased income of : 6 months		Rp. 1,758,750

So in one month there is an increase of income of :

Rp. 1,758,750 : 6 = Rp. 293,125 or 45 %.

Above calculation shows clearly of increased visitors and increased income to SWE.

It may be expected after the children's pool is constructed, that more visitors and income will be received by SWE, although costs to realize the plan is not small.

Assuming that children's pool users averages 40 children per day with fixed admission fee of Rp. 150,- with circulation system already operational, increased income per month will be :

- Visitors	40 x 30	= 1,200 persons
- Income	40 x 30 x Rp.150	= Rp. 180,000



-Dengan sistim sirkulasi selama
6 bulan diharapkan pemasukan se-
besar = $37.525 \times \text{Rp. } 150,--$ = Rp. 5.628.750,-

-Dengan yang sekarang selama
6 bulan pemasukan yang didapat
sebesar = $25.000 \times \text{Rp. } 150,--$ = Rp. 3.750.000,-

Peningkatan pemasukan selama
6 bulan sebesar. = Rp. 1.758.750,-

Jadi sebulan mengalami peningkatan pemasukan se-
besar = $\text{Rp. } 1.758.750,- : 6$ = $\text{Rp. } 293.125,--$
atau 45 %.

Dari perhitungan diatas jelas kelihatan adanya
peningkatan baik pengunjungnya maupun pendapa-
tan yang diterima Perusahaan.

Apabila pengadaan Kinder Bak dapat segera taru-
alisir, maka pendapatan akan bertambah lagi ,
dengan catatan biaya untuk itu juga tidak se-
dikit.

Dengan perkiraan pemakai Kinder Bak rata-rata
per hari 40 anak dan dengan tarif tetap Rp. 150,-
keadaan sudah dengan sistim sirkulasi maka akan
ada tambahan sebulannya :

- Pengunjung sebanyak $40 \times 30 = 1.200$ orang
- Pendapatan sebesar $40 \times 30 \times \text{Rp. } 150,-- = \text{Rp. } 1.800.000,-$

So in one month, collective income from the main pool and children's pool will be :

- Total visitors :

(6.254 + 1.200) persons = 7,454 persons

- Total Income :

Rp. 938,125 + Rp. 180,000 = Rp. 1,118,125,-

It means if comparison is taken between present system and after circulation system and a children's pool is built in one month there is increased income of :

- Visitors :

7.454 - 4.300 persons = 3.154 persons or
73

- Total Income :

Rp. 1,118,125 - Rp. 645,000 = Rp. 473,125
or 73

Maka kalau kita gabungkan antara kolina re -
nang dan Kinder Bak, dalam sebulannya :

- Jumlah pengunjung =
 $6.254 \text{ orang} + 1.200 \text{ orang} = 7.454 \text{ orang}$
- Jumlah pendapatan =
 $\text{Rp. } 936.125,- + \text{Rp. } 180.000 =$
 $\text{Rp. } 1.116.125,-$

Berarti dibanding sebelum dengan sistem sirkula-
si dan adanya kinder bak dalam sebulannya ada
peningkatan :

- Banyaknya pengunjung sebesar :
 $7.454 \text{ orang} - 4.300 \text{ orang} = 3.154 \text{ orang}$
atau 73 %.
- Besarnya pendapatan sebanyak :
 $\text{Rp. } 1.116.125,- - \text{Rp. } 643.000,-$
 $= \text{Rp. } 473.125,-$ atau 73 %.

IV. CONCLUSION.

By following calculation and explanation above conclusions can be made that :

- a. With circulation system increases can be made in some areas i.e. :
- The pool's operational days increased from 20 days to 30 days in one month.
 - Saving potable water of up to 33,000 m³ in 6 months period.
 - From the water saving, SWE can put its services to new 230 consumers.
 - Financially the pool will put an increase to SWE income of Rp. 293,125/month or 45%.
 - Increase of the pool's visitors of up to 1,954 visitors or 45 %.
- b. There is an urgency to construct the children's pool based upon :
- Swimming as a sport, children's need to be taught basic swimming. In this case, Tirtomoyo swimming pool doesn't have a children's pool yet.

III. KESIMPULAN :

Melihat perhitungan dan berbagai uraian tersebut diatas maka dapat ditarik kesimpulan bahwa :

- a. Dengan sistem sirkulasi akan mampu meningkatkan :
- Jumlah hari buka Kolam Renang Tirtomoyo Surakarta dari 20 hari menjadi penuh selama 30 hari dalam sebulan.
 - Menghemat penggunaan air untuk keperluan kolam tersebut sebanyak 33.000 m³ dalam 6 bulan.
 - Dari penghematan diatas dapat dipergunakan untuk tambahan langganan baru sebanyak 230 pelanggan.
 - Dipandang dari segi finansial akan meningkatkan penghasilan Perusahaan dari sektor Kolam Renang Tirtomoyo sebesar Rp. 293.125.-- dalam sebulan (45 %)
 - Peningkatan jumlah pengunjung sebanyak 1.954 orang dalam sebulan (45 %)

b. Perlu segera diadakan Kinder Bak / tempat mandi anak-anak.

Hal ini dipandang perlu mengingat :

- Untuk olahraga renang, diperlukan adanya kolam dasar bagi anak-anak. Hal ini di Kolam Tirtomoyo, tempat renang dasar anak-anak belum ada.

- There's complaints or suggestions from Surakarta citizen to the city to built a children's pool that the children may get training on swimming and as recreation means to the people.
- There will be an increase to the pool's visitors of 1,200 persons/month, increased income of Rp. 180,000/month. (See calculation on page 9).

c. Most visitors requested that the pool's water to be clean and healthy at all times, and ready for swimming, it is best that rehabilitation to the Tirtomoyo swimming pool in Surakarta can be realized in the near future.

As a closing we , SWE and all Surakarta citizen is hoping that the improvement of the swimming pool will be realized soon, and may Got giveth His blessings to the purpose.

CENTRAL JAVA WATER SUPPLY PROJECT

SURAKARTA WATER SUPPLY

PROJECT STATUS

AS OF 31 May 1982

PROJECT: SURAKARTA WATER SUPPLY

LOCATION: SURAKARTA, CENTRAL JAVA

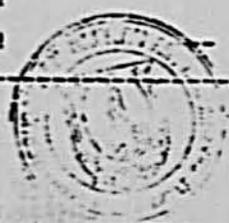
- 1. Source of Foreign Assistance: U.S.A.I.D.
- 2. Loan/ T.A. No. and Date: 497-U-044 24 January 1977
- 3. Scope of Project: New Transmission Main 27.3 km, Modifications to Spring Intake Division and Grit Structures, Modify and Use Two Reservoirs, Add and Replace 130 + km Pipe to Existing Network, Supply Materials and Equipment for PDAM Facilities, Shops, Testing Laboratory and Piping Main Installation, Drill and Equip (2) Deep Wells, Build (10) New Bath Houses and Restore up to (147) Existing Public Latrines and Install 200 Public Hydrant with Management, Operations & Maintenance Training for PDAM.
- 4. Loan/ T.A. Amount: U.S. \$6,800,000.00
- 5. Loan Effective Date: June 1977 Conditions precedent to Disbursement Satisfied.
- 6. Loan Closing Date: (Revised) 24 January 1983
- 7. Original Estimated Project Completion: 24 January 1982
- 8. Rupiah Counterpart Funds: (Rp Million)
 - a). Total Funds Needed: 2,300.3
 - b). Budget Approved:

<u>YEAR</u>	<u>DIP</u>	<u>ABT</u>	<u>TOTAL</u>
1969-1978	176.4	-	176.4
1977/1978	120.9	-	120.9
1978/1979	273.2	-	273.2
1979/1980	165.7	252.1	417.8
1980/1981	191.7	-	191.7
1981/1982	389.0	-	389.0
1982/1983	113.0	252.1	365.1

PERBANDINGAN ANAKILA PENGGUNAAN AIR DENGAN SISTIM SIRKULASI
DAN PENGGUNAAN AIR DENGAN SISTIM PERKALA PADA KELU. BELAK. TIRTOKOYA GALA.

Lampiran 1.

No. 1	URAIAN	SISTIM SIRKULASI	SISTIM PERKALA	KETERANGAN
1.	Penggantian air.	6 bulan sekali	sebulan 2 kali	a. Dengan data disamping ternyata sistim Sirkulasi lebih menguntungkan.
2.	Air yang dibutuhkan selama 6 bulan.	3.000 m ³	36.000 m ³	b. Bisa menghemat air sebanyak 33.000 m ³ , dan penghematan itu bisa untuk menambah 230 pelanggan baru. (lihat halaman ()
3.	Jumlah hari buka sebulan.	30 hari	20 hari	
4.	Jumlah pengunjung sebulan.	6.254 orang	4.300 orang	
5.	Pendapatan sebulan.	Rp. 930.125,--	Rp. 645.000,--	
 <u>DESKRIPSI LAIN :</u>				
a.	Jumlah pengunjung per bulan akan bertambah 30 x 40 orang	1.200 orang	--	c. Dengan diadakannya Kinder Sak akan menambah income Perusahaan Daerah Air Minum Kotamadya Dati II Surakarta.
b.	Pendapatan sebulan akan bertambah 1.200 x Rp. 150,--	Rp. 180.000,--	--	





- Adanya keluhan-keluhan dari masyarakat Surakarta yang menghendaki dibangunnya kolam renang bagi anak-anak untuk berlatih renang dan untuk rekreasi keluarga.

- Akan ada peningkatan jumlah pengunjung sebanyak 1.200 orang sebulan, berarti akan menambah penghasilan Rp. 180.000,- per bulan.

(lihat perkiraan perhitungan hal. 9)

- Mengingat banyaknya pengunjung yang menghendaki fasilitas kolam renang dapat selalu siap dipakai dan air dalam keadaan bersih dan sehat, maka sebaiknya rehabilitasi Kolam Renang Tirtomoyo Surakarta segera diwujudkan.

Akhirnya harapan kami dan harapan warga kota Surakarta pada umumnya berkehendak untuk segera terwujudnya kolam renang / pemandian yang representatif, dan semoga Tuhan Yang Maha Esa mem-berkati usaha ini.

COMPARISON BETWEEN USING CIRCULATION SYSTEM
AND PERIODIC SYSTEM AT TIRTOMOYO SWIMMING POOL

Attachment 1.

No.	Description	Circulation System	Periodic System	Remark
1.	Changes of water	6 months once	Twice a month	a. Following this data circulation system is more profitable b. Saving water of up to 33,000 m ³ this saving will be able to serve 230 new consumers (see page 6)
2.	Water consumed in 6 months	3,000 m ³	36,000 m ³	
3.	Days operating/month	30 days	20 days	
4.	Visitors/month	6,254 persons	4,300 persons	
5.	Income per month	Rp. 938,125	Rp. 645,000	
<u>INCLUDING CHILDREN'S POOL</u>				
a.	Total visitors/month increased to 30 x 40	1,200 persons	--	c. With the construction of children's pool SWE's income will show an increase
b.	Total income/month increased 1,200 x Rp.150,-	Rp. 180,000	--	

LOCATION (5) KELURAHANS NOT AFFECTED BY THE SURAKARTA WATER PROJECT IN ANY WAY

* EXCEPT :

1. HIGHER WATER PRESSURE (385)
2. LEAK SURVEY (385)
3. NEW CUSTOMER WATER METER (385)
4. FUTURE DISTRIBUTION LOOP DESIGN (182)



	OLD KM	REMOVED FOR REPLACEMENT KM	NEW KM	NET TOTAL KM
3 600			8.2	8.2
3 500			9.2	9.2
3 400	15.65	(2.02)	11.52	23.15
3 300	13.75	(0.4)	1.94	15.29
2 250			12.3	12.3
2 200			2.34	2.34
2 150	8.45	(0.18)	7.45	7.45
2 125	14.78	(1.15)	17.54	25.81
2 100	19.35	(0.44)	48.83	13.63
2 075/80	56.55	(3.21)	33.35	86.69
2 050	11.23	(0.65)	4.50	10.58
2 050			4.50	4.50
TOTALS	139.76	8.05	157.37	289.08
SERVICES		(?)	9.98	(?)

- LEGEND:
- B = BATH HOUSE
 - D = DISTRIBUTION MAINS
 - F = FIRE HYDRANT
 - H = PUBLIC HYDRANT
 - L = SECONDARY LOOP MAIN
 - P = PUBLIC LATRINE
 - T = TRANSMISSION MAIN
 - W = WATER WELL & PUMP
 - = KELURAHAN BOUNDARY
 - = KECAMATAN BOUNDARY
 - = CITY BOUNDARY

NOTE: THE ABOVE DATA COVERS PERIOD FROM 1969 THROUGH 1983.

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

C-1114

9. Total Amounts Committed/Contracted to Date:
 Foreign Currency \$6,709,932.00 & Available 1.325
 Local Currency Rp 1,592,300,926 & Available 7.041
10. Total Amounts Disbursed to Date:
 Foreign Currency \$6,277,253.00 & Available 6.448
 Local Currency Rp 1,397,518,545 & Available 12.232 (committed)
- Balance (SIAP) of 198_ DIP*
 Still Undisbursed _____
- * SIAP can be transferred to next year budget
11. Percent Project Completion to Date:
- | | <u>Actual</u> | <u>Scheduled</u> |
|-----------|---------------|------------------|
| Physical | <u>93.8</u> | <u>92.6</u> |
| Financial | <u>92.0</u> | <u>94.9</u> |
12. Estimated Project Completion
 Date Based Upon Present Status: 24 November 1982
13. General Description of Present Status of Project:
- TRANSMISSION MAIN & RESERVOIRS completed and in use.
 - DISTRIBUTION SYSTEM final phase Contract awarded work starts 08 June 1982.
 - WATER SERVICES total of 11,766 individual plus 215 public to be done 1982.
 - SUPERVISORY SERVICES & TRAINING ongoing operations continue.
 - GROUND WATER STUDY completed and (2) wells drilled equip. due inco 9/1982.
 - OTHER - final phase of public latrine rehab was started, complete 9/1982.
 - FACILITIES are considered complete for staff housing, offices & equipment.
14. Problems and Actions Needed:
- Planning: None anticipated.
 - Materials and Equipment Delivery:
 - Change order to P.T. Eslon Jaya awaiting Bappenas approval-delay will affect progress of Phase III Distribution Main Piping Installation.
 - Amendment No. 1 to Consultant Contract awaiting Bappenas approval.
 - Letter of Credit for clearance of O & M equipment and water well pumping equipment has not been issued so shipments cannot pass Customs.
 - Construction:
 - Final inspection partially conducted on Phases I, II, III bath house and public latrine work while Phase IV has begun work and is at 26.8%.
 - Phase III distribution main construction to start 08 June 1982.
 - Phase I distribution main final inspection held while Phase II has a small amount of work to complete prior to holding a final inspection.
 - Others: None anticipated.

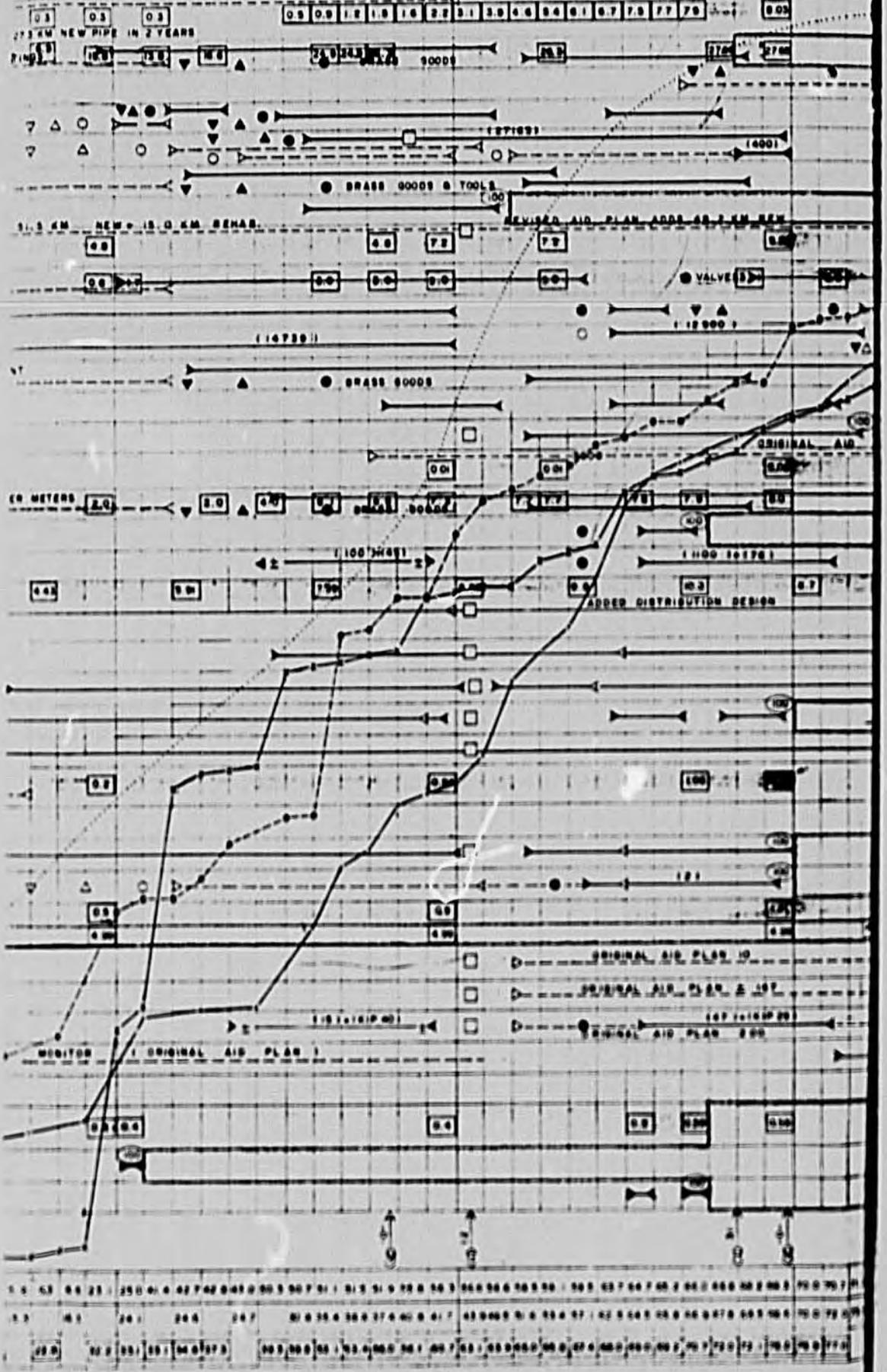
Surakarta 01 May 1982

SURAKARTA WATER SUPPLY PROJECT

ITEM	DESCRIPTION	% COMPLETED	BUDGET				FISCAL YEAR					
			LOAN		DIP. ART. EST.		1969/1970	1970/1971	1971/1972	1972/1973	1973/1974	1974
			THOU \$	%	MIL Rp	%						
I	TRANSMISSION MAIN & RESERVOIRS	34										
1	OFF-SHORE MATERIALS	170	2,712.3	37.449				0.3	0.3	0.3	0.3	
2	IN-COUNTRY MATERIALS		328.1	4.533	48.5	2.108						
3	TRANSPORTATION CONTRACT				75.6	7.634						
4	INSTALLATION CONTRACT				374.2	16.267	11,200.1					
5	TOOLS AND EQUIPMENT		26.4	0.363								
6	LAND ACQUISITION				10.0	0.433						
II	DISTRIBUTION SYSTEM	34									0.3	
1	OFF-SHORE MATERIALS	34	130.9	1.802								
2	IN-COUNTRY MATERIALS		621.7	8.584	149.7	6.908						
3	INSTALLATION CONTRACTS				705.8	30.683					11,800.1	
4	TOOLS AND EQUIPMENT		178.8	2.469								
5	TRANSPORTATION CONTRACTS				34.7	1.509						
6	DESIGN OF EXPANDED SYSTEM		103.4	1.420	92.9	4.039						
III	WATER SERVICES	45										
1	OFF-SHORE MATERIALS	45	880.0	12.150								
2	IN-COUNTRY MATERIALS				21.6	0.939						
3	INSTALLATION				9.3	0.404						
IV	SUPERVISORY SERVICES & TRAINING	48										
1	CONSTRUCTION SUPERVISION		310.2	4.283	148.0	7.303						
2	OPERATIONS & MAINTENANCE TRAINING		426.4	5.890	171.9	7.471						
3	MANAGEMENT TRAINING		181.0	2.499	48.3	2.095						
4	TENDER TECHNICAL ASSISTANCE		125.0	1.728	15.2	0.661						
V	GROUND WATER STUDY	48										
1	OFF-SHORE PROCUREMENT	48	200.0	2.761	3.1	0.135						
2	HYDROGEOLOGY & WELL DRILLING SUP.		208.8	2.858	77.5	3.368						
3	WELL DRILLING CONTRACTS				55.5	2.413						
VI	OTHER	48										
1	ORIGINAL DESIGN		442.7	6.112	64.1	2.787						
2	PUBLIC BATH HOUSES (10)		61.0	0.706								
3	PUBLIC LATRINES (102)		49.0	0.677								
4	PUBLIC HYDRANTS (200)		11.4	0.137	12.0	0.522						
5	IMPACT STUDY		120.0	1.657	37.5	1.630						
6	CONTINGENCY & MISCELLANEOUS		112.8	1.598								
VII	FACILITIES	23										
1	OFFICES & STAFF HOUSES				25.0	1.000						
2	EQUIPMENT		25.0	0.344								
TOTAL BUDGET			7,242.7	100	2,300.3	100						
TOTAL BUDGET USED			6,962.8	96.0	2,117.4	92.1						
ACTUAL PROGRESS DOLLAR COST (% OF TOTAL BUDGET)												
ACTUAL PROGRESS RUPIAH COST (% OF TOTAL BUDGET)												
PHYSICAL % COMPLETE												

- 1979 FISCAL YEAR 1979 - 1980 FISCAL YEAR 1980 - 1981 FISC

EC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN



PROYEK AIR BERSIH JAWA TENGAH, KEPALA BAGIAN-I

FISCAL YEAR 1981 - 1982

FISCAL YEAR 1982 - 1983

UP DATE : 03-6-1982

DRAWN DATE : 30-7-1981



NOTES :

- A KARTASURA RESERVOIR BUILDING CONSTRUCTION COMPLETED
- B COMPLETED COKROTULUNG INTAKE STRUCTURE & REHAB OF D400 D S 450
- C DATE OF ORIGINAL CONTRACT- DESIGN No 02/WS/1/AD/75 WITH BM/TAE M
- D DATE OF USAID LOAN No 497-U-044
- E DATE OF NOTICE TO PROCEED SERVICES & STRAINING CONTRACT No 01/WS-5/1/AD/78
- F DATE RUPIAH DEVALUED FROM 415 TO 625 U.S. DOLLAR
- G DATE OF AMENDMENT No 1 EXTENSION TO CONTRACT No 01/WS-5/1/AD/78
- H PROJECTED COMPLETION OF CONSTRUCTION - CONTRACT No 01/WS-5/1/AD/78
- I ORIGINAL USAID LOAN No 497-U-044 TERMINAL DATE FOR DISBURSEMENT AUTH/N
- J ORIGINAL USAID LOAN No 497-U-044 TERMINAL DATE FOR DISBURSEMENT
- K REVISED USAID LOAN No 497-U-044 TERMINAL DATE FOR DISBURSEMENT AUTH/N
- L FINAL DATE FOR DISBURSEMENT OF FUNDS FROM USAID LOAN No 497-U-044
- M PUBLIC HYDRANTS FUNDED & INSTALLED BY KIP ARE CONNECTED TO PDM MAINS
- N DATE OF AMENDMENT No 2 EXTENSION TO CONTRACT No 01/WS-5/1/AD/78
- O CONDITIONS PRECEDENT TO DISBURSEMENT ON LOAN 497-U-044 SATISFIED
- P INCLUDED WORK AT SOLO & SEMARANG ONLY COST & BUDGET FOR SOLO SHOWN

LEGEND :

- (100) FINANCE - PERCENT - PHYSICAL (100)
- PROJECTED COMPLETION
- EST - ESTIMATED
- KIP - KAMPUNG IMPROVEMENT PROGRAM
- ▽ CALL FOR TENDER PLANNED
- ▼ CALL FOR TENDER ACTUAL
- △ OPENING OF TENDER PLANNED
- ▲ OPENING OF TENDER ACTUAL
- AWARD OF CONTRACT PLANNED
- AWARD OF CONTRACT ACTUAL
- ▼▲ TENDERING
- ▲● EVALUATION
- ▶ START PLANNED
- ▶ START ACTUAL
- ◀ FINISH PLANNED
- ◀ FINISH ACTUAL
- ACTIVITY PLANNED
- ACTIVITY ACTUAL
- EXTENDED SERVICES
- ▲ EVENT
- DAY OF MONTH
- REF. NOTE IDENTIFICATION
- (100) QUANTITY = EACH / METERS
- ± APPROXIMATE