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REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS AND ELECTRIC POWER
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT

32p.

THE CITANDUY RIVER BASIN
DEVELOPMENT PROJECT

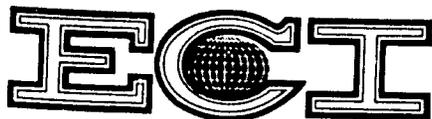
MONTHLY REPORT FOR THE PERIOD
Ending: 31 October 1976

SUBMITTED BY:

ENGINEERING CONSULTANTS, INC.
DENVER, COLORADO USA BANJAR, INDONESIA

HOME OFFICE

1901 SOUTH NAVAJO STREET • DENVER, COLORADO 80223, U.S.A.
TELEPHONE: 303/936-3417 • TELEX: 45-551 • CABLE: ECIDEN



ENGINEERING CONSULTANTS, INC.

REPLY TO:

PROYEK CITANDUY, JL. CIMARAGAS NO. 1
BANJAR, WEST JAVA, INDONESIA
CABLE: "ECIBANJAR"

November 3, 1976

Directorate General of
Water Resources Development
Ministry of Public Works
and Electric Power
Jalan Pattimura 20
Kebayoran Baru, Jakarta
Republic of Indonesia.

Attn: Ir. Sarbini
Acting Director of Rivers.

Our file: 1163/317
MR10/76
Subject : Monthly Report
Citanduy River Basin
Development Project

Dear Sir:

We are herewith submitting our thirty ninth monthly report, which covers the month of October 1976. This report reflects the activities of winding-up the completion of works under the present contract.

Please review the revised schedules and work programs, we would appreciate any comments or suggestions regarding same. The volume final reports and review of same presents problems in relation to the remaining time.

Encl: Thirty (30) copies of
Progress Report No. 39.

Very truly yours,

Engineering Consultants, Inc.

CC:

1. USAID/Jakarta, American Embassy
Jakarta, Republic of Indonesia
Attn: Dr. Gerrit Argento
Program Section
Six (6) enclosures.
2. Directorate of Rivers. Banjar Office
Attn: Ir. Soebandi Wirosoemarto.
Citanduy Project Manager
Five (5) enclosures.
3. ECI/Denver
Attn: Mr. C.M. Langford, Project Sponsor
Three (3) enclosures.
4. ECI/Staff. Banjar.

A handwritten signature in cursive script that reads "Jack Earl Farmer".
Jack Earl Farmer
Resident Manager

I. GENERAL

As the present contract work enters the final months the Consultants are now working closely with the Proyek to finalize the Small Committee Working groups reports that were completed at the Steering Committee meeting on the 20 to 23th of October in Jakarta.

We are pleased with the efforts and results of these Small Committees of the working review teams for their various reports at the Steering Committee Meeting. With the presence of the Director General of Water Resources and Mr. Cecil Langford, ECI's Senior Vice President and Project Sponsor at the S.C. Meeting great volume of material was reviewed and commented on.

As a result we are now proceeding to finalize all of our reports and activities connected with this phase of work.

With the signing of the new loan agreement and negotiations proceeding on the new engineering contract for the next phase works, we are hopeful that an time extension can now be grant under the present contract. With the further reduction of Consultants Staff as a result of the ending of various work programs there still remains a tremendous volume of typing, printing, drawing, drafting and reproduction to do.

II. PERSONNEL

A. Present at last report:

- | | |
|------------------------|-------------------------|
| 1. Jack Earl Farmer | - Resident Manager |
| 2. Saeed A. Rana | - Design Engineer |
| 3. Malcolm J. Crawford | - O & M Engineer |
| 4. N.F. Dennis | - Civil Engineer |
| 5. William J. Russell | - Farm Management |
| 6. M. Sabir Mirza | - Irrigation & Drainage |
| 7. John C. Marr | - Fishery Consultant |
| 8. George Mumma | - Irrigation & Drainage |

B. Arrivals subsequent to last report:

- | | |
|---------------------|------------------------------|
| 1. Sydney F. Hillis | - Soil & Foundation Engineer |
|---------------------|------------------------------|

C. Departures subsequent to last report:

- | | |
|---------------------|------------------------------|
| 1. Sydney F. Hillis | - Soil & Foundation Engineer |
| 2. John C. Marr | - Fishery Consultant |
| 3. M.J. Crawford | - O. & M Engineer |
| 4. George Mumma | - Irrigation & Drainage |
| 5. M.S. Mirza | - Irrigation & Drainage |

D. Scheduled to arrive in November 1976:

Unknown

E. Scheduled to depart in November 1976:

Unknown

F. Scheduled to arrive at a later date:

Unknown

G. Scheduled to depart at a later date:

Unknown

H. Administrative personnel present:

- | | |
|---------------------|---------------|
| 1. Nungki S.W. | - Secretary |
| 2. Pauline Sulianti | - Interpreter |
| 3. F.I. Susanti | - Clerk |
| 4. Setiani O.S. | - Typist |

III. IMPORTANT EVENTS AND FIELD TRIPS

<u>No.</u>	<u>Day of Month</u>	<u>Location</u>	<u>Purpose</u>	<u>Personnel</u>
1.	1 - 2	Banjar	Review Committee Meeting, F.C. Specification	Rana
2.	3	Gombong	Meet with Mr.Howard Re:Foundation data	Rana and Hillis
3.	3	Bandung	Meet with Fishery Contacts Re: S.A.	Marr, Riyanto
4.	4 - 9	Jakarta	Meet with Fishery Contacts Re: S.A.	Marr, Riyanto
5.	4 - 6	Bandung	Check with Soils Laboratory	Hillis, Sitanggang
6.	5	South Lakbok	Check Survey data	Dennis
7.	5	Langensari	Inspection of Irrigation Construction	Russell
8.	6	Tasik & Ciamis	Verify service area	Mirza and Djoko
9.	7	Sidareja	Check survey data	Dennis
10.	10	South Lakbok	Field Trip Flood Control Structure site	Rana - Hillis
11.	11	Tasik & Ciamis	Verify service area	Mirza - Djoko
12.	14 -16	Yogyakarta	Confirm data & return to U.S.A.	Hillis
13.	14	Langensari & Padaringan	Inspection of Construction	Russell
14.	18	Banjar	Review Final Design I & D Report	Mirza and Review group
15.	19 -24	Jakarta	Steering Committee Meeting	All Staffs
16.	25	Rawa Onom	Verify structures	Mirza - Tristiyar
17.	26	Banjar	Discussion cross connection model tests	Rana - Satriyo - Suradji
18.	28	Langensari	Locate Measuring Orifices P.D.F.	Russell - Bambang

f

IV. MAJOR PROBLEM AREAS

As indicated in the general section of this report we are finalizing all reports and activities under this phase of our contract work. Proceeding as directed by the Steering Committee at its meeting on October 20-23rd in Jakarta.

We are working closely with Mr. Soebandi and his staff to attempt to overcome the volume of work remaining to complete, additional drafting help has been supplied and new schedules developed to this end.

Our fine office staff 4 young ladies have been and are continuing to do a fine job with the overload of remaining work. We hope to be able to work out an extension of time under the existing contract to reduce the overtime and extra costs involved.

V. PROGRESS

A. TECHNICAL

I. HYDRAULIC STRUCTURES SECTION

1. Prepare Design Criteria:

The final approved draft was printed and issued in June 1976.

2. Design Levee:

All the design work has been completed and drafting work is 90 percent complete. The drawings are finally being checked and corrected. The details of work are given as hereunder.

a. Citanduy River Levees: The total length of levees for which rehabilitation and upgrading design have been prepared is 121.50 kilometers out of which 65.30 kilometers length is on the left bank and 56.20 is on the right bank. The total number of drawings prepared is 63. Out of these, 55 drawings contain plan profile and typical cross sections, 2 drawings show standard levee design and approach ramps, 5 drawings relate to the relocation and building of Nusawuluh and Cipanggang overflow structures and one drawing is the location map.

One additional drawing to be made is an other location map.

b. Ciseel River Levees: The total length of levees for which rehabilitation and upgrading design has been completed is 41.2 kilometers along the left bank and 21.2 kilometers along the right bank. The number of drawings all of which show plan profile and typical cross sections is 26.

c. Other Rivers Levees: The levees for which rehabilitation and upgrading has been designed are 8.9, 6.8 and 7.7 kilometers long along the Cijolang, Cikawung and Ciputrahaji Rivers, respectively. The number of plan profile and typical cross sections drawings prepared for these rivers is 12.

The standard levee cross section and access ramp drawings mentioned in (1) above will also be used for the Ciseel and the other river levees.

The estimates for the levee fill volumes are being worked out on the basis of cross sections at 200 m intervals. For this, another 160 work sheets are being prepared on the blue line prints. These will not be drafted but will be submitted in original.

3. Wanareja Swamp Structures:

In addition to rehabilitation and upgrading of levees required to provide protection to Wanareja Swamp, the following structures have been designed.

a. Levee Overflow Spillways: There are six such structures and the number of drawing required and completed is 7.

b. Drainage Inlet Flap Gate Structure: Structures at five locations have been designed. The number of structure drawings prepared including standard design of piles is 16. The balance work is preparing 3 more drawings which will show the pile locations in foundation.

4. Channel Correction:

This work is all complete for designing channel cuts at four locations on the Citanduy River. The number of drawings prepared is 7.

5. Ciseel - Citanduy Cross Connection:

This work comprises the following:

a. Cutoff Channel: Two drawings showing plan profile and typical cross sections of the cross connection are complete. However, because of the changed location of the syphon for foundation considerations as recommended by ECI's foundation and soils expert, these drawings have to be corrected. One additional drawing is required to show the layout of the relocated Cilisung drain at the syphon crossing.

b. Cilisung Syphon: This design including the foundation has been completed. The drawings prepared are 5. The balance work is preparing 2 more drawings to show foundation preloading and sand drains for which details have already been finalized.

c. Bridge: For the originally designed 2-lane bridge conforming to AASHO H-15 loading. 10 structure drawings have already been completed. However, with the latest decision to build a smaller bridge (3.5 t. axle load and one lane roadway), 5 more drawings have to be made. Out of these, 4 drawings have already been prepared and the remaining will be completed by the middle of the next month.

6. Ciseel River Flap Gate Structure:

The design work including foundations is all complete. The number of drawings prepared is 7. For showing the foundation preloading details, 2 more drawings have to be prepared.

7. Pataruman Desilting Basin:

The design work is all complete for which six drawings have been prepared.

8. Existing Structures:

The work included existing structures on the levees which have to be upgraded. There are seven such structures for which designs have already been completed. The total number of structural drawings required and drawn is 9.

9. Final Report:

The draft of the flood control design report has already been reviewed by the working committee and the USAID and accepted by the Steering Committee. The points raised and the comments made by the review committee and the action taken by the ECI are described in the following sections are being incorporated in the draft before the final printing is done.

10. Design of Major Drains:

Hydrology of the drains has already been worked out and the design discharges established. The plan profile and sections drawings are being prepared. The total number of drawings required for this work is 12. Preparation of the drawings is expected to be completed by the end of the next month.

11. Technical Specifications:

The technical specifications have been prepared for the flood control works and other structures in the Project. These were reviewed by the small committee appointed by the Steering Committee for this purpose.

After incorporating the suggestions from the small committee, these specifications have been combined with the levee construction specifications and Irrigation and Drainage Specifications to form one document titled "Standard Technical Specifications for Civil Works." This document has been accepted by the Steering Committee.

II. IRRIGATION AND DRAINAGE SECTION

1. Pilot Demonstration Farms

All the drawings with As-Built revisions are completed and Final Reports - both for Padaringan and Langensari Pilot Demonstration Farms had been submitted to all concerned.

2. Design Criteria

All the comments from AID, Ministry and Directorate of Irrigation were replied and those necessary incorporated in the final printing of the Design Criteria. Copies of Final Printing of criteria had been forwarded to all concerned.

3. Irrigation and Drainage Systems

a. Rehabilitation of Existing Systems:

i) Citalahab System

As reported in earlier reports all the design and drawings for the System have been completed. Some Data and Dimension Tables were also prepared for this system to demonstrate what information shall be substantiated and included in the Contract Documents to facilitate and accomplish construction of repetitive type of structures by use of Standard Drawings (IS-series). Forty (40) plan and profile and three (3) special structure drawings for this system had been completed. Capacity statements and Flow and Service Area Diagram were also completed for the system.

ii) Rawa Onom System

Design of Canals and Drains has been finalized. Twenty seven (27) more drawings - Plan and Profile and Typical Sections, were finalized during the month. This makes

a total of 68 drawings completed for this system. Capacity statements and Flow and Service Area Diagram were also completed for this system.

iii) North Lakbok System

Design work for the system has been finalized. The work of preparation of Plan and Profile Drawings for Irrigation Canals is about 80% complete. The work of Preparation of Plan and Profile Drawings of the major drains Kalen Kendal, Kelapa Sawit, Cigaron, Cilisung, was initiated but subsequently taken up by flood control section. Capacity statements of Irrigation Canals, and Flow and Service Area Diagram of the Systems were completed.

iv) Ciputrahaji System

v) Gunung Putri I System

vi) Gunung Putri II System

vii) Cikaso System

Layouts of all Irrigation Canals inclusive of Tertiary and Farm Turnouts and drains for each of the above systems (iv, v, vi, and vii) have been finalized and their design is essentially complete. Field verification of existing structures, for all the systems to be rehabilitated, has been completed and the listing of the extent of rehabilitation work required for each type of structure has been completed. The flow and service area diagrams for each of these systems were also completed for inclusion in the Final Design Report. The work of Preparation of Plan and Profile Drawings and Typical Cross Sections for the Irrigation and Drainage Canals for each of these systems is in progress.

b. New System

i) South Lakbok System

Layout and design of canals and drains is nearly completed. Plan and Profile drawings and Typical cross-sections are in progress. Flow and Service Area Diagram of the system is completed. The drawings progress is as noted in the Drawings Inventory. The design of Cirapuan Drain and its Drawings are in progress and being taken care of by Flood Control section.

ii) Panulisan System

Layout of all canals and drains and their design are essentially complete. Plan and Profile Drawings and Typical cross-sections Drawings are in progress.

4. Standard Drawings

As reported earlier 58 Standard Drawings are nearly completed. These drawings will suffice for construction of most of the repetitive type of structures for all the systems, rehabilitation or new. These drawings shall, however, be substantiated by Data and Dimension Tables for each system separately giving all the controlling elevations and main dimensions of the structures required for construction. These Standard Drawings were reviewed by the Review Group in a meeting held in Banjar on September 8,9,1976. It may be noted that all the members of the Review Group were of the Unanimous view that the Standard Drawings (IS - series) prepared by ECI for Irrigation and Drainage Structures, are adequate for the Construction of repetitive type of structures for all the systems. The approval of these drawings was formally accorded by the Steering Committee in its meeting held in Jakarta Oct. 20 to 23.

5. Technical Specifications

Technical Specifications were finalized and the draft submitted for review was discussed by Review Group in a meeting held at Banjar on September 9, 10, 1976. All minor changes agreed to be incorporated in the draft were circulated to all concerned. Later on, while reviewing the specifications for Flood Control Works, it was decided by the Review Group that Technical Specifications for Irrigation and Drainage and Flood Control Works be combined. The combined draft was approved by the Steering Committee in its recent meeting in Jakarta October 20 - 23.

6. Final Design Report

In the beginning of the month, the draft of Final Design Report and its Appendices for Irrigation and Drainage Works, were submitted to all concerned. The Review Group met in Banjar on October 18, 1976. The Review Group recommended the approval of the Report without any changes. The Final Design Report was formally approved by the Steering Committee during its meeting held at Jakarta, October 20-23. Final Printing of the Report shall be done soon, only minor typing errors need to be corrected.

III. PANAWANGAN WATERSHED

The Panawangan Pilot Watershed Conservation Project Final Design Report has been submitted. Dr. Russell will put out an addendum showing the changes in organizational chart and other recommendations made at Steering Committee Meeting.

IV. PILOT DEMONSTRATION FARMS

The Final Design Reports on Langensari and Padaringan P.D.F. have been revised and is now being typed in final report.

Manual raingage and evaporation pan have been installed at the Langensari site.

Gages for Parshall Flumes and Weirs have not been installed at the two sites.

Stoplogs for check structures at Langensari PDF have not been installed, consequently some farmers fields are not being properly irrigated for land preparation.

V. SEGARA ANAKAN SUB-PROJECT

At the S.C. Meeting directions were given to complete the present design work under way here and in our Denver office. With the further direction to include in our recommendations alternate "B" for the Development of the Coastal Plain of the area.

Dr. Marr's report on "Fishery Resources Aspect" will be finalized with the comments received.

VI. MAPS & SURVEYS

The Segara Anakan 1:25,000 planning map is now completed, as is the scope of works for Tri-Tunggal mapping of the area.

The pilot plan plot map for the western area (Bojonggenteng) is now completed.

All bench marks have been plotted on the 1:50,000 maps.

Extra mapping at the Citanduy River to the east of the proposed channel relocation site is now necessary due to the elimination of same in order to terminate the eastern levee section.

The quarry site report has been complete and an effort is being made to check the soil boring data at the tide limit site.

VII. CONSTRUCTION CONTRACT DOCUMENTS

The construction contract documents for the first section of Levee is now being typed, then we will prepare the constructions contract documents for the Irrigation and Drainage Works at Chitalahab and the construction contract documents for structures on Citanduy left levee along Wanareja Swamp. These three construction contract documents will serve at typical document formats for the remaining similar works.

VIII. EQUIPMENT LIST & SPECIFICATIONS

The equipments list is essential completed except for administrative decision on purchase of support items.

The equipment specifications are now being prepared in our Denver office, the field equipment specifications will be available in November, the shop tools in December and the radio equipment is conditional depending on further information from the suppliers.

A final list and sets of specification will be finalize upon securing the above data which will include equipment to be provided by the Directorate and the USAID purchases.

IX. O & M SECTION

The final revisions for the O & M Manual for Irrigation and Drainage as indicated by the review group that meet at the S.C. Meeting.

The final revisions to the O & M Manual for Flood Control are also under way.

B. ADMINISTRATIVE

The following tables show the status of both the Rupiah and the US Dollar Accounts. A total of 39 months of the allotted 40 months has now elapsed. During this time we have expended of our Rupiah funds and of our US Dollar funds as indicated.

Section 6.01 of the Contract, as amended, stipulates that at the end of the 38th month the Consultant shall either certify that the budget is adequate as it stands, or submit any proposed budget adjustments. In view of this requirement, we have added two columns to the tables.

1. Suggested budget adjustment
2. Revised balance (if budget adjustment is approved)

In the US dollar budget we have increased Items 4,5,6,8,10,11 and 12. Item 1,2,3,7 have been decreased. Item 9 remains the same. The total budget figure remains the same

In the Rupiah budget we have increased Items 4,5 and 6, Items 1, 3, and 8, have been decreased. Items 2 and 7 remain the same. The total budget figure remain the same.

Budget Status - Rupiah Account - October 1976

I T E M	Amounts (Rp.)			
	Budget		Costs	
	Present Contract	Suggested Adjustment	Current Expenditures	Revised Balance
1. Local Per Diem	28,515,000	28,000,000	22,401,000	5,599,000
2. Cables and Telephone	2,600,000	2,600,000	2,387,763	212,237
3. Postage	2,600,000	2,000,000	1,634,848	365,152
4. Reproduction and Printing	10,500,000	14,000,000	11,823,501	2,176,499
5. Miscellaneous	3,200,000	4,000,000	2,753,611	1,246,389
6. Supplies and Materials	5,600,000	6,000,000	5,488,595	511,405
7. In country shipping	1,500,000	1,500,000	795,117	704,883
8. Personnel	20,300,000	16,715,000	11,585,657	5,129,343
9. Withdrawn	-	-	750,985	750,985
T O T A L	74,815,000	74,815,000	58,119,107	16,695,893

Budget Status - US \$ Account - October 1976

I T E M	Amount (US \$)				
	Budgets		Costs		
	Present Contract	Suggested Adjustment	Current Expenditures	Current Balance	Revised Balance
1. Resident Personnel, Base Pay	470,020	440,000	403,740	66,280	36,260
2. Overseas Differential, 25% B.P.	125,105	120,000	101,258	23,847	18,742
3. Overseas Overhead, 75% B.P.	332,533	330,000	302,805	29,728	27,195
4. TDY and Denver Personnel, B.P.	206,350	220,000	173,665	32,685	46,335
5. TDY and Denver Overhead, 95% B.P.	175,520	180,000	164,982	10,538	15,018
6. Special Consultants	20,000	26,154	14,750	5,250	11,404
7. Travel	153,000	150,000	129,725	23,275	20,275
8. Per Diem	6,726	8,000	5,435	1,291	2,565
9. Transportation	45,800	45,800	43,876	1,924	1,924
10. Other Direct Costs	55,400	57,000	41,829	13,571	15,171
11. Ministry Personnel in Denver	76,000	84,000	75,864	136	8,136
12. Special Equipment	99,500	105,000	86,783	12,717	18,217
14. Fixed Fee	185,760	185,760	175,000	10,760	10,760
T O T A L	1,951,714	1,951,714	1,719,712	232,002	232,002

VI PROGRAM

As indicated in the general section, major problem area section and progress section of this report we are proceeding to complete the work provided for under our present contract.

The only major problem is the time remaining allowed under our present contract for which we have asked for a time extension to allow for its completion and for billing purposes.

VII. APPENDICES

Table	I	- Manpower Schedule (Expatriate Specialists - Cumulative Man-Months)	A-1
Table	II	- Manpower Schedule (Administrative Staff Cumulative Man-Months)	A-2
Table	III	- Arrivals and Departures (ECI) Administrative Staff	A-3 A-4
Table	IV	- Arrivals and Departures Counterpart Team Assistant Counterpart-Draftsmen	A-5 A-6
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TABLE I - MANPOWER SCHEDULE
(Expatriate Specialists - Cumulative Man - Months)

DESCRIPTION		TOTALS		1 9 7 6												TOTALS	
POSITION TITLE	NAME	31/1/75	31/12/75	JAN.	FEB.	MAR.	APR.	MAY.	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	ACT.	CONT.	
R E S I D E N T S T A F F																	
RES MANAGER	ROGERS	18.00	29.00	1.00	2.00	3.00	4.00	5.00	6.00	6.50	6.50	6.50	6.50	6.50	35.50	40.00	
CIVIL ENGINEER	SCHOENLEBER	13.20	13.20	-	-	-	-	-	-	-	-	-	-	-	13.20	16.00	
CIVIL ENGINEER	DENNIS	-	1.90	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	-	-	13.00	
SURVEYOR	GOSS	-	7.50	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	8.10	-	-	-	10.00	
HYDROLOGIST	SAUNDERS	10.30	13.80	-	-	-	-	-	-	-	-	-	-	-	13.80	14.00	
HYDROLOGIST	KERR	-	8.30	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	-	-	-	8.00	18.00	
IRRIG. & DRAIN.	BOGAN/MUMMA	16.50	19.00	-	-	-	-	-	-	-	0.80	1.80	2.80	-	19.00	17.00	
IRRIG. & DRAIN.	MIRZA	-	-	-	-	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	-	-	11.00	
IRRIG. O. & M.	CRAWFORD	-	7.70	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	-	-	18.00	
HYDRAULIC DESIGN	RANA	-	7.70	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	-	-	18.00	
MATERIAL ENGR.	HANCOCK	-	7.00	-	-	-	-	-	-	-	-	-	-	-	7.00	8.00	
MATERIAL ENGR.	POLASKY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GEOLOGIST	SCOTT	10.10	10.10	-	-	-	-	-	-	-	-	-	-	-	10.10	7.00	
GEOLOGIST	HOWARD	-	8.40	1.00	2.00	3.00	4.00	5.00	6.00	7.00	7.40	-	-	-	7.40	17.00	
AGRICULTURIST	EDWARDS	12.00	-	-	-	-	-	-	-	-	-	-	-	-	12.00	12.00	
FARM MANAGER	BURKE	-	1.60	-	-	-	-	-	-	-	-	-	-	-	1.60	2.00	
FARM MANAGER	RUSELL	-	0.50	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	-	-	12.00	
SOIL SCIENTIST	GARDNER	12.00	-	-	-	-	-	-	-	-	-	-	-	-	12.00	12.00	
SOIL SCIENTIST	BOULTER	-	7.50	-	-	-	-	-	-	-	-	-	-	-	7.50	8.00	
SOIL SCIENTIST	JEFFERS	-	-	-	-	0.70	1.70	2.70	3.70	4.70	5.70	6.20	-	-	6.20	6.00	
ECONOMIST	STRUTHERS	16.50	-	-	-	-	-	-	-	-	-	-	-	-	16.50	16.00	
RES MANAGER	FARMER	-	-	-	-	-	-	-	0.40	1.40	2.40	3.40	4.40	-	-	5.40	
SUB-TOTAL		108.60	181.70	8.00	16.00	25.70	35.70	45.70	56.10	66.60	76.80	69.00	55.20	-	-	-	
D E N V E R A N D T D Y S T A F F																	
PROJECT SPONS.	LANGFORD	1.70	2.10	0.50	0.60	0.60	0.60	0.60	0.60	0.70	0.70	0.70	0.80	-	-	4.00	
PLAN ENGINEER	WILL	1.00	1.00	-	-	-	-	-	-	-	-	-	-	-	1.00	1.00	
PLAN ENGINEER	OTTER	-	1.10	-	-	0.20	0.20	0.20	0.20	0.20	0.20	0.45	-	-	-	4.00	
CHIEF ENGINEER	KUEHL	1.60	1.80	-	-	-	-	-	-	1.90	1.90	1.90	-	-	-	3.50	
CHIEF CIVIL ENG.	COLE	1.90	2.80	-	-	-	-	-	-	-	-	-	-	-	-	2.00	
HYDROLOGIST	AU YEUNG	2.50	2.50	-	-	-	-	-	-	-	-	-	-	-	-	4.00	
RIVER ENGINEER	STEVENS	3.00	4.10	-	-	-	-	-	-	-	-	-	-	-	-	9.00	
LAND - USE	FLETCHER	4.00	4.00	0.60	1.60	2.60	3.60	4.00	4.00	4.00	4.00	4.00	-	-	-	8.00	
MECH. ENGINEER	ISMERT	-	-	-	-	-	0.50	1.30	1.30	1.30	1.30	1.30	-	-	-	9.00	
ENVIRONMENT.	CHURCHILL	1.90	1.90	-	-	-	-	-	-	-	-	-	-	-	-	1.50	
FISH EXPERT	MARR	-	-	-	-	-	-	-	-	0.30	1.30	2.30	2.65	-	-	3.00	
SOIL MECH.	HILLIS	-	-	-	-	-	-	-	0.20	0.20	0.20	0.20	0.70	-	-	20.00	
SUB-TOTAL		17.60	21.30	1.10	2.20	3.4	4.90	6.10	6.30	8.60	9.60	10.85	4.15	-	-	-	
S P E C I A L C O N S U L T A N T S																	
M. BIOLOGIST	TURNER	-	1.20	-	-	-	-	-	-	-	-	-	-	-	1.20	2.00	
FOUND. SPEC.	BURKE	0.70	-	-	-	-	-	-	-	-	-	-	-	-	0.70	2.00	
SUB TOTAL		0.70	1.20	-	-	-	-	-	-	-	-	-	-	-	1.90	4.00	
TOTAL		130.90	208.90	9.10	18.20	29.1	40.60	51.80	62.40	75.20	79.90	79.85	59.35	-	-	-	

TABLE II - MANPOWER SCHEDULE
(Administrative Staff - Cumulative Man - Months)

DESCRIPTION		TOTALS		1 9 7 6												TOTAL
POSITION TITLE	NAME	31/1/75	31/12/76	JAN.	FEB.	MAR.	APR.	MAY.	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	
SECRETARY	NUNGKI. S. W	17.60	28.60	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00			
INTERPRETER	SULIANTI. P	16.10	27.10	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00			
INTERPRETER	DJOELIANDI	8.90	8.90	-	-	-	-	-	-	-	-	-	-	-	-	-
CLERK	SUPIARTI	17.30	23.30	-	-	-	-	-	-	-	-	-	-	-	-	-
CLERK	SRI Z. O.	17.60	17.60	-	-	-	-	-	-	-	-	-	-	-	-	-
TYPIST	ETJIH. S.	17.10	19.10	-	-	-	-	-	-	-	-	-	-	-	-	-
TYPIST	SUSANTI	-	7.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00			
TYPIST	IRAWATI	-	2.10	-	-	-	-	-	-	-	-	-	-	-	-	-
TYPIST	SETIANI	-	4.70	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00			
MESSENGER	DASIRAN	17.00	17.00	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL		111.60	155.40	4.00	8.00	12.00	16.00	20.00	24.00	28.00	32.00	36.0	40.00			

TABLE III ARRIVALS AND DEPARTURES

(ECI)

<u>NAME</u>	<u>POSITION</u>	<u>ARRIVED</u>	<u>DEPARTED</u>
Expatriate Specialists			
1. G.E. Rockwell	President, ECI	14/10/73	19/10/73
		18/10/75	22/10/75
2. C.M. Langford	Project sponsor	23/ 7/73	4/ 8/73
		27/ 1/74	8/ 2/74
		5/ 7/74	23/ 7/74
		5/ 1/75	18/ 1/75
		10/ 7/75	22/ 7/75
		21/ 1/76	31/ 1/76
		28/ 4/76	29/ 4/76
		26/ 7/76	29/ 7/76
		19/10/76	-
3. G.E. Rogers	Resident Manager	30/ 7/73	1/ 6/75
		8/ 7/75	15/ 7/76
4. J.E. Farmer	Resident Manager	17/ 6/76	-
5. W.J. Schoenleber	Civil Engineer	1/ 8/73	6/ 9/74
6. C.L.G. Goss	Surveyor	18/ 5/75	28/ 8/76
7. M.P. Saunders	Hydrologist	17/ 3/74	26/ 4/75
8. R.L. Kerr	Hydrologist	6/ 6/75	31/ 8/76
9. D.E. Bogan	Irr. & Drainage	12/ 8/73	15/12/74
		7/ 2/75	20/ 4/75
10. M.J. Crawford	Irrigation O & M	10/ 5/75	30/10/76
11. S.A. Rana	Design Engineer	10/ 5/75	-
12. D.P. Scott	Geologist	15/ 9/73	17/ 4/74
		19/ 6/74	19/ 9/74
13. P. Howard	Geologist	4/ 4/75	11/ 8/76
14. A.E. Hancock	Const. Management	3/ 4/75	1/11/75
15. R.T. Edwards	Agriculturist	16/ 9/73	31/ 8/74
16. R.A. Gardner	Soil Scientist	15/ 9/73	31/ 8/74
17. K.E. Boulter	Soil Scientist	17/ 5/75	31/12/75
18. R.E. Struthers	Economist	15/ 9/73	18/ 1/75
19. E. Will	Planning Engineer	15/ 9/73	15/10/73
20. P.N. Otter	Planning Engineer	30/ 3/75	25/ 4/75
		1/ 3/76	5/ 3/76
		3/ 9/76	11/ 9/76
21. M.K. Kuehl	Chief Engineer	26/ 8/73	18/ 9/73
		29/ 3/74	21/ 4/74
		6/12/75	15/12/75
		28/ 7/76	30/ 7/76

<u>NAME</u>	<u>POSITION</u>	<u>ARRIVED</u>	<u>DEPARTED</u>
<u>Expatriate Specialists</u>			
22. H.N. Cole	Chief Civil Engineer	22/ 6/74	18/ 8/74
23. Yin Au Yeung	Hydrologist	16/ 8/75	10/ 9/75
24. M.A. Stevens	River Morph.	25/ 8/73	13/10/73
		9/ 3/74	12/ 4/75
25. H.C. Fletcher	Land Management	27/10/73	1/12/73
		61 7/74	5/ 9/74
		30/ 3/75	2/ 5/75
26. Dick Churchill	Environment	13/ 1/74	12/ 5/74
27. H.W. Burke	Geologist	15/ 1/76	17/ 5/76
28. R.E. Turner	M. Biologist	17/ 2/74	3/ 4/74
		6/ 7/74	28/ 7/74
29. William Burke	Farm Management	11/ 6/75	25/ 6/75
30. N.F. Dennis	Civil Engineer	10/ 8/75	1/ 9/75
31. William J. Russell	Farm Management	12/ 9/75	31/10/75
32. M. Sabir Mirza	Irr. & Drainage	1/11/75	-
33. J.P. Jeffers	Soil Scientist	16/12/75	-
34. John C. Ismert	Mech. Engineer	29/ 2/76	30/10/76
35. Sydney Hillis	Soil Mechanics	6/ 3/76	15/ 9/76
		17/ 4/76	26/ 5/76
36. John C. Marr	Fishery Specialist	2/ 6/76	26/ 5/76
37. George Mumma	Irr. & Drainage	1/10/76	16/10/76
		23/ 7/76	10/10/76
		8/ 8/76	30/10/76
<u>Administrative Staff</u>			
1. Nungki S.W.	Secretary	13/ 8/73	-
2. Pauline Sulianti	Interpreter	28/ 9/73	-
3. Sylvia Djoeliandi	Interpreter	13/ 9/73	30/ 6/74
4. Supiarti	Clerk	28/ 8/73	1/ 8/75
5. Sri Z. Oemar	Typist	13/ 8/73	31/ 1/75
6. Etjih Suhari	Typist	29/ 8/73	31/ 3/75
7. Susanti	Typist	1/ 5/75	-
8. Irawati	Typist	4/ 8/75	2/10/75
9. Setiani O.S.	Typist	11/ 8/75	-
10. Dasiran	Messenger	1/ 9/73	31/ 1/75

TABLE IV ARRIVALS AND DEPARTURES
(Counterpart Team)

NAME	POSITION	ARRIVED	DEPARTED
1. Ir. Soebandi Wirosoemarto	Team Leader	1/4/75	-
2. Ir. Sriyono Mitrosutarno	Deputy Team Leader I	1/4/75	-
3. Ir. Satriyo Untung	Deputy Team Leader II Hydraulic Structures	1/4/75	-
4. Ir. Imam Hidayat	General Planning Hydrology	1/4/75	-
5. Ir. Siswoko	Chief Planning Eng. Irr. & Drainage	1/4/75	16/10/76
6. Ir. Bare Tjupang	Surveying/Mapping	1/4/75	31/ 1/76
7. Drs. Subagyo	Surveying/Mapping	1/4/75	-
8. Ir. M. Djihad	Const. Material Eng. Chief Engineer	1/5/75	-
9. Drs. Sitanggang	Const. Material Eng.	1/5/75	-
10. Ir. Sambudhi Sudibyو	Soil/Land Class.	1/4/75	1/10/76
11. Drs. M. Rianto	Land Use/Management	1/6/75	-
12. Ir. Soedaryanto H.S.	Geology	1/4/75	-
13. R. Abdul Karno	O & M	1/7/75	-
14. Drs. Hudadi	General Affairs/ Finance	1/4/75	Part Time
15. Hendro Pradono S.H.	General Affairs/ Finance	1/4/75	1/10/76
16. Ir. Sukrisno Rammelan	General Affairs/ Finance	1/2/76	Part Time
17. Ir. Djoko Subarkah	Irrigation/Drainage	1/12/75	16/10/76
18. Ir. Bambang Sudibyو	Farm Management	1/ 7/76	-
19. Ir. Kasri Kansrah	Hydraulic Structures	9/10/76	-
20. A Azis BIE.	Irrigation & Drainage	9/10/76	-

<u>NAME</u>	<u>POSITION</u>	<u>ARRIVED</u>	<u>DEPARTED</u>
<u>Assistant Counterpart</u>			
1. Ir. Djoko Subarkah	Irrigation/Drainage	1/ 6/75	1/12/75
2. Tristiyar D.S.	Irrigation/Drainage	1/ 5/75	-
3. B. Suprobowasono	Hydraulic Structures	1/ 5/75	31/ 7/75
4. Martono	Geology/Chief Eng.	1/ 4/75	-
5. Sutarto	Hydraulic Structures	1/ 8/75	-
6. Rachman Sutanto	Soil/Land Class.	1/ 8/75	1/10/76
7. Agus Wardoyo	Surveying/Mapping	1/ 8/75	-
8. Dradjat Suhardjo	Surveying/Mapping	1/ 8/75	-
9. Ir. Setyadi	Irr. & Drainage	17/ 9/75	1/ 2/76
10. Ir. Bambang Sudibyoo	Farm Management	15/10/75	1/ 7/76
11. Sutadi B. Sc.	Farm Management	1/ 7/76	-
<u>Draftsmen</u>			
1. Dasiran	Draftsman	1/4/75	-
2. Walaman	Draftsman	1/7/75	-
3. M. Latief.	Draftsman	1/7/75	-
4. Maman	Draftsman	1/7/75	-
5. Supardjo	Draftsman	1/5/76	-
6. Ade Rustandi	Draftsman	1/5/76	-
7. Ade Sarifudin	Draftsman	1/5/76	-
8. Slamet	Draftsman	30/8/76	-
9. Saleh	Draftsman	9/8/76	-
10. Rachman	Draftsman	9/8/76	-
11. Masdar	Draftsman	30/8/76	-
12. Bambang	Draftsman	6/10/76	-
13. Sutomo	Draftsman	6/10/76	-
14. Dedi Sutardi	Draftsman	15/ 9/76	-
15. Kom Komarudin	Draftsman	15/ 9/76	-
16. Dana R.	Draftsman	15//9/76	-
17. Jeje	Draftsman	15/ 9/76	-
18. Solichin	Draftsman	15/ 9/76	-
19. Kasio	Draftsman	15/ 9/76	-
20. Suherman	Draftsman	15/ 9/76	-
21. M. Hermawan	Draftsman	15/ 9/76	-

TABLE V - SCHEDULE OF SUBMITTALS

(First Amendment Only)

Revised 1/9/76

<u>REPORT NO.</u>	<u>SUBJECT</u>		<u>DUE</u>	<u>SUBMITTED</u>	<u>MONTHS</u>
1.	Work Plan		1/ 7/75	30/ 9/75	5
+2.	Design Criteria - Flood Control	A	1/ 9/75	1/12/75 (Draft) 1/ 6/76 (Final)	7
3.	Design Criteria - Irrigation and Drainage	A	1/ 9/75	4/ 9/75 (Draft) 1/ 6/76 (Final)	7
+4.	Design Criteria - Levees, Structures, Canals.	A	1/12/75	1/12/75 (Draft) 1/ 6/76 (Final)	10
5.	Specifications - Levees	* 1/	2/76	1/ 6/76 (Draft)	12
6.	O & M Manual, Pilot Projects - Padaringan - Langensari	A	1/ 2/76	1/ 5/76 (Draft) 6/ 8/76 (Final)	12
7.	Land Classification		1/ 2/76	See Notes	12
8.	Specifications - Irrigation and Drainage		1/ 4/76	26/ 8/76 (Draft) Revised 16/ 9/76	14
9.	O & M Manual, Irrigation		1/ 6/76	6/ 8/76 (Draft)	16
10.	Specifications - Flood Control and Structures		1/ 6/76	24/ 9/76 (Draft)	16
11.	O & M, Flood Control		1/ 8/76	9/10/76	18
12.	Specifications - Civil, Mechanical, Electrical (Draft)		1/ 8/76	# 16	18

+ Combined into one report

* Report No.5 has been combined into Report No.24

A Approved by USAID

TABLE V - SCHEDULE OF SUBMITTALS (CONTINUED)

(First Amendment Only)

Revised 1/9/76

<u>REPORT NO.</u>	<u>SUBJECT</u>		<u>DUE</u>	<u>SUBMITTED</u>	<u>MONTHS</u>
13.	Final Design Report - Irrigation and Drainage		1/10/76	8/10/76	20
14.	Segara Anakan - Land Classifications		1/10/76	# 17	20
15.	Final Design Report - Flood Control		1/11/76	28/ 8/76	21
16.	Specifications - Civil, Standard Mechanical, Electrical (Final)		1/11/76	18/10/76	21
17.	Final Design Report - Segara Anakan		1/11/76	18/10/76	21
18.	Updated Cost Estimate, Lower Citanduy/Ciseel		1/10/75	29/ 9/75	-
19.	Design Report, Padaringan Pilot Demonstration Farm	A	**	Nov.1975 (Draft) Feb.1976 (Final)	-
20.	Design Report, Langensari Pilot Demonstration Farm	A	**	Dec.1975 (Draft) Feb.1976 (Final)	-
21.	Proposed Demonstration Pilot Watershed Management Program (Panawangan)	A	**	24/ 4/76 - 1st draft 5/ 8/76 - 2nd draft 15/10/76 - Final	
21A.	Design Report P.D.P. Watershed Management Program			2/ 9/76	-
22.	Equipment Contract Documents for 50 HP Bulldozers, 40 HP Utility Tractors, 2.5 T Forklift trucks, 3 T - Mobile crane		H	1/ 6/76 (Draft)	-

** Not included in Amendment I

A Approved by USAID

H Part of Item 12

TABLE V - SCHEDULE OF SUBMITTALS (CONTINUED)

(First Amendment Only,
Revised 1/9/76

<u>REPORT NO.</u>	<u>SUBJECT</u>	<u>DUE</u>	<u>SUBMITTED</u>	<u>MONTHS</u>
23.	Project Equipment List (Revised) A - Field Equipment B - Shop Tools & Equipment C - Equipment Support Items D - Radio Communication Equipment		15/ 6/76 (Draft)	-
* 24.	Construction Contract Documents Flood Control (Levees)	T	27/ 5/76	-
25.	Construction Contract Documents Irrigation and Drainage			-
26.	Memo - Construction Planning and Procedures	**	30/ 8/76	-
27.	Segara Anakan - Special Reevaluation of Sedimentation (part of Report No.17)	**	10/ 9/76	-
28.	Segara Anakan Fishery Resources Aspect. (part of Report No.17)		30/ 9/76	-

-
- * Report No.5 has been combined into Report No.24
** Not included in Amendment I
T Tentative approved by USAID

Proposed Revisions 1/9/76

Report No.7 will be added as Appendix the Watershed Design Report No.21A; The Final Design Report Irrigation and Drainage No.13 and the Final Design Report Segara Anakan No.17.

Report No.8 include material original scheduled for Report No.12 and this report will be eliminated as this data will also be included in Report No.10 and others.

Report No.14 will be eliminated as this will become a section of Report No.15

Report No.16 will be eliminated and required Specifications will be added to reports No.8 and No.10.