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REPUBLIC OF INDONESIA  
MINISTRY OF PUBLIC WORKS  
DIRECTORATE GENERAL OF HOUSING BUILDING  
PLANNING AND URBAN DEVELOPMENT (CIPTA KARYA)

24p

# MEDAN URBAN DEVELOPMENT HOUSING WATER SUPPLY AND SANITATION PROJECT

## MONTHLY REPORT 5

1 MAY 1979 THROUGH 31 MAY 1979

ENGINEERING SCIENCE INC  
SINOTECH ENGINEERING CONSULTANTS INC  
PADCO INC  
P.T. DACREA

# MEDAN URBAN DEVELOPMENT, HOUSING, WATER SUPPLY AND SANITATION PROJECT

Jln. Singamangaraja 1-3, P.O. Box 26, Phone 20716, Medan-Sumatra, Indonesia

Our ref: 79/1088/MUDS/202/5

June 7, 1979

DIRECTOR GENERAL CIPTA KARYA  
Ministry of Public Works  
Jln. Pattimura 20  
Kebayoran Baru  
Jakarta-Selatan

SUBJECT : Monthly Progress Report 5,  
1 May 1979 through 31 May 1979.

REFERENCE: Contract dated 17 October 1978, between  
Ministry of Public Works, Directorate  
General of Housing Building Planning, and  
Engineering-Science, Inc.

Gentlemen:

In compliance with article 10.15 of our Agreement, Engineering-Science, Inc., submits Monthly Progress Report 5 for the Calendar period 1 May through 31 May 1979.

## SECTION I - PRIMARY ACTIVITY PROGRESS

The status of the project was reviewed with the Mayor of Medan, Mr. Radinal Mochtar, and other Government officials at a special meeting in Medan (19 May). The primary purpose of the meeting was to inform the mayor of the present progress on the project and obtain his guidance on policy issues bearing upon the consultants work. The mayor expressed considerable concern over the lack of emphasis upon immediate action projects. The major emphasis of the present scope of work is on the identification of intermediate improvements (up to 5 years) which would qualify for large-scale international financing agency loans. The specific areas of interest for immediate action projects are: (1) Solid wastes collection and disposal; (2) test/production well drilling program; (3) local drainage; (4) change of location for warehousing activities; (5) public standpipes; and (6) improvements to water supply and distribution. The present project would, within the constraints of required project outputs and available resources, allow for identification of immediate action programs and the development of approximate scheduling and cost estimates for them. Detailed technical support services for such programs could not, however, be diverted from the present project without causing delays and/or inadequacies in analysis and documentation of the intermediate range improvement program.

The most effective way of preparing and implementing such a program would be to form an immediate works task group as an off shoot to the present project. This group would include both Government and consultant personnel whose full time responsibility would be the immediate works program.

If Government feels such an approach would be to their liking we should be pleased to help organise the work and to participate in it.

Technical Memorandum No.4, Drainage - Principal Rivers and Rainfall Analysis and No.5, Preliminary Evaluation of Sunggal Water Treatment Plant were issued during the month. Preparation of the Interim Strategic plan and Feasibility Report was initiated during the month, and it is estimated that drafts copies will be available for review by the end of June.

As a result of intensive activity by Perumnas and local Government officials, a 120 hectare potential site for the LCH project was identified. A preliminary evaluation of some of the engineering aspects of this site has been carried out and a report submitted. Further analysis of this site, and other sites as they are identified, will be necessary to determine their suitability for Low Cost housing or for a mixture of low cost and higher cost housing for the purpose of providing cross-subsidies in the low cost housing area. Because successful cross-subsidy sites may have to be considerably larger than the sites presently being identified (this aspect is being analyzed), and thus involve a large number of owners, acquisition of this type of site within the project period will be very difficult. Present site acquisition efforts are concentrated on finding relatively small, few-owner, low cost housing sites which can be acquired quickly. The need for immediate action in the housing area as perceived by local authorities is apparent. The need to develop housing solutions embodying the cross-subsidy concept in order to avoid insupportable levels of Government subsidy is also obvious. A policy decision is required as to whether or not the housing project site to be acquired under this project should be limited to low cost housing in order to accelerate the acquisition process, or directed to identification of potential cross-subsidy sites, or should both types of sites be included in the site identification process?

The status of project activities by work plan task as of the end of May is presented in Annex I, Activity Schedule. As indicated in this schedule, activities in the Engineering area are essentially on schedule, but many of the housing program tasks are behind schedule. This is due primarily to inadequate allocations of staff to the housing sector. Substantial staffing modifications will be presented shortly to correct this imbalance.

## SECTION II - PERFORMANCE

Annex II presents the professional staffing schedule (solid lines) together with the actual schedule of on-site staff (dashed lines). Actual performances versus that scheduled for project month 5 is illustrated in the graph comprising Annex III, Item 1, cumulative input of professional personnel. This graph is based on the schedule shown in Annex II. Item 2 of Annex III summarizes the planned, and actual man-months by personnel category and firm as of the end of the month. As indicated in this summary, the actual professional staffing level is 92 percent of the schedule level. Indonesian professional and non-professional levels were 93 and 100 percent of scheduled as of the end of the month.

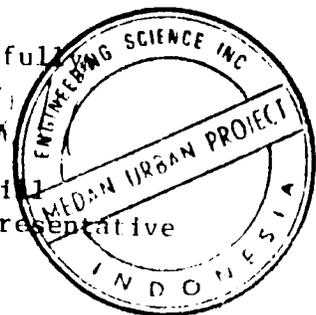
Annex III, Item 3, personnel movement, identifies personnel changes during project month 5. Item 4, Annex III, End-of-month strength, Medan office, indicates the number and type of staff assigned to the project at the end of the reporting period. Annex IV summarizes the status of project expenditures at the end of May.

SECTION III - PLANNED PROGRAMS AND ACTIVITIES

During the coming month (June) the consultants major efforts will be directed towards: (1) bringing work in the housing area back on schedule; (2) preparation of the Interim Strategic plan and Feasibility Report; (3) preparation of Technical Memorandum Reports on economic background, housing affordability, existing water, wastewater, drainage, and solid waste systems, alternative urban development and housing strategy, alternative water supply sources, and water demand projections; (4) preparation for a presentation on project status to Government officials tentatively scheduled for 18 June; and (5) identification of potential immediate action programs. Those project activities which will be pursued during the coming month are indicated in Annex 1, Activity Schedule.

Yours faithfully,

John M. McGil  
Project Representative



c.c.: Ir. Ruslan Diwiryono, Director of City & Regional Planning  
Ir. Susanto Mertodiningrat, Director of Sanitary Engineering  
Ir. Sunaryo, Head Sub-directorate Town Planning  
Ir. K. Pohan, Project Manager, MUDS  
AID - Jakarta, attn. P. Thorne, Project Officer  
ES - Arcadia  
Sinotech - Taipei  
Dacrea - Jakarta

JM/y

# MEDAN URBAN DEVELOPMENT HOUSING WATER SUPPLY AND SANITATION PROJECT

## ACTIVITY SCHEDULE

TASKS		1979												1980	
TITLE	NUMBER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
<b>I. RECONNAISSANCE/WORK PROGRAM</b>															
Establish Contract with Agencies.	1	—————													
Collect/Review Existing Data.	2	—————													
Review National, Provincial and Local Objectives.	3	—————													
Conduct Field Visits.	4	—————													
Prepare Work Program.	5	—————													
Inception Report.	6		—————												
<b>II. HOUSING DEVELOPMENT PROJECT KAMPUNG IMPROVEMENT (KIP)</b>															
Analysis of Low Income Kampung.	7			—————											
Appraise Low Cost Housing Activities.	8				—————										
Examine Building Materials and Construction.	9				—————										
Identify Target Groups and Existing Housing Condition.	10				—————										
Assemble Current Cost Data.	11				—————										
Field Survey and Reconnaissance.	12					—————									
Analyze Demographic Characteristics.	13				—————										
Prepare Guiding Principles and Policies.	14						—————								
Selection of Kampung to be Improved.	15						—————								

Legend

- Scheduled Task Activity
- Estimated Activity to 31 May 1979
- ..... Activity for June 1979

Schedule Activity Period through 30 June 1979

# MEDAN URBAN DEVELOPMENT HOUSING WATER SUPPLY AND SANITATION PROJECT

## ACTIVITY SCHEDULE

TASKS		1979												1980	
TITLE	NUMBER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
KIP Strategy.	16						=====								
Prepare Standards for KIP Project.	17						-----								
Finalize Selected KIP Plan and Program.	18						-----								
Preliminary Engineering Report.	19							-----							
Draft Final Feasibility Report.	20									=====					
Final Feasibility Report.	21									=====					
<b>III. PUBLIC ACTION FRAMEWORK</b>															
Identify Present and Proposed Public Projects.	22		=====												
Assemble Data on Existing Taxation and Revenue Sources.	23				=====										
Assemble Information on Legal and Administrative Constraints.	24				=====										
Assess Public Action Capabilities.	25				=====										
Identify Public Action Capabilities.	26						=====								
Determine Financial Benefits.	27							=====							
Recommend Measures for Increasing Municipal Revenue.	28								=====						
Recommend Legislation and Administration - KIP	29								=====						
Develop Organization for Project Management.	30									=====					
Estimate Investments Needed for Housing.	31										=====				

Legend

Scheduled Task Activity  
 Estimated Activity to 31 May 1979  
 Activity for June 1979

Schedule Activity Period from 1979 to 1980

**BEST AVAILABLE DOCUMENT**

## MEDAN URBAN DEVELOPMENT HOUSING WATER SUPPLY AND SANITATION PROJECT

## ACTIVITY SCHEDULE

TASKS		1979												1980	
TITLE	NUMBER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
Recommend Planning Measures and Controls	32														
IV. LONG TERM URBAN DEVELOPMENT PLAN															
Collect and Analyze Available Data.	33	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Evaluate National, Provincial and Local Demographic and Economic Data.	34			█	█	█	█	█	█	█	█	█	█	█	█
Examine Existing Conditions and Trends.	35		█	█	█	█	█	█	█	█	█	█	█	█	█
Examine Population, Migration, Economy, Employment and Income.	36		█	█	█	█	█	█	█	█	█	█	█	█	█
Review Medan Master Plan.	37			█	█	█	█	█	█	█	█	█	█	█	█
Identify Development Issues and Constraints.	38			█	█	█	█	█	█	█	█	█	█	█	█
Prepare Alternative Growth Strategies.	39				█	█	█	█	█	█	█	█	█	█	█
Prepare Population Projections.	40				█	█	█	█	█	█	█	█	█	█	█
Interim Strategy Plan and Feasibility Report.	41					█	█	█	█	█	█	█	█	█	█
Prepare Guidelines.	42						█	█	█	█	█	█	█	█	█
Prepare Long Term Growth Strategy.	43							█	█	█	█	█	█	█	█
Identify Long Term Needs.	44								█	█	█	█	█	█	█
Long Term Development Plan Draft Final Report.	45									█	█	█	█	█	█
Long Term Development Plan Final Report.	46										█	█	█	█	█

## Legend

Schedule Activity Period through 30 June 1979

— Scheduled Task Activity

▬ Estimated Activity to 31 May 1979

..... Activity for June 1979

# MEDAN URBAN DEVELOPMENT HOUSING WATER SUPPLY AND SANITATION PROJECT

## ACTIVITY SCHEDULE

TASKS		1979												1980		
TITLE	NUMBER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	
V. HOUSING DEVELOPMENT PROJECT SITES AND SERVICES CORE HOUSING (SSCH) AND LOW COST HOUSING (LCH)																
Site Selection Criteria for SSCH/LCH Projects.	47				—————											
Site Selection.	48					—————										
Identify Target Groups.	49								—————							
Prepare Objectives.	50								—————							
Estimate Standards and Costs.	51									—————						
Survey of Selected Site.	52						—————									
Finalize Design Criteria, Costs and Standards.	53									—————						
Examine Alternative SSCH/LCH Concepts.	54								—————							
Prepare Social and Economic Components.	55									—————						
Prepare Financial, Administration, and Legal Aspects.	56										—————					
Preliminary SSCH and LCH Design Report.	57										—————					
Prepare Draft Final Feasibility Report.	58										—————					
SSCH and LCH Detailed Design Report.	59												—————			
Final Feasibility Report.	60													—————		

**Legend**

- Scheduled Task Activity
- Estimated Activity to 31 May 1979
- Activity for June 1979

Schedule Activity Period through 30 June 1979

## MEDAN URBAN DEVELOPMENT HOUSING WATER SUPPLY AND SANITATION PROJECT

## ACTIVITY SCHEDULE

TASKS		1979												1980	
TITLE	NUMBER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
WATER SUPPLY	101-1107														
General Tasks															
Summarize Population, Land Use, and Economy	1101														
Assess Development Resources and Scarcity	1102														
Assess Environmental Effects	1103														
Review Public Health Conditions	1104														
Review Water Quality	1105														
Summarize Climate and Hydrology	1106														
Summarize Soils, Topography and Geology	1107														
Inventory and Plan Formulation															
Estimate Water Supply Sources	101-105														
Summarize Water Use and Demand	106-110														
Inventory Existing Facilities and Operations	111-112														

## Legend

Schedule Activity Period

through 30 June 1979

 Scheduled Task Activity  
 Estimated Activity to 31 May 1979  
 Activity for June 1979

# MEDAN URBAN DEVELOPMENT HOUSING WATER SUPPLY AND SANITATION PROJECT

## ACTIVITY SCHEDULE

TASKS		1979												1980	
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
Review and Evaluate Planned Facilities and Operations	113		■	■	■	■									
Review Management, Policies, and Regulations	114-118		■	■	■	■	■								
Summarize Revenue and Finance Recommend Improvements	119-121 122-124		■	■	■	■	■	■							
Estimate Potential Basin Yield Additional Hydrological Studies	130-131 200			■	■	■	■	■	■						
Project Future Water Demand Establish Evaluation Criteria and System	132-134 135-136			■	■	■	■	■	■						
Formulate Alternative Schemes Estimate Water Source Variations	137-138 152				■	■	■	■	■						
Establish New Service Areas and Local Water Demands	151, 154					■	■	■	■						
Formulate Alternative Local Systems Prepare Preliminary and Interim Reports	153 143						■	■	■	■					

**BEST AVAILABLE DOCUMENT**

Schedule Activity Period

through 31 June 1979

■ Scheduled Task Activities  
 ■ Estimated Activity to 31 May 1979  
 ■ Estimated Activity for June 1979

# MEDAN URBAN DEVELOPMENT HOUSING WATER SUPPLY AND SANITATION PROJECT

## ACTIVITY SCHEDULE

TASKS		1979												1980	
TITLE	NUMBER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
Governmental Review	1201-02					=	-								
Master Plan	161-170														
Define Major Facilities	161							-	-						
Establish Transmission Routes	162							-	-						
Establish Operations/Maintenance Requirements	163								-	-					
Establish Management System	164								-	-					
Schedule Facilities and Operations	165								-	-					
Establish Costs, Rates, and Finance	166-167								-	-					
Develop Review for Master Plan	168								-	-					
Produce Master Plan	169									-	-				
Produce Final Master Plan	170											-	-		
First Stage Feasibility Report	181-1100														
Develop Objectives and Criteria	181-182								-						
Develop Designs, Locations, Land, Costs and Design Criteria	183,188 191,194-95									-	-	-			
Analyse Distribution System and Design	184;189									-	-				

Schedule Activity Period through 30 June 1979

**Legend**

— Scheduled Task Activity  
 = Estimated Activity to 31 May 1979  
 - - - - Activity for June 1979

# MEDAN URBAN DEVELOPMENT HOUSING WATER SUPPLY AND SANITATION PROJECT

## ACTIVITY SCHEDULE

TASKS		1979												1980	
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
WASTEWATER	200-2100														
Population, Land Use, and Economy	1101		—	—	—	—	—								
Public Health	1104		—	—	—	—									
Water Quality	1105		—	—	—	—									
INVENTORY AND PLAN	201-253														
Estimate Wastewater Generation	201-202		—	—	—	—									
Inventory Facilities, Operations, and Management	203-204		—	—	—	—									
Review Collector Interconnections	205			—	—	—	—								
Formulate Evaluation System	231-232				—	—	—	—							
Project Wastewater Generation	233-234				—	—	—	—							
Formulate Alternative Strategies	235				—	—	—	—							
Select Recommended Plan	236-239					—	—	—	—						
Establish Localized Generation	251					—	—	—	—						
Formulate Alternative Schemes	252						—	—	—						
Prepare Preliminary and Interim Plans	253						—	—	—						

## Legend

Schedule Activity Period through 31 June 1979

- Scheduled Task Activity
- Estimated Activity to 31 May 1979
- Activity for June 1979

# MEDAN URBAN DEVELOPMENT HOUSING WATER SUPPLY AND SANITATION PROJECT

## ACTIVITY SCHEDULE

TASKS		1979												1980	
TITLE	NUMBER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
GOVERNMENTAL REVIEW	2201-2202						▬								
Master Plan	261-271														
Define Major Facilities	261						▬								
Establish Collector Sewers	262-263						▬								
Develop Operations/Maintenance	264								▬						
Establish Management System	265								▬						
Schedule Facilities and Operations	266								▬						
Estimate Costs, Revenue, and Finance	267								▬						
Develop Plan Review Methods	268								▬						
Produce Draft Master Plan	269									▬					
Produce Final Master Plan	271											▬			
First Stage Feasibility Report	281-2100														
Form Objectives and Criteria	281-282								▬						
Develop Designs, Lands, Schedule, Costs and Design Criteria	283,288 291,94,95								▬						
Define and Analyse Routes	284,289									▬					
Review Land and Site Features	285,287									▬					

## Legend

- Scheduled Task Activity  
 Estimated Activity to 31 May 1979  
 Activity for June 1979

Schedule Activity Period through 30 June 1979

# MEDAN URBAN DEVELOPMENT HOUSING WATER SUPPLY AND SANITATION PROJECT

## ACTIVITY SCHEDULE

TASKS		1979												1980	
TITLE	NUMBER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
DRAINAGE															
General Tasks															
Climate and Hydrology	1106		—	—	—	—	—								
Soils, Topography, and Geology	1107		—	—	—	—									
Inventory and Plan															
Estimate Existing Runoff	301-302			—	—	—	—								
Inventory Facilities, Operations and Maintenance	303-307		—	—	—	—									
Review Management	308-311			—	—	—	—								
Review Finance	311			—	—	—	—								
Review Future Plans	312		—	—											
Recommend Improvements	313-314			—	—	—	—								
Formulate Evaluation System	331-333				—	—	—								
Project Future Runoff	334				—	—									
Develop Alternative Schemes	335				—	—									
Select Recommended Plan	336-339					—	—								

## Legend

- Scheduled Task Activity  
 Estimated Activity to 31 May 1979  
 Activity for June 1979

Schedule Activity Period through 30 June 1979

# MEDAN URBAN DEVELOPMENT HOUSING WATER SUPPLY AND SANITATION PROJECT

## ACTIVITY SCHEDULE

TASKS		1979												1980	
TITLE	NUMBER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
Establish Local Basins and Runoff	351														
Formulate Alternative Local Systems	352														
Prepare Preliminary and Interim Report	353														
Master Plan	361-371														
Define Major Facilities	361														
Establish Collector Drains	362-363														
Develop Operations/Maintenance	364														
Establish Management System	365														
Schedule Facilities and Operations	366														
Estimate Cost, Revenue, and Finance	367														
Develop Plan Revision Methods	368														
Produce Draft Master Plan	369														
Produce Final Master Plan	371														

## Legend

Schedule Activity Period through 30 June 1979

— Scheduled Task Activity

▭ Estimated Activity to 31 May 1979

- - - - Activity for June 1979

# MEDAN URBAN DEVELOPMENT HOUSING WATER SUPPLY AND SANITATION PROJECT

## ACTIVITY SCHEDULE

TASKS		1979												1980	
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
TITLE	NUMBER														
SOLID WASTES	400-4100														
Summarize population, Land Use, and Economy	1101			—	—	—	—	—							
Assess Effects									—		—				
Summarize Public Health	1104			—	—	—	—	—							
Summarize Water Quality	1105			—	—	—	—	—							
INVENTORY AND PLAN FORMULATION	401-455														
Review Solid Waste Generation	401-403			—	—	—	—	—							
Inventory Facilities and Equipment	404			—	—	—	—	—							
Summarize collection and Disposal	405-406			—	—	—	—	—							
Summarize Management and Regulations	407-408			—	—	—	—	—							
Review Revenue, Costs, and Finance	409-411			—	—	—	—	—							
Review Plans	412			—	—	—	—	—							
Formulate Improvements of Facilities	413-414			—	—	—	—	—							
Project Future Solid Waste Generation	431-434			—	—	—	—	—							
Formulate Evaluation System	435-436					—	—	—							
Formulate Alternative Strategies	437-438					—	—	—							

## Legend

- Scheduled Task Activity  
 □ Estimated Activity to 31 May 1979  
 - - - Activity for June 1979

Schedule Activity Period through 30 June 1979

# MEDAN URBAN DEVELOPMENT HOUSING WATER SUPPLY AND SANITATION PROJECT

## ACTIVITY SCHEDULE

TASKS		1979												1980	
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
TITLE	NUMBER														
Select Recommended Plan	439-444					-----	-----								
Project Local Solid wastes	451-452					-----	-----								
Form Alternative Local Schemes	453-454					-----	-----								
PREPARE PRELIMINARY AND INTERIM REPORTS	455					-----	-----								
GOVERNMENTAL REVIEW	4201-02					-----	-----								
MASTER PLAN	460-470														
Define Major Facilities and Sites	461							-----	-----						
Locate Transfers and Haul Rates	462									-----	-----				
Develop Operations Requirements	463										-----	-----			
Establish Management System	464											-----	-----		
Schedule Facilities and Operations	465												-----	-----	
Estimate Plan Costs, Rates and Finance	466-467													-----	-----
Develop Revision System	468														-----
Prepare Master Plan	469														-----
Prepare Final Master Plan	470														-----

Schedule Activity Period through 30 June 1979

### Legend

- Scheduled Task Activity
- Estimated Activity to 31 M a y 1979
- Activity for June 1979

# MEDAN URBAN DEVELOPMENT HOUSING WATER SUPPLY AND SANITATION PROJECT PROFESSIONAL STAFF SCHEDULING CHART (ES/SINOTECH/PADCO)

ANNEX II  
SHEET 1  
PROJECT MONTH 5  
CALENDAR MONTH MAY 31 79

NAME AND TITLE	ASSIGNMENT/WORK AREA LEGEND Scheduled _____ Actual ***** Intermittent - - - - -	MONTHS -29 Dec 1978														MAN MONTHS	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	ACTUAL (END OF MO)	Schedu led
1 J.M.MCGILL, Project Representative	Resident Project Representative															4	14
2 C.Y.HUANG, Deputy Project Representative	Sanitary Engineering															4	14
3 E.TAMES, Chief Planner	Land Use Planning Physical Zonal Forecasts															5.1	12
4 L.H.MCGILL, Chief Engineer	Water Supply Sanitary Engineering															4.25	12
5 D.STOUT, Economist/Financial Analyst	Metro & Hsing Econ, Mun Finance, Emplm, Indust															2	12
6 L.BAKER, Housing Planner	Residential Planning Housing SSCH/LC/H/KIP															3.87	12
7 M.JANAMES, Urban Planner	Planning & Training, Small Scale Ind Non Profit Hst															5.1	5
8 C.T.WHITE, Chief Designer	Technical Work Production																9
9 C.H.WANG, Urban Planner	Physical Planning															4	10
10 J.D.E.PERERA, Sanitary Engineer	Solid Waste Sanitary Engineering															1.57	8
11 Y.T.HSUEH, Sanitary Engineer	Drainage and Sewerage															2.87	9
12 C.F.WU, Civil Sanitary Engineer	Urban Development Collect & Dist System															1.97	10
13 T.G.ARULAMBALAM, System Sanitary Engr	System Engineering Computer Modeling Water Supply															4.48	9
14 C.ADELMAN, Financial Analyst	Economics Financial Analysis Tariffs																6
15 J.G.DANIEL, Special Consultant	Drainage																1
16 H.FENNERTY, Project Director	Project Direction															0.83	2
17 P.N.STORRS, ES Senior Vice President	Technical Review																2
18 C.L.SENN, Public Health Specialist	Public Health															1.73	2
19 R.FOX, Hydrogeologist	Hydrogeology																0.5
20 C.T.WILLIAM, Environmental Analyst	Environmental Aspects															4.9	6
21 J.E.ARRINGTON, Senior Planner	Planning Project Planning Direction															2.05	3
22 A.P.VAN HUYCK, PADCO President	Housing Finance for SSF H/KIP															0.36	1
23 H.S.SHYU, Transportation Engineer	Transportation Engineering																4
HOME OFFICE SUPPORT	AS REQUIRED															5	9.5
<b>TOTAL TIME</b>														59.08	173.0		

# MEDAN URBAN DEVELOPMENT HOUSING WATER SUPPLY AND SANITATION PROJECT PROFESSIONAL STAFF SCHEDULING CHART (DACREA)

ANNEX II  
SHEET 2  
PROJECT MONTH 5  
CALENDER MO: TO MAY 31, 79

NAME AND TITLE	ASSIGNMENT/WORK AREA  LEGEND Scheduled : ————— Actual : ***** Intermittant : - - - - -	MONTHS														MAN MONTHS	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	ACTUAL (END OF MO)	Schedu led
HENDRATA/NIZAR, Principal & Coordinator	Coordination and Direction															1.2	4
MARIAM DARUS, Legal Specialist	Legal Specialist															1.6	3
ISMAIL R. YUSUF, Economist	Economics, Financial Analysis, Industrial															1.9	5
ABRAAR, Socio Economist	Socio Economics, Demography Finances Employment															1.8	5
VICTOR THE, Economist	Economics, Financial Analysis, Industrial															1.0	1
M. JUWONO, Socio Economist	Socio Economics, Demography Finances Employment															1.0	1
WIDJONO, Urban Planner	Land Use Planning, Forecasts Housing Planning															2.5	11
BAMBANG SUDARPO Urban Planner / Trans Planner	Land Use Planning, Forecasts Housing Planning															3.5	5
HANDOYO Transportation / Highway Engineer	Transportation Planning and Economics															1.0	5
ARIYANI HARTONO, Cost Engineer	Cost Estimating Construction Material															3	5
P. WIDIYANTO, Senior Civil Engineer	SSCH/LCH/KIP Engineering, Civil															3	11
PRAWOTO/LILY T, Sr Sanitary Engineer	SSCH/LCH/KIP Engineering Sanitary Engineering															0.24	5
PRAYITNO / FACHMI R, Hydrogeologist	Hydrogeologist															2.3	3
DJAYADI. P, Sanitary Engineer	Water Supply, Sewerage, Solid Waste															3	11
UNKNOWN	Utility Management Tariffs and Finances																6
DJOKO SOEJATMIKO Hydraulic / Materials Engineer	Drainage System, Hydraulics																9
M. DISHMAR, Architect / Site Planner	Housing, Architecture SSCH/LCH/KIP Site Planning															2.2	12
SAHUSILAWANE, Electrical Engineer	Electrical Engineering															0.5	3
GARDJITO, Architect	Housing, SSCH/LCH/KIP																7
SOEDARSONO	Graphics Coordinator															2.75	3
<b>TOTAL TIME</b>														<b>21.57</b>	<b>116</b>		

# BEST AVAILABLE DOCUMENT

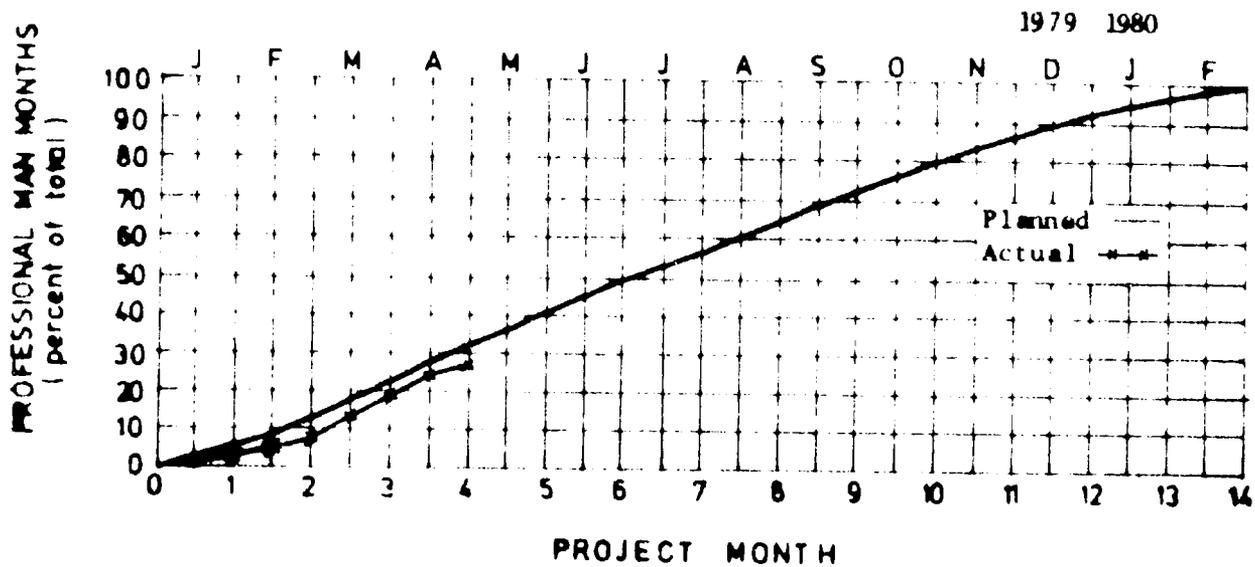
ANNEX III  
Sheet 1

## MEDAN URBAN DEVELOPMENT, HOUSING, WATER SUPPLY AND SANITATION PROJECT

Project Month : 5

Calendar Month : 1 May 1979 - 31 May 1979

### 1. CUMULATIVE INPUT OF PROFESSIONAL PERSONNEL



### 2. SUMMARY TABLE

	MAN - MONTH		MAN - MONTH	
	This Month Planned	This Month Actual	Cumulative Planned	Cumulative Actual
<b>Professional - Medan</b>				
ES	7.0	6.0	25.0	21.4
Sinotech	4.0	4.0	15.0	13.0
Padco	4.8	4.6	22.0	18.7
Dacrea	10.8	10.0	42.1	32.0
Total	26.6	24.6	104.1	85.1
<b>Professional - Home Office</b>				
ES - Arcadia	1.0	1.0	2.0	2.0
Sinotech- Taiwan	0.5	0.5	3.0	3.0
Padco - Washington	-	-	-	-
Dacrea - Jakarta	-	-	-	-
Total	1.5	1.5	5.0	5.0
<b>Non-Professional - Medan (Dacrea)</b>	27.0	27.0	120.0	88.7

# BEST AVAILABLE DOCUMENT

ANNEX III  
SHEET 2

## MEDAN URBAN DEVELOPMENT, HOUSING WATER SUPPLY AND SANITATION PROJECT

Project Month : 5

Calendar Month: 1 May 1979 - 31 May 1979

### 3. Personnel Movement

#### Expatriate Staff

<u>Ref.</u> <u>Annex II</u>	<u>Name</u>	<u>Arrival</u>	<u>Departure</u>
1	J.M. McGill	February 2	
2	C.Y. Huang	February 2	
3	E.T. Ames	December 31	
4	L.H. McGill	January 10 April 11	March 22
5	D. Stout	March 29	May 23
6	L. Baker	January 6	
7	M.J. Ames	December 31	
8	C.T. White		
9	C.H. Wang	February 2	
10	J.D.E. Perera	April 16	
11	Y.T. Hsueh	March 6	
12	C.F. Wu	April 3	
13	T.G. Arulambalam	January 18	
14	C. Adelman		
15	J.G. Daniel		
16	H. Fennerty	February 14 April 3 June 1	February 24 April 11
17	P.N. Storrs		
18	C.L. Senn	April 11	
19	R.J. Turney		
20	C.T. Williams	January 5	
21	J.E. Arington	February 24 May 23	March 30
22	A.P. Van Huyck	February 10 March 21 April 9	February 16 March 23 April 10

Local Professional Staff

<u>Ref.</u> <u>Annex II</u>	<u>Name</u>	<u>Arrival</u>	<u>Departure</u>
1	Hendrata/Nizar	May 27	May 30
2	Mariam Darus	March 15	
3	Jsmail R. Yusuf	March 5	
4	Abraar	March 5	
5	Victor The		
6	M. Juwono		
7	Widjono	March 12	March 16
8	Bambang Sudarpo	February 13	
9	Handoyo		
10	Ariyani Hartono	March 1	
11	Widlyanto	March 1	
12	Prawoto/Lily T.	March 20	March 24
13	Prayitno/Fachmi Rasjid	March 23	
14	Djajadi	March 5	
15	Unknown		
16	Djoko Soejatmiko	April 2	
17	M. Dishmar	January 22	
18	Sahusilawane	May 15	May 29
19	Gardjito		
20	Sudarsono	March 12	May 31

4. End-of-month Strength, Medan Office

Professional

ES	6
Sinotech	4
Padco	4
Dacrea	10

Non Professional  
(Dacrea)

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A. SUMMARY OF US DOLLAR EXPENDITURE

For Period: December 1978 through 31 May 1979

DOLLAR INVOICE 4

<u>Cost Category</u>	<u>Contract Amount</u>	<u>Expenditure for May</u>	<u>Amount Accumulated</u>	<u>% of Budget Estimate</u>
1. <u>SALARIES AND RELATED COSTS</u>				
(1) ES Personnel (I)				
Base Salaries	178,233	17,053	58,167.05	32.6
Overhead	224,639	22,361.65	75,741.75	33.7
Overseas Differential	6,892	529	2,179.5	31.6
Sub-total	409,764	39,943.65	136,088.3	33.2
(2) Sinotech Total Billing (III)	211,733	18,586	66,251.4	31.3
(3) PADCO Personnel (II)				
Base Salaries	121,731	11,969.2	48,571.45	39.0
Overhead	101,245	9,770.7	37,982.84	37.5
Overseas Differential	22,632	1,261	7,013.25	31.0
Sub-total	245,608	23,000.9	93,567.54	38.1
2. <u>ES / PADCO FEE</u>	74,991	0	32,139	42.9
3. <u>INTERNATIONAL TRAVEL &amp; ALLOWANCE (IV)</u>	77,735	11,275.64	37,377.8	48.1
4. <u>INTERNATIONAL AIR FREIGHT (V)</u>	8,880	690	1,710	19.3
5. <u>SPECIAL OFFICE EQUIPMENT (VI)</u>	7,200	202	702	9.7
6. <u>OTHER COST (VII)</u>	116,042	2,100	20,000	17.2
TOTAL	<u>1,151,953</u>	<u>95,798.19</u>	<u>387,836.04</u>	<u>33.7</u>
Less 10% retention for ES/PADCO fee		0	3,213.9	

B. SUMMARY OF RUPIAH EXPENDITURE

For Period: 31 December 1978 through 28 February 1979

<u>Cost Category</u>	<u>Contract Amount</u>	<u>Amount Throu. This Period</u>	<u>% of Budget Estimate</u>
1. <u>INDONESIAN PERSONNEL (VIII)</u>			
P.T. DACREA	111,975,000	5,049,000	4.5
2. <u>ALLOWANCE FOR PROJECT PERSONNEL (IX)</u>			
(1) Per Diem allowance	11,454,000	2,340,600	2.0
(2) Housing Allowance for Expatriate (more than 6 months)			
(a) Furnishing 5 Cipta Karya Houses	5,000,000	5,000,000	100
(b) Utilities and Maintenance	3,200,000	500,000	15.6
(c) Rental of houses Running Cost	18,675,000 3,000,000	18,675,000 500,000	100 16.6
(d) Outfitting rented houses	2,000,000	2,000,000	100
(3) Per diem P.T. DACREA	3,450,000	262,500	7.6
(4) Housing Allowance DACREA	10,350,000	360,000	3.5
3. <u>PROJECT VEHICLES (X)</u>			
(1) Government	17,366,000	17,260,000	99.4
(2) Consultant Depreciation Charge	7,744,800	1,465,500	18.9
(3) O & M	5,840,000	560,000	9.5
4. <u>OTHER COSTS (XI)</u>			
(1) Office space	NO COST	NIL	
(2) Office maintenance	2,100,000	300,000	14.3
(3) Office furniture Consultant	4,000,000	4,000,000	100
(4) Office furniture Cipta Karya	NO COST	NIL	
(5) Office equipment Consultant	2,500,000	2,939,000	117.6
(6) Office equipment Cipta Karya	NO COST	NIL	
(7) Local communications	2,100,000	300,000	14.3
(8) Off duty station support	2,270,375	348,600	15.4
(9) Local air travel	9,100,000	941,500	10.3
(10) Office Consumable supplies	1,400,000	200,000	14.3
(11) Report printing	4,500,000	2,000,000	44.4
5. <u>SUB-CONTRACTS (XII)</u>	131,600,000	NIL	0
T O T A L	359,625.175	65,001.700	18.1
	=====	=====	=====