

ARAB REPUBLIC OF EGYPT
NATIONAL ORGANIZATION FOR
POTABLE WATER AND
SANITARY DRAINAGE
(NOPWASD)

**CANAL CITIES
WATER AND WASTEWATER
PHASE II PROJECT
USAID CONTRACT 263-0174**



BLACK & VEATCH INTERNATIONAL
ENGINEERS-ARCHITECTS

JMM James M. Montgomery
Consulting Engineers Inc.



in association with
SABBOUR ASSOCIATES

ARAB REPUBLIC OF EGYPT
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USAID CONTRACT 263-0174**

MONTHLY PROGRESS REPORT NO. 33

CANAL CITIES - PHASE II PROJECT

APRIL 1991



BLACK & VEATCH INTERNATIONAL
ENGINEERS-ARCHITECTS



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In association with
Sabbour Associates



May 15, 1991

United States Agency for
International Development
Cairo Center Building
106 Kasr El Aini Street
Garden City, Cairo

Attention: Mr. Herbert Feldt, Project Officer
Subject: Monthly Progress Report No. 33 - April 1991
Reference: Canal Cities
Water and Wastewater - Phase II Project
USAID Contract No. 263-0174

Gentlemen:

Submitted herewith are five copies of our Progress Report No. 33 for the month of April 1991 for the Canal Cities Water and Wastewater - Phase II Project.

If you have any comments or questions, please do not hesitate to contact us.

Very truly yours,

D.W. Williams
Field Project Coordinator

SECTION 1. PROJECT OVERVIEW

CANAL CITIES WATER AND WASTEWATER

PHASE II PROJECT

PROJECT OVERVIEW

- PROJECT NUMBER** : USAID Project No. 263-0174
- TOTAL PROJECT COST** : US \$500 Million
- SOURCE OF FUNDS** : USAID = \$380 Million (Grant)
GOE = \$120 Million
- IMPLEMENTING AGENCIES** : National Organization for Potable Water and Sanitary
Drainage (NOPWASD)
Suez Canal Authority (SCA)
- BENEFICIARIES** : Two million residents of the three Canal Cities
- PROJECT OBJECTIVES** : To improve and upgrade the existing water and
wastewater facilities of the three Canal Cities by
providing urgently needed infrastructures.
- PROJECT DESCRIPTION** : The Phase II project is primarily designed to eliminate
the adverse environmental impact and health risks of
untreated wastewater which is presently polluting
surface water bodies adjacent to the three Canal Cities.
The project provides for the design and construction
of treatment facilities to meet the requirements of
Law 48 of the Government of Arab Republic of Egypt:
in Port Said, 190,000 m³/day; in Ismailia, 90,000 m³/day;
and in Suez, 130,000 m³/day. It also includes the
pumping station for Port Said, and an Institutional
Development Program aimed at strengthening the
capacity of the wastewater departments of the three
Governorates and the water training division in the
Suez Canal Authority.

CONSTRUCTION MANAGEMENT CONSULTANT (CMC)

Black & Veatch International and James M. Montgomery, Consulting Engineers, Inc., in association with Sabbour Associates. Notice to Proceed was issued to the CMC on July 28, 1988. Contract duration is five years.

SECTION 2. GENERAL

CMC MONTHLY PROGRESS REPORT NO. 33
General - April 1991

SUMMARY

1. **Home Office Support (Port Said, Ismailia, and Suez):** Activity and manpower scheduling; budgeting; invoicing; staffing; facsimile, telex, and courier pouch communications; and other administrative activities continued. Administration of contracts and contract agreement with subcontractors continued.
2. **Work continued on the Basis of Design Reports (BODR).** For Ismailia, completed the edits and transmitted final report to CMC Cairo on April 26, 1991, for distribution to USAID, NOPWASD, and Ismailia Governorate. For Port Said, work continued on the preparation of draft text; on the incorporation of data on existing collection system, pumping station, and force main into the report; and on the development of conceptual drawings for wastewater treatment plant, operations center, headworks, influent and effluent pumping station, and raw water pumping station.

Copies of final draft were submitted to Field Project Coordinator on April 26, 1991, for distribution to USAID and NOPWASD.
3. **Work continued on the Invitation for Bid (IFB) Documents.** For Suez, CMC continued to compile the list of items for inclusion in the addendum and distributed documents to interested subcontractors and suppliers. For Ismailia, work continued on the quality control review by CMC, evaluation of potential sources of potable water, and the preparation of cost estimates. For Port Said, work continued on the development of general layout of wastewater treatment plant and related facilities to suit the existing soil condition and site limitations. Also, commenced development of drawings for influent and effluent pumping station, headworks, and operations center.
4. **Geotechnical Investigations.** For Ismailia, completed review of preliminary geotechnical reports for the Wastewater Treatment Plant and offsite facilities, and forwarded comments to subcontractor. For Port Said, continued to review the preliminary geotechnical data and investigated reaction of in-situ soil to sheet pile lagoon system. Provided subcontractor with final design parameters to facilitate preparation of sheet pile feasibility analysis.
5. **Pre-tender conference for the Suez project** was held on April 23 and 24, 1991. All four prequalified tenderers participated in the two-day conference. The agenda for April 23 consisted of a field tour of the site. On April 24, a round-table discussion was held and questions from the tenderers were addressed.
6. **Review comments on the "Bid Issue" of Suez IFB documents** were received by USAID/Legal and were forwarded to the home offices for inclusion in the addendum.

7. An update of the co-composting demonstration study was forwarded to USAID on April 1, 1991.
8. A letter was submitted to USAID on April 1, 1991, regarding the salary differentials for expatriate employees. This subject was subsequently discussed with USAID/Cairo.
9. Final Environmental Assessment (EA) for the Port Said Wastewater Treatment Plant was forwarded to USAID and NOPWASD on April 4, 1991. At the request of USAID staff, the CMC prepared a summary to highlight where USAID Washington's comments were incorporated in the final EA for the Port Said wastewater facilities.
10. Copies of the prequalification notices were sent to eight applicants and then forwarded to USAID and NOPWASD on April 9, 1991. Also, submitted copies of the Suez IFB letters issued to the four prequalified contractors.
11. The CMC Annual Reports on nonexpendable property for the years 1988 through 1990 were forwarded to USAID on April 10, 1991.
12. A letter regarding the FS-1 salary limitations was forwarded to USAID on April 28, 1991. This subject was subsequently discussed with USAID staff who agreed to respond as soon as the matter has been evaluated.
13. The second draft of proposed modifications to the contract between CMC and USAID was forwarded to USAID on April 28, 1991. It has since been agreed that no further action would be required from CMC in this regard prior to receipt of USAID's review comments.
14. The CMC/LND were updated through March 31, 1991, and forwarded to USAID on April 28, 1991.
15. Field office staff continued work on staff commitments, surveys, utility connections, and co-composting demonstration project.

PROJECT ADMINISTRATION

Major project administration activities during the month were as follows:

- Project Implementation Schedule (CPM)

The CPM logic diagram was updated to show progress during the reporting month for the following:

Activity	Description	Project City		
		Suez	Ismailia	Port Said
01X00	Final Selection of the WWTP Sites	X		X
02X00	Topographic Surveys			X

Activity	Description	Project City		
		Suez	Ismailia	Port Said
03X00	Geotechnical Investigation Work		X	X
04X00	Environmental Assessment	X		X
08X00	Basis of Design Report		X	X
09X00	Preparation of Contract Documents for D/B Contractors		X	X
10000	Raw Water Supply to Port Said	N/A	N/A	X
11X00	Cost Estimates		X	X
12X00	Evaluation of Technical & Commercial Bids	X		
15400	Damietta Co-Composting Demo. Project	N/A	N/A	X
RPX00	Requirements Precedent	X	X	X

For Port Said CPM schedule only
Added the following new activities:

031XX	Conduct/Supervise Sludge Storage Site Borings			X
	Conduct/Supervise Qantara P.S. Site Borings			X
	Conduct Laboratory Soils Testing			X
	Assess Field and Laboratory Test Data			X
	Prepare Draft Soils Report			X
041XX	Re: Port Said Sludge Storage Area			
	Finalize Supplemental Environmental Assessment			X
	Submit Draft Supplemental Environmental Assessment to USAID/NOPWASD			X

Appendix B provides lists of project activities that have been updated. It also provides information on the progress made during the reporting month for each activity.

- Home Office Support

Activity and manpower scheduling; budgeting; invoicing; staffing; facsimile, telex, and courier service communications; and other administrative activities continued. Administration of contracts and contract agreements with subcontractors continued.

MEETINGS

A meeting was held on April 2, 1991, with representatives from Wilber Smith Associates to discuss coordination on work associated with solid waste and co-composting at Port Said. It was agreed that further information would be collected and a meeting with USAID would be held in early May to discuss directions on the solid waste and co-composting work at Port Said.

A meeting was held at USAID with representatives from Dames & Moore and the CMC to discuss the preliminary site investigations associated with the EA for the sludge storage site at Port Said.

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A meeting was held on April 22, 1991, with NOPWASD and USAID to discuss outstanding issues associated with the projects in Suez and Ismailia. A summary of the meeting was forwarded to NOPWASD and USAID on April 29, 1991, requesting an immediate response from NOPWASD as agreed at the meeting.

A pre-tender conference for the Suez project was held on April 23 and 24, 1991. All four prequalified tenderers participated. The agenda for April 23 consisted of a field tour of the site. On April 24, a round table discussion was held, and questions from the tenderers were addressed.

STAFF MOVEMENTS

Key staff movements to and from Egypt during April included:

Name	Position	Date of Arrival	Date of Departure
Dana Younger	D&M Lead Environmentalist	April 7	April 15
Jerry Sonderegger	BVI Home Office Project Manager	April 15	April 26
Bill Ernst	BVI Home Office Project Engineer	April 15	April 26
Eduardo Arguelles	JMM Home Office Project Manager	April 17	April 26

HOME OFFICE PROFESSIONAL STAFF

Home Office professional staff of BVI and JMM assigned to the project during the reporting month included:

BVI:	Name	Position
	• J.B. Ardahl	Specification Writer
	• D.T. Banning	Civil Engineer
	• J.W. Burnett	Civil Engineer
	• K.D. Carr	Fiscal Management
	• L.W. Chapple	Civil Engineer
	• K.R. Connor	Civil Engineer
	• D.S. Conyers	Fiscal Management
	• R.E. Ehret	Specification Writer
	• W.G. Ernst	BVI Home Office Project Engineer
	• D.P. Gupta	Geotechnical Engineer
	• K.S. Hunt	Environmental Engineer
	• M.A. Jorgensen	Architect
	• L.R. Khan	Fiscal Management
	• E.A. Kobylinski	Process Engineer
	• K.D. Monter	Civil Engineer
	• G.E. Montgomery	Lead Civil Engineer
	• L.D. Pittman	Mechanical Engineer
	• M.A. Pool	Electrical Engineer

BVI:	Name	Position
•	J.G. Pritchard	Civil Engineer
•	L.H. Siekerka	Lead Civil Engineer
•	W.D. Skinner	Partner-in-Charge
•	F.T. Smith	Director of Field Services
•	J.L. Sonderegger	BVI Home Office Project Manager
•	H.E. Spindler	Specifications and Standards Department Head
•	P.L. Spitzer	Civil Engineer
•	R. Stamm	President of BVI
•	R.N. Starcke	Structural Department Head
•	C.R. Stegman	Cost Estimator
•	M.T. Steichen	Civil Engineer
•	T.J. Stolinski	Pump Specialist
•	D.H. Swift	Project Coordination
•	R.M. Vaeth	Geotechnical Engineer
•	J.E. Welp	Mechanical Engineer
•	R.E. Zitterkopf	Project Coordination

JMM:	Name	Position
•	M.O. Abdel-aal	Lead Structural Engineer
•	M. Ansari	Cost Estimator
•	E. Arguelles	JMM Home Office Project Manager
•	V. Agrawal	Associate Civil Engineer
•	L.D. Annis	Civil Engineer
•	H.Y. Babikian	Associate Civil Engineer
•	W.C. Bellaman	Process Engineer
•	D.B. Bird	Project Coordination Specialist
•	J.M. Bolin	Cost Estimator
•	J.E. Bosanko	Civil Engineer
•	W.J. Brumm	Lead Architect
•	R.M. Cass	Mechanical Engineer
•	T. Chou	Associate Civil Engineer
•	A.J. Condren	Process Engineer
•	K.S. Dong	Project Engineer
•	A.O. Elhadary	Architect
•	J.L. Fahey	Environmental Engineer
•	J.F. Frisby	Civil Engineer
•	A. Hasan	Cost Estimator
•	T. Heinsoo	Principal-in-Charge
•	F.L. Hinker	Quality Control
•	P.A. Koester	Project Engineer
•	M. Kundu	Project Engineer
•	H.V. Mayang	Design Coordinator

JMM:	Name	Position
•	W.T. McGivney	Lead Cost Estimator
•	A.S. Rashidi	Design Services Manager
•	M. Sarwar	Civil Engineer
•	J.G. Sweeten	Civil Engineer
•	W.A. Taylor	Civil Engineer
•	S.J. Varela	Assistant Hydrogeologist
•	Z.J. Varga	Quality Control Specialist
•	F.L. Vaughan	Specification Writer
•	K.H. Wiebe	Lead Hydrogeologist
•	B.A. Williams	Civil Engineer
•	D. Yanez	Assistant Cost Estimator

PROGRESS AND COSTS

A cost summary of the invoiced amounts for the Canal Cities Project is shown in Exhibit A. This cost summary includes actual costs involved to date versus the projected contract disbursements for the first three project years and for the five-year contract period.

The projected engineering and construction cost disbursement schedule for each element of the Canal Cities Project by calendar year for the period 1988-1997 is shown in Exhibit B.

An organization chart of the CMC for the preliminary engineering stage of the Canal Cities Project is shown in Exhibit C.

A table showing scheduled man-months versus actual man-months expended is shown in Exhibit D.

A bar chart showing status of time, effort and invoices is shown in Exhibit E.

SECTION 3. WASTEWATER FACILITIES - THREE CITIES

**CMC MONTHLY PROGRESS REPORT NO. 33
Wastewater Treatment Facilities - Port Said,
Ismailia, and Suez - April 1991**

TECHNICAL ACTIVITIES

Major technical activities during the month of March for each of the three project cities included:

- **Geotechnical Investigations (General)**
 - CMC field and home office staffs continued to review, evaluate, and respond to information received from the geotechnical subcontractor, Dames & Moore.
- **Geotechnical Investigations (Port Said)**
 - Continued to review preliminary geotechnical data and investigated reaction of in-situ soils to sheet pile lagoon system. Provided subcontractor with final design parameters to allow completion of sheet pile feasibility analysis and completion of draft report.
- **Geotechnical Investigations (Ismailia)**
 - Completed review of preliminary geotechnical reports for the Wastewater Treatment Plant and offsite facilities, and forwarded comments to subcontractor.
- **Environmental Assessment (Ismailia)**
 - Supplemental Environmental Assessment Report for Ismailia has been submitted to USAID and the approval is still pending.
- **Environmental Assessment (Suez)**
 - Supplemental Environmental Assessment Report for Suez has been submitted to USAID; the approval is still pending.
- **Environmental Assessment (Port Said)**
 - Final Environmental Assessment Reports for Port Said Wastewater Treatment Plant and Raw Water Supply Facilities have been submitted to USAID; the approvals are pending.
- **Basis of Design Report (Ismailia)**

Work included the following:

- 10 -

- Completed edits and transmitted final report to CMC/Cairo on April 26, 1991, for distribution to USAID, NOPWASD, and Ismailia Governorate.
- Continued discussions on the comments received from NOPWASD.
- USAID, NOPWASD, and the CMC agreed to issue the final report prior to resolving outstanding issues to avoid delays in the schedule.

- **Basis of Design Report (Port Said)**

Work included the following:

- Completed draft of written text for Chapters 1 through 12.
- Data covering existing collection system, pumping station, and force main were incorporated into the report.
- Continued work on hydraulic calculations for the influent and effluent pumping stations, raw wastewater force main, and outfall. Completed evaluation of alternatives for screw pumps versus conventional pumping systems for influent pumping station.
- Continued conceptual drawing development for wastewater treatment plant, operations center, headworks, influent and effluent pumping station, and raw water pumping station facilities.
- Submitted final draft copies to field project coordinator on April 26, 1991, for distribution to USAID and NOPWASD; comments anticipated by May 24, 1991. Copies were also distributed among venture partners to commence in-house review.

- **Bidding Documents (Suez)**

Work included the following:

- Compiled list of items for inclusion in the addendum.
- Continued distribution of documents to interested subcontractors and suppliers.

- **Bidding Documents (Ismailia)**

Work included the following:

- Continued Quality Control review by the CMC.
- Continued to evaluate potential sources of potable water.

- Commenced quantity take-offs for cost estimate.
- Bid Documents (Port Said)
Work included the following:
 - Continued preparation of layout drawings, and a drawing list, and table of contents for the specifications.
 - Continued to develop a general layout arrangement according to site limitations, soil conditions, and local interests for the influent and effluent pumping stations, force mains, headworks, and operations center.
 - Commenced development of IFB drawings for influent and effluent pumping station, headworks, and operations center.
- Co-Composting of Solid Waste and Sludge (Port Said)
 - An update of the co-composting demonstration study was forwarded to USAID on April 1, 1991.
- Additional Project Work (General)
 - Tables and bar charts showing actual versus projected project completion and condensed implementation schedule were developed for April and are included herein.

PROBLEM AREAS

- Comments on the draft final IFB documents for Suez, submitted to USAID and NOPWASD the last week in March 1991, were due the last week in April 1991. No comments have been received to date; the parties have been advised that the lack of response is likely to affect the issuance of the Ismailia IFB documents presently scheduled for early June 1991.
- The written agreement relative to the relocation of the petrojet factory at Suez was not finalized in April 1991 as anticipated. NOPWASD has been advised that the written agreement should be finalized immediately:
- A formal decree for the sludge disposal site in Port Said is pending. The Governor has agreed in writing to the proposed site; a formal decree will be issued after the site is fully surveyed and judged to be acceptable by the CMC. The necessary surveys are in progress.
- No response has been received from NOPWASD on the information which was requested to coordinate the design of the Port Said raw water pumping station with

the pipeline design. The conceptual design of the pumping station is proceeding without this information. There are several issues relative to the raw water pipeline which remain unresolved; although the pipeline is being implemented by NOPWASD as a separate project, the delays in the pipeline project are likely to affect the scheduled completion of the conceptual design of the pumping station.

The supplemental EA's for Suez and Ismailia are pending USAID approval.

The final EA for the Port Said Wastewater Treatment Plant is pending USAID approval.

The final EA for the Port Said Raw Water Supply Facilities is pending USAID approval.

The BODR for Port Said was submitted to USAID and NOPWASD on May 3, 1991, approximately 30 days behind schedule due to delays in site commitments and travel restrictions. The review period has been compressed to 15 days to minimize subsequent delays. If this schedule is not met, issuance of the associated IFB documents will be delayed.

Finalization of the O&M cost study is pending comments from USAID.

Review comments from NOPWASD on the Ismailia BODR and the Suez IFB were discussed at a meeting with USAID and NOPWASD on April 22, 1991. NOPWASD agreed to forward a letter with instructions to resolve the outstanding issues, but this letter has not been received. A summary of the April 22 meeting was forwarded to NOPWASD with a reminder that the outstanding issues must be resolved immediately in order to avoid delays in the project schedule.

In order to minimize delays, the Ismailia BODR was finalized and the final draft of the associated IFB documents was submitted without full resolution of the outstanding issues. Any changes that result from the outstanding issues will be included in the "Bid Issue" IFB documents, which are scheduled to be issued in early June 1991.

ACTIVITIES FOR THE COMING MONTH

Receive USAID and NOPWASD comments on final draft copy of the BODR for Port Said, and incorporate these comments into final report.

Continue work on Port Said IFB drawings and specifications.

Receive comments from USAID on Ismailia BODR and, if applicable, incorporate these comments into IFB documents.

Finalize and reproduce Ismailia IFB documents in preparation for issuance to bidders in June 1991.

Resolve and incorporate into conceptual design remaining geotechnical considerations for sheet pile wall and effluent pumping station at Port Said.

Continue updates of the Project Control Manual, as required.

SECTION 4. INSTITUTIONAL DEVELOPMENT

CMC MONTHLY PROGRESS REPORT NO. 33
Institutional Development - April 1991

TECHNICAL ACTIVITIES

- The CMC has completed the assigned tasks under Institutional Development.

ACTIVITIES FOR THE COMING MONTH

- There are no further scheduled activities.

SECTION 5. PORT SAID - RAW WATER

**CMC MONTHLY PROGRESS REPORT NO. 33
Port Said-Raw Water - April 1991**

ACTIVITIES DURING MONTH

- Task Order No. 21 for the Raw Water Pumping Station which was submitted to USAID on February 12, 1991, was approved on March 19, 1991.
- Completed the Draft Basis of Design Report of the Qantara raw water pumping station design. This report, once reviewed and approved by USAID/NOPWASD, will be used to develop contract documents for incorporation in the IFB documents of the Port Said wastewater treatment plant.
- Started preparing the 30% Pumping Station Design Drawings.

PROBLEM AREAS

- Written commitments for the raw water pumping station site and pipeline route are pending approval of the Governorates and the Egyptian Army. The CMC is expediting approvals and USAID has been advised of the need for approvals; especially of the pipeline route since the latter affects the specifications of the pump horsepower.

ACTIVITIES FOR THE COMING MONTH

- Continue to obtain written approvals for pumping station sites and pipeline routes.
- Continue with design of facilities and incorporation of basis of design in the BODR for the Port Said wastewater facilities.

EXHIBITS

- A. COST SUMMARY OF INVOICED AMOUNTS**
- B. CASH FLOW PROJECTION**
- C. ORGANIZATION CHART - PRELIMINARY
ENGINEERING STAGE**
- D. TABLE 1 - SCHEDULED VS ACTUAL COMPLETION
BY MANMONTH FORMAT**
- E. TABLE 2 - SCHEDULED VS ACTUAL COMPLETION
BY BAR CHART FORMAT**
- F. CONDENSED IMPLEMENTATION SCHEDULE - SUEZ**
- G. CONDENSED IMPLEMENTATION SCHEDULE - ISMAILIA**
- H. CONDENSED IMPLEMENTATION SCHEDULE - PORT SAID**

**CANAL CITIES
WATER AND WASTEWATER PHASE II PROJECT
COST SUMMARY OF INVOICED AMOUNTS
(US DOLLARS)**

**EXHIBIT A
AID PROJECT 263-0174**

Description	Amount this Invoice*	Total to Date**	Total for Year 1, 2 and 3	Total Contract
1. Labor Costs	\$349,904	\$5,957,674	\$4,679,000	\$7,748,000
2. Travel Costs	6,003	284,782	385,000	541,000
3. Shipping Costs	0	19,215	434,000	744,000
4. Office Costs	50,954	688,617	655,000	999,000
5. Arrival Costs	0	20,441	165,000	307,000
6. Subcontract - Dames & Moore	33,182	1,865,023	1,188,000	1,228,000
7. Subcontract - Sabbour	14,997	568,604	895,000	1,373,000
8. Subcontract - Sheladia	0	0	350,000	350,000
Subtotal	455,040	9,404,357	8,751,000	13,290,000
Fee	45,504	940,436	875,000	1,329,000
Total	500,544	10,344,793	9,626,000	14,619,000

* Billing Period: March 1991 (Invoice No. 32)

** Total to Date: Amounts are through February 1991 and reflect a billing adjustment of (\$1,112,665)

20.

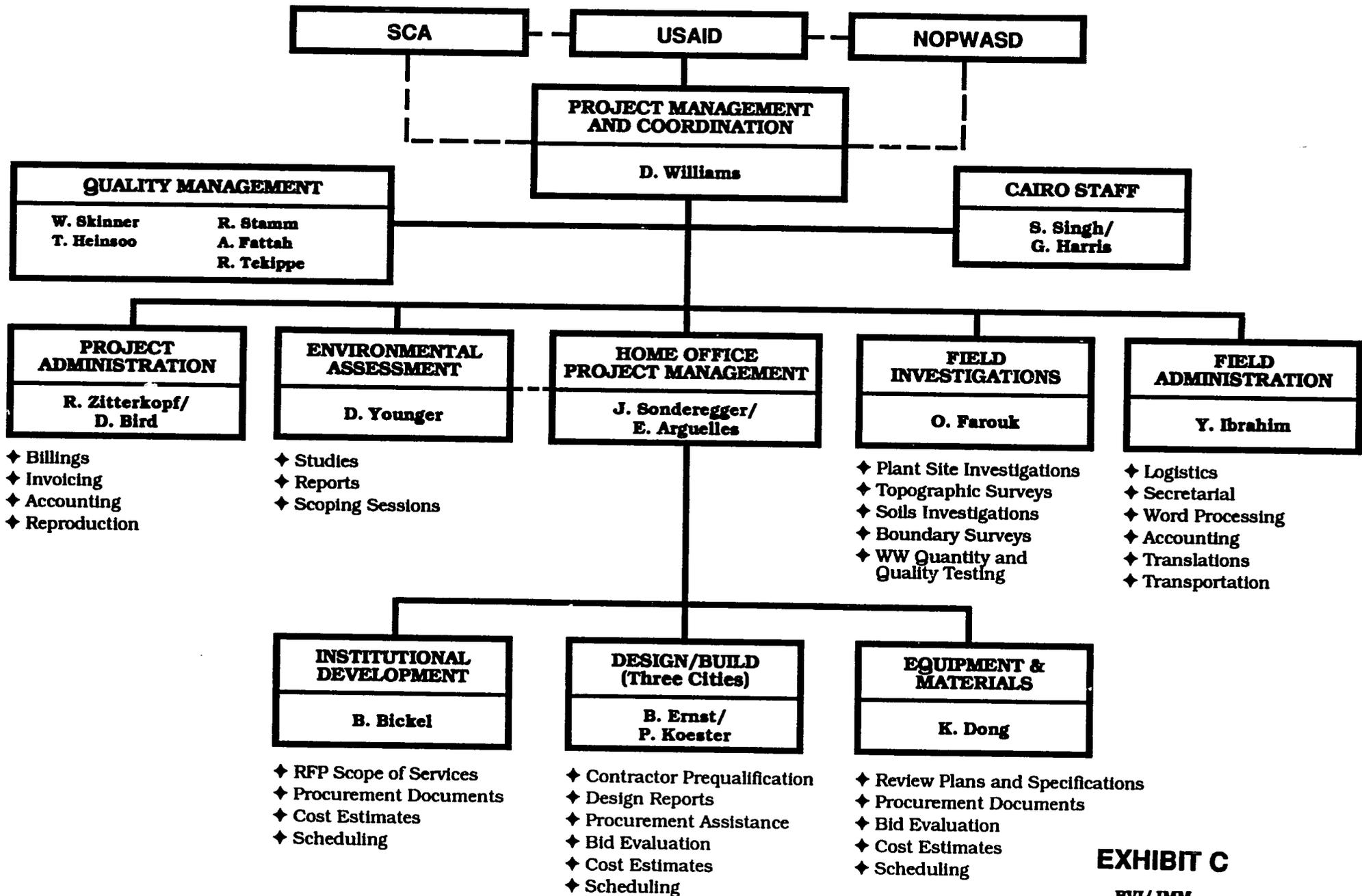


EXHIBIT C

**EVI/JMM
Sabbour Associates**

**ORGANIZATION CHART
PRELIMINARY ENGINEERING STAGE
Canal Cities Water And Wastewater
Phase II Project**

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EXHIBIT D
TABLE 1
SCHEDULED vs. ACTUAL COMPLETION
By Manmonth Format

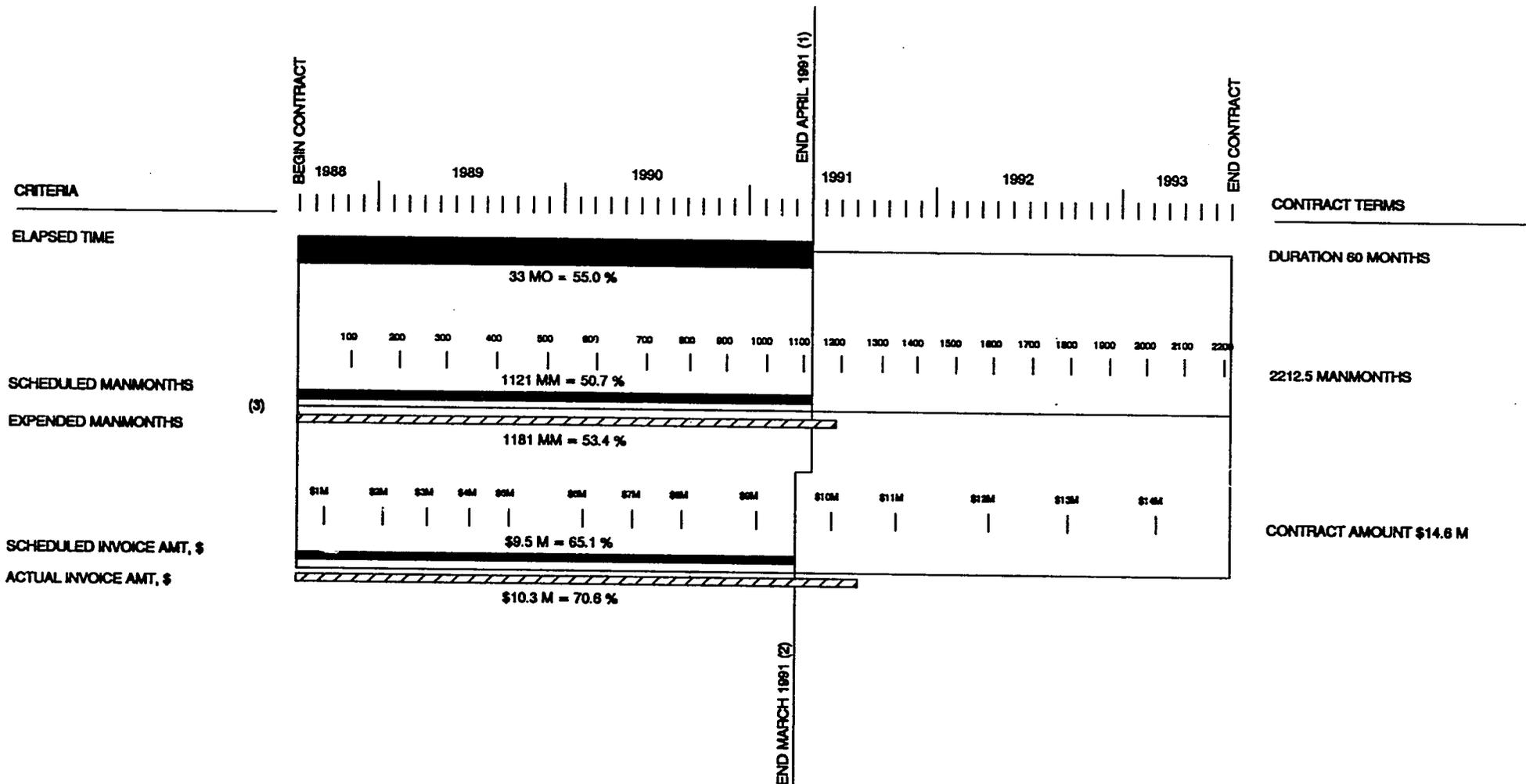
TASK NO.	ORIGINAL TASK DESCRIPTION	BVI/JMM BUDGETED MANMONTHS(1)	BVI/JMM MANMONTHS REVISED BY T.O.	BVI/JMM MANMONTHS EXPENDED(2)	TASK APPROXIMATE PERCENT COMPLETE
1	Site Selection (3)	5.00	5.00	32.29	95
2	Topographic Surveys	1.00	1.00	0.43	90
3	Soils Investigation (4)	0.50	0.50	2.51	80
4	Environmental Assessment	7.50	7.50	1.76	80
5	Subcontract (Sheladin)	27.00	27.00	0.00	0
6	Institutional Development	7.00	7.00	7.68	95
7	Contractor Prequalification	5.00	5.00	4.73	100
8	Design Report (5)	65.00	76.00	88.68	85
9	IFB Preparation (6)	65.00	185.00	235.47	80
10	SCA Procurement (7)(8)	9.00	11.00	0.31	20
11	Cost Estimates	6.50	6.50	5.86	40
12	Tender Reviews	28.50	28.50	0.00	0
13	Scheduling (9)	5.00	5.00	11.63	90
14	Quality Assurance	<u>8.00</u>	<u>8.00</u>	<u>3.93</u>	30
	Subtotal	240.00	373.00	395.27	
OTHER TASKS, UNBUDGETED					
-	Law 48 Treatment Costs(10)	0.00	3.00	0.66	100
-	Alternative Treatment Study(11)	0.00	27.00	72.48	100
-	Second Prequalification(12) (15)	0.00	7.00	10.05	100
-	O & M Cost Study(13)	0.00	2.00	3.22	95
-	Port Foud Facilities Assessment(14)	0.00	2.40	1.40	100
-	Port Said Composting(16)	0.00	1.20	2.55	85
-	Technical Training Trip(17)	0.00	0.00	2.58	100
-	Port Said Raw Water Supply (18)	<u>0.00</u>	<u>11.00</u>	<u>3.30</u>	15
	Subtotal	<u>0.00</u>	<u>53.60</u>	<u>96.24</u>	
	TOTAL	<u><u>240.00</u></u>	<u><u>426.60</u></u>	<u><u>491.51</u></u>	

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TABLE 1 (Continued)

- (1) BVI and JMM home office manmonths agreed to by USAID on 15 June 1988. Previous reports incorrectly included 11 manmonths assigned to Dames & Moore.
- (2) BVI manmonths expended through 12 April 1991, JMM through 27 April 1991.
- (3) During the first 6 months on the project, much additional time was spent on an evaluation of the efficacy of the Rapid Infiltration System, the Deep Shaft Treatment Process, and the inability of the proposed sites to support such processes. The manmonths for these investigations were charged to the closest applicable contract task: Site Selection. Site selection procedures are not complete in Port Said.
- (4) As part of the evaluation of the Deep Shaft Process, it was necessary to conduct deep soil borings at each site to examine the construction techniques to be used for excavating the shafts. Although this was an unbudgeted item, it was charged to the closest applicable contract task: Soils investigation.
- (5) T.O. 12.1, 12.2 and 12.3 signed by USAID on 26 Dec 1989.
- (6) T.O. 14.1, 14.2, and 14.3 signed by USAID on 8 Mar 1990.
- (7) T.O. 3 signed by USAID ON 30 Aug 1988.
- (8) Manmonths expended is only for the work authorized by T.O. 3 and that portion is 100 percent complete.
- (9) The budgeted manmonths agreed to on 15 June 1988 were sufficient for the CMC to schedule its work using conventional CPM techniques. Additional time has been required.
- (10) T.O. 2 signed by USAID on 28 July 1988.
- (11) T.O. 9 signed by USAID on 6 Feb 1989 and the level of effort agreed to was 27 manmonths. In August 1989, the final draft of the report was delivered. After USAID's review and analysis, the CMC was requested to further revise the report to include complete project cost, a more detailed sludge handling section, and the effects on receiving water bodies of both primary treatment and Law 48 treatment. The final report was delivered in October 1989. The level of effort required to complete the report in the manner requested was approximately 73 manmonths. Previous reports incorrectly included approximately 9 manmonths of professional manpower assigned on a long-term basis to the Cairo project office.
- (12) T.O. 13 signed by USAID on 21 Jan 1990.
- (13) T.O. 15 signed by USAID on 30 May 1990.
- (14) T.O. 16 signed by USAID on 16 September 1990.
- (15) T.O. 13.1 signed by USAID on 13 September 1990.
- (16) T.O. 20 signed by USAID on 12 February 1991.
- (17) T.O. 19 (Rev. 1) signed by USAID on 13 November 1990.
- (18) T.O. 21 signed by USAID on 19 March 1991.

TABLE 2
SCHEDULED vs. ACTUAL COMPLETION
By Bar Chart Format



(1) Manmonths expended thru 4-12-91 for BVI and 4-27-91 for JMM.

(2) Invoiced amounts as of Canal No. 32 (latest invoice).

(3) Manmonths include BVI, JMM, D&M, and Sabbour; home office and expat

EXHIBIT E

APPENDIX

A. SUMMARY OF TASK ORDERS ISSUED

**CANAL CITIES
WATER AND WASTEWATER - PHASE II PROJECT
SUMMARY OF TASK ORDERS ISSUED**

**Appendix A
AID Project 263-0174**

T.O. No.	Date Issued	Purpose	Name	Candidate Position	Duration Cal/days
1	28 JUL 88	- Notice to Proceed - Mobilization - Finalize Wastewater Treatment Sites	M. Moore	Field Office Coordinator	Indef.
2	29 JUL 88	Prepare estimates for treatment process to comply with Law 48	--	--	90 days
3	30 AUG 88	- Prepare estimate to review raw water transmission design - Prepare purchase specifications for pipe	--	--	60 days
4	15 SEP 88	Procurement of Technical Assistance for Institutional Development	J. Brown	Institutional Develop Expert	60 days
5	16 OCT 88	- Determination of Flows - Determine Site Suitability	E. Arguelles J. Kirby R. Turnbull, Jr.	Project Engineer Project Engineer Hydrogeologist	72.5 days

**CANAL CITIES
WATER AND WASTEWATER - PHASE II PROJECT
SUMMARY OF TASK ORDERS ISSUED**

**Appendix A
AID Project 263-0174**

T.O. No.	Date Issued	Purpose	Name	Candidate Position	Duration Cal/days
6.1	10 JAN 89	Topographic survey of treatment site, force main and pump station at Port Said	--	Surveyors	69 days
6.2	10 JAN 89	Topographic survey of treatment site, force main and pump station at Ismailia	--	Surveyors	94 days
6.3	10 JAN 89	Topographic survey of treatment site, force main and pump station at Suez	--	Surveyors	72 days
7.1	10 JAN 89	Environmental assessment of proposed site at Port Said	--	a) Chief Environmentalist b) Environmentalist	175 days
7.2	10 JAN 89	Environmental assessment of proposed site at Ismailia	--	a) Chief Environmentalist b) Environmentalist	231 days
7.3	10 JAN 89	Environmental assessment of proposed site at Suez	--	Chief Environmentalist	281 days

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**CANAL CITIES
WATER AND WASTEWATER - PHASE II PROJECT
SUMMARY OF TASK ORDERS ISSUED**

Appendix A
AID Project 263-0174

T.O. No.	Date Issued	Purpose	Name	Candidate Position	Duration Cal/days
8.1	10 JAN 89	Soils investigation at at Port Said	--	a) Prin. Geotech. Eng. b) Staff Geotech Eng.	200 days
8.2	10 JAN 89	Soils investigation at station at Ismailia	--	a) Prin. Geotech. Eng. b) Staff Geotech. Eng.	207 days
8.3	10 JAN 89	Soils investigation at Suez	--	Prin. Geotech. Eng.	174 days
9	06 FEB 89	Comparison of alternative wastewater tretament schemes for Port Said, Ismailia and Suez	--	--	142 days
10	26 MAR 89	Preparation of paper on environmental impact of wastewater in Port Said	--	--	60 days
11	23 MAY 89	Numerical modeling study. Port Said wastewater discharge into Lake Manzala	--	--	60 days

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**CANAL CITIES
WATER AND WASTEWATER - PHASE II PROJECT
SUMMARY OF TASK ORDERS ISSUED**

**Appendix A
AID Project 263-0174**

T.O. No.	Date Issued	Purpose	Name	Candidate Position	Duration Cal/days
12.1	26 DEC 89	Basis of Design Report for facilities at Port Said	--	--	710 days
12.2	26 DEC 89	Basis of Design Report for facilities at Ismailia	--	--	66 days
12.3	26 DEC 89	Basis of Design Report for facilities at Suez	--	--	710 days
13	21 JAN 90	Revision of Prequalification Documents	--	--	150 days
13.1	13 SEP 90	Extension of Prequalification Period Until 10 October 1990	--	--	60 days
14.1	08 MAR 90	Preparation of Contract Documents for Port Said	--	--	1,950 days
14.2	08 MAR 90	Preparation of Contract Documents for Ismailia	--	--	1,800 days

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**CANAL CITIES
WATER AND WASTEWATER - PHASE II PROJECT
SUMMARY OF TASK ORDERS ISSUED**

**Appendix A
AID Project 263-0174**

T.O. No.	Date Issued	Purpose	Name	Candidate Position	Duration Cal/days
14.3	08 MAR 90	Preparation of Contract Documents for Suez	--	--	1,800 days
15	30 MAY 90	Preparation of Operation and Maintenance Cost Study	--	--	144 days
16	16 SEP 90	Port Fouad Facilities Assessment	--	--	52 days
17.3	13 SEP 90	Suez Cost Estimates	--	--	60 days
18	30 OCT 90	Evaluation of Institutional Development Proposals	--	--	Cancelled
19	13 NOV 90	Technology Transfer Trip to USA	--	--	12 days
20	12 FEB 91	Co-composting Demonstration Project	--	--	56 to 140 days

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**CANAL CITIES
WATER AND WASTEWATER - PHASE II PROJECT
SUMMARY OF TASK ORDERS ISSUED**

**Appendix A
AID Project 263-0174**

T.O. No.	Date Issued	Purpose	Name	<u>Candidate</u> Position	Duration Cal/days
21	19 MAR 91	Port Said Raw Water Pumping Station	Khiem Dong	Project Manager	150 days

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APPENDIX

B. HIGHLIGHTS OF CPM UPDATE

CPM UPDATE AS OF 30 APRIL 1991

Progress made during the reporting month and compared to the previous month is shown below.

Name of Project City: SUEZ

<u>Activity No.</u>	<u>Description</u>	<u>Percent Completion</u>	
		<u>Last Month</u>	<u>Reporting Month</u>
		(31 Mar. '91)	(30 Apr. '91)
01300	<u>Selection of the Wastewater Treatment Plant Sites</u>		
01385	Remove/Relocate Site Obstructions	70	90
04300	<u>Environmental Assessments</u>		
04378	Review and Approval (USAID)	0	100
04379	Review and Approval (NOPWASD)	0	100
04380	Submit Final Supplemental Env. Assessment	0	100
12000	<u>Evaluation of Technical and Commercial Bids</u>		
12302	Draft Task Order	0	100
12304	Issue Task Order (USAID)	0	100
12307	Prepare and Arrange for Contractors Job Conf.	0	100
12308	Prepare/Submit Technical Bid (Contractors)	0	0
RP	<u>Requirements Precedent</u>		
RP300	Requirements Precedent - Construction (NOPWASD)	90	90

CPM UPDATE AS OF 30 APRIL 1991

Progress made during the reporting month and compared to the previous month is shown below.

Name of Project City: ISMAILIA

<u>Activity No.</u>	<u>Description</u>	<u>Percent Completion</u>	
		<u>Last Month</u> (31 Mar. '91)	<u>Reporting Month</u> (30 Apr. '91)
03200	<u>Soil Investigations</u>		
03276	Complete and Submit Report to USAID/NOPWASD	90	90
03278	Review and Approval (USAID)	0	0
03280	Review and Approval (NOPWASD)	0	0
08200	<u>Basis of Design Reports</u>		
08246	QA/QC Review	90	100
08264	Review and Approval (USAID)	50	100
08265	Review and Approval (NOPWASD)	100	100
08266	Incorporate Comments and Finalize Report	20	100
08268	Submit Final Report	0	100
09200	<u>Prepare Contract Documents for Design/Build Contract</u>		
09248	Submit Draft to USAID/NOPWASD	0	100
09250	Review and Approval (USAID)	0	0
09252	Review and Approval (NOPWASD)	0	0

CPM UPDATE AS OF 30 APRIL 1991 (Cont'd)

Progress made during the reporting month and compared to the previous month is shown below.

Name of Project City: ISMAILIA

<u>Activity No.</u>	<u>Description</u>	<u>Percent Completion</u>	
		<u>Last Month</u>	<u>Reporting Month</u>
		(31 Mar. '91)	(30 Apr. '91)
11200	<u>Develop Cost Estimates</u>		
11204	Issue Task Order (USAID)	0	50
11206	List Material, Equipment, Labor Requirements	60	95
11208	Develop Unit Costs	95	95
11210	Quantity Takeoffs	10	80
11240	Construction Cost - Treatment Plant	0	20
11242	Construction Cost - Pump Station	0	20
11244	Construction Cost - Pipelines and Others	0	20
11246	Operating Cost - Pump Station	0	0
11248	Operating Cost - Treatment Plant	0	0
11260	Prepare Cost Estimate Report	0	0
RP	<u>Requirements Precedent</u>		
RP200	Requirements Precedent - Construction (NOPWASD)	90	90

CPM UPDATE AS OF 30 APRIL 1991

Progress made during the reporting month and compared to the previous month is shown below.

Name of Project City: PORT SAID

<u>Activity No.</u>	<u>Description</u>	<u>Percent Completion</u>	
		<u>Last Month</u>	<u>Reporting Month</u>
		(31 Mar. '91)	(30 Apr. '91)
01100	<u>Selection of the Wastewater Treatment Plant Sites</u>		
01183	Acquire New Site for Influent Pump Station	70	95
01185	Acquire New Site for Sludge Storage	70	95
02100	<u>Topographic Surveys</u>		
02150	Submit Maps/Data to USAID/NOPWASD	95	95
02152	Review and Approval USAID	90	90
02154	Review and Approval NOPWASD	90	90
03100	<u>Soil Investigations</u>		
03172	Establish Geotechnical Design Parameters	90	90
03174	Prepare Draft Soils Report	50	60
03176	Complete and Submit Report to USAID/NOPWASD	0	0
03182*	Conduct/Supervise Sludge Disposal Site Borings	-	0
03184*	Conduct/Supervise Qantara P.S. Site Borings	-	0
03186*	Conduct Laboratory Soils Testing	-	0
04100	<u>Environmental Assessments</u>		
04172	Finalize Environmental Assessment	95	100
04174	Submit Final Assessment to USAID/NOPWASD	0	100
04176*	Sludge Storage Site		
	Finalize Supplemental Environmental Assessment	0	25
04178*	Submit Draft Supplemental Env. Assessment	0	0
08100	<u>Basis of Design Reports</u>		
08108	Establish Design Criteria	95	95
08140	Facilities Design	40	90

* New Activities

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CPM UPDATE AS OF 30 APRIL 1991 (Cont'd)

Progress made during the reporting month and compared to the previous month is shown below.

Name of Project City: PORT SAID

<u>Activity No.</u>	<u>Description</u>	<u>Percent Completion</u>	
		<u>Last Month</u> (31 Mar. '91)	<u>Reporting Month</u> (30 Apr. '91)
08100	<u>Basis of Design Reports (Continued)</u>		
08142	Controls and Support Facilities	10	90
09100	<u>Prepare Contract Documents for Design/Build Contract</u>		
09106	Prepare Narrative for Invitations for Bid	10	20
09108	Prepare General Conditions and IFB	10	20
09140	Prepare Technical Specifications	10	20
09142	Prepare Preliminary Drawings	10	20
09144	Prepare Bid Schedule	0	0
09146	Draft Bid Documents	0	0
10000	<u>Raw Water Supply to Port Said</u>		
10059	Preliminary Design of Pump Station	25	30
10061	Prepare Preliminary Specifications	5	5
11100	<u>Develop Cost Estimates</u>		
11102	Draft Task Order	50	50
11104	Issue Task Order (USAID)	0	0
11106	List Material, Equipment, & Labor Reqmts.	20	30
11108	Develop Unit Costs	60	70
15400	<u>Damietta Co-Composting Demonstration Project</u>		
15420	Field Work	50	100
15440	Prepare Evaluation Report	0	50
RP	<u>Requirements Precedent</u>		
RP100	<u>Requirements Precedent - Construction (NOPWASD)</u>	90	90