

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

PD-ABE-167

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

ISA 77335

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

MONTHLY PROGRESS REPORT NO. 32

CANAL CITIES - PHASE II PROJECT

MARCH 1991



BLACK & VEATCH INTERNATIONAL
ENGINEERS-ARCHITECTS



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Consulting Engineers Inc.



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SABBOUR ASSOCIATES



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Sabbour Associates



April 15, 1991

RECEIVED
APR 20 1991

APR 28 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. 32 - March 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. 32 for the month of March 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. 32
General - March 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, work commenced on edits and revisions to the final draft copy based on comments received from NOPWASD and the CMC quality control review. For Port Said, work continued on the preparation of draft text, compilation of information on existing collection system, pumping station, and force main, and development of conceptual drawings for wastewater treatment plant, operations center, headworks, and influent and effluent pumping stations.
3. Work continued on the Invitation for Bid (IFB) Documents. For Suez, IFB documents were distributed to the prequalified contractors and other interested subcontractors and suppliers. For Ismailia, copies of final draft were sent to field project coordinator on March 22, 1991, for submission to USAID and NOPWASD. For Port Said, continued to develop a general layout arrangement according to site limitations, soil conditions, and local interests.
4. Continued to review the preliminary geotechnical reports for the WWTP and offsite facilities.
5. Continued to review preliminary geotechnical data and investigated reaction of in-situ soils to sheet pile lagoon system.
6. Notified (on March 12, 1991) prequalified firms of their status. Also, advised others of their nonprequalified status.
7. Commenced Home Office Quality Control reviews of the draft report on co-composting of solid waste and sludge.
8. NOPWASD agreed to make LE 400,000 available to the Governor of Suez for payment to Petrojet to facilitate relocation of precast concrete factory.
9. Obtained agreement of the Egyptian Army for the right-of-way for buried storm drain across their site at Suez.
10. Obtained written agreement of the Egyptian Army on the treatment plant and pumping station sites at Port Said.

11. Forwarded final Environmental Assessment (EA) for the Port Said Raw Water Facilities to USAID and NOPWASD on March 4, 1991.
12. Submitted supplemental EA for Ismailia to NOPWASD and USAID on March 14, 1991.
13. Submitted to USAID Cairo office first draft of the proposed modification to the contract between the CMC and USAID.
14. Forwarded to USAID Cairo the CMC's responses to their comments on the Suez IFB on March 10, 1991.
15. Received comments from USAID on EA for Port Said.
16. Responded to latest (February 26, 1991) comments from NOPWASD on the Suez IFB documents.
17. Field office staff continued to collect data and coordinate with Home Office staff on the preparation of IFB documents and BODRs.

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
03X00	Geotechnical Investigation Work
04X00	Environmental Assessment
07X00	Prequalification of Design/Build (D/B) Contractors
08X00	Basis of Design Report
09X00	Preparation of Contract Documents for D/B Contractors
11X00	Cost Estimates
RPX00	Requirements Precedent
15400	Damietta Co-Composting Demonstration Project
	For Port Said Only:
01100	Locate New Sites for Influent Pumping Station and Sludge Disposal
02100	Survey Work
10000	Raw Water Supply to Port Said
	For Suez Only:
03100	Remove/Relocate On-Site Obstructions

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.

The Canal Cities Project Implementation Schedule (CPM) updated to March 31, 1991, will be plotted in Pure Logic Diagram Format for submittal to USAID on April 22, 1991.

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 follow-up meeting of the Steering Committee was held on March 12, 1991 to discuss status and problem areas of the Port Said project. All parties were made aware of the concerns relative to the site commitments and the raw water supply facilities at Port Said.

Several meetings were held concerning progress on the design and site commitments for the raw water pipeline which will extend from the new raw water pumping station near Qantar to the water treatment plant in Port Said. NOPWASD has requested that the CMC's responsibilities be expanded to include a review of the pipeline design and construction management services during the construction of the pipeline. USAID has informed NOPWASD that they agree in principle to the expanded role for the CMC; however, NOPWASD must take the necessary actions to see that the development of the design and construction documents proceeds in a manner which will allow the CMC to assume these responsibilities. The final resolution of this matter will require further discussions among all parties involved in the pipeline project.

STAFF MOVEMENTS

There were no arrivals or departures of key staff to/from Egypt during the reporting period.

HOME OFFICE PROFESSIONAL STAFF

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

BVI:	Name	Position
•	J.B. Ardahl	Specification Writer
•	D.T. Banning	Civil Engineer
•	K.D. Carr	Fiscal Management
•	B.S. Casey	Civil Engineer
•	L.W. Chapple	Civil Engineer
•	K.R. Connor	Civil Engineer
•	D.S. Conyers	Fiscal Management

BVI (Cont'd): Name	Position
• T.D. Davis	Electrical Engineer
• R.E. Ehret	Specification Writer
• W.G. Ernst	BVI Home Office Project Engineer
• D.P. Gupta	Geotechnical Engineer
• M.A. Jorgensen	Architect
• L.R. Khan	Fiscal Management
• T.D. Knox	Civil Engineer
• E.A. Kobylinski	Process Engineer
• R.D. Kuchenrither	Director of Residuals Management
• S.I. McMillan	Agricultural Engineer
• K.D. Monter	Civil Engineer
• G.E. Montgomery	Lead Civil Engineer
• N. Nikravan	Computer Services Support
• L.D. Pittman	Mechanical Engineer
• M.A. Pool	Electrical Engineer
• J.G. Pritchard	Civil Engineer
• L.T. Schaper	Partner
• 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
• 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.D. Willis	Fiscal Management
• R.E. Zitterkopf	Project Coordination

JMM: Name	Position
• 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
• R.M. Cass	Mechanical Engineer

JMM (Cont'd): Name	Position
• K.S. Dong	Project Engineer
• S.A. Douara	Head Mechanical Engineer
• A.O. Elhadary	Architect
• J.L. Fahey	Environmental Engineer
• J.F. Frisby	Civil Engineer
• T. Heinsoo	Principal-in-Charge
• L.J. Karns	Process Engineer
• P.A. Koester	Project Engineer
• M. Kundu	Project Engineer
• W.F. Langer	Quality Control
• C.H. Lee	Structural Engineer
• W.K. Liu	Mechanical Engineer
• H.V. Mayang	Design Coordinator
• W.T. McGivney	Lead Cost Estimator
• S.T. Mouawad	Structural Engineer
• A.S. Rashidi	Design Services Manager
• R.J. Sacro	Mechanical Engineer
• M. Sarwar	Civil Engineer
• W.A. Taylor	Civil Engineer
• Z.J. Varga	Quality Control Specialist
• F.L. Vaughan	Specification Writer
• K.H. Wiebe	Lead Hydrogeologist
• B.A. Williams	Civil Engineer

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.

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SECTION 3. WASTEWATER FACILITIES - THREE CITIES

**CMC MONTHLY PROGRESS REPORT NO. 32
Wastewater Treatment Facilities - Port Said,
Ismailia, and Suez - March 1991**

TECHNICAL ACTIVITIES

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

- **Geotechnical Investigations (General)**
 - The 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.
- **Geotechnical Investigations (Ismailia)**
 - Continued to review preliminary geotechnical reports for the wastewater treatment plant and off-site facilities. Special attention was given to the slope and sand dune stabilization and groundwater considerations.
- **Environmental Assessment (Ismailia)**
 - Submitted supplemental EA to NOPWASD and USAID on March 14, 1991.
- **Environmental Assessment (Port Said)**
 - Received comments from USAID on EA for Port Said Wastewater Treatment Plant. It is anticipated that this EA will be finalized and forwarded to USAID and NOPWASD by mid April 1991.
- **Basis of Design Report (Ismailia)**

Work continued and included the following:

- Commenced edits and revisions to final draft copy based on comments received from NOPWASD and the CMC's quality control review.

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

Work continued and included the following:

- Prepared draft written text for Chapters 1 through 11.
- Compiled existing collection system, pumping station, and force main information.
- Continued evaluation of influent pumping station and raw wastewater force main hydraulics. Continued evaluation of effluent pumping station and outfall hydraulics. Evaluated screw pumps versus conventional pumping systems to determine the most cost-effective system.
- Developed conceptual drawings for wastewater treatment plant, operations center, headworks, and influent and effluent pumping station facilities.
- Submitted a letter to NOPWASD on March 14, 1991 (with copy to USAID) regarding the preliminary/engineering work at the sludge storage site. Since no objection has been raised, this work will proceed as recommended.

- **Bidding Documents (Suez)**

Work continued and included the following:

- Compiled list of addendum items.
- Commenced distribution of documents to the prequalified contractors and to other interested subcontractors and suppliers.
- Responded to the latest (February 26, 1991) NOPWASD comments on the Suez IFB documents with a letter dated March 11, 1991.

- **Bidding Documents (Ismailia)**

Work continued and included the following:

- Submitted final draft copies to field project coordinator on March 22, 1991, for distribution to USAID and NOPWASD.
- Commenced Quality Control review by the CMC.
- Continued to evaluate potential sources of potable water and power.
- Completed work on the development of the draft contract and technical specifications.

- Submitted response to NOPWASD comments on Ismailia BODR to USAID. Awaiting concurrence from USAID on the design concepts presented in the BODR.
- Submitted draft final IFB documents for Ismailia to USAID and NOPWASD on March 22, 1991.
- Bidding Documents (Port Said)
Work continued and included the following:
 - Continued layout drawings and development of 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.
- Prequalification Documents (Port Said, Ismailia, and Suez)
 - On March 12, 1991, the firms of Morrison Knudsen International and Overseas Bechtel and the joint ventures of Harbert/J.A. Jones and ABB SUSA/Dillingham were notified of their prequalified status. On March 12, 1991, the firm of Balfour Beatty and the joint ventures of S.A. Healy/A.I.C./Megicon, Brinderson/LA Water Treatment, and The Morganti Group/JWP International were notified of their nonprequalified status.
- Co-Composting of Solid Waste and Sludge (Port Said)
 - A Draft Report was sent to the joint venture partners for their review and comment. All Home Office Quality Control reviews have commenced and comments will be incorporated into the final report. Updates for this demonstration project were forwarded to USAID on March 7 and 18, 1991.
- Additional Project Work (General)
 - Tables and bar charts showing actual versus projected project completion and condensed implementation schedule were developed for March and are included herein.

PROBLEM AREAS

- Suez Site Commitments
 - NOPWASD has agreed to make LE 400,000 available to the Governor of Suez to facilitate the payment to Petrojet for the relocation of the precast concrete factory. It is anticipated that a final written document will be executed by mid April 1991 confirming the agreement to relocate the factory.

- The CMC has confirmed that the proposed ring road will be relocated to the west end of the treatment plant site; this revised location eliminates the interference at the site.
- The Egyptian army has agreed to a right-of-way for a buried storm drain across its site. It is anticipated that this agreement will be confirmed in writing by early April 1991.
- NOPWASD continues to request that the total number of sludge dredges be increased from two to four. They also disagree with the recommendations relative to the number of transformers required for the aeration equipment. Final resolution of these items is pending.
- Port Said Site Commitments
 - The Egyptian army has confirmed in writing its agreement to the treatment plant site and the influent pumping station site.
 - Written commitments for the sludge disposal site are pending.
 - The Governor of Ismailia and the Egyptian army have issued written commitments for the raw water pumping station site. Commitments for the right-of-way for the raw water pipeline are not confirmed in writing.
- Ismailia Site Commitments
 - Written approval of the right-of-way for influent and effluent pipelines is expected to be issued in early April 1991.
- Environmental Assessments
 - Review comments from USAID are pending for the supplemental EAs for Suez and Ismailia.
 - USAID acceptance of the final EA for the Port Said raw water supply facilities is pending.
- Port Said BODR
 - Lack of firm site commitments and travel restrictions have delayed preliminary engineering work at Port Said. It is anticipated that the BODR for Port Said will be issued by mid April 1991, approximately one month behind the original schedule.
- Finalization of the O&M Cost Study is pending receipt of comments from USAID.

- Resolution of the comments received from NOPWASD on the Ismailia BODR is pending. The comments from NOPWASD raised several issues which were previously discussed and supposedly resolved. The CMC responded to all comments and suggested a meeting to discuss the NOPWASD comments.
- Issuance of the Suez IFB documents was delayed approximately one week from March 7, 1991, to March 14, 1991. USAID instructed the CMC to issue the Suez IFB documents, although the written approval of the documents and the final resolution to relocate the Petrojet factory is still pending.
- Travel requests for the environmental work at the Port Said sludge storage site and for the Suez pre-tender conference are pending USAID approval.

ACTIVITIES FOR THE COMING MONTH

- Continue work on draft copy of BODR for Port Said and submit to USAID and NOPWASD for review.
- Incorporate review comments from USAID, NOPWASD, and CMC/Cairo into Ismailia BODR and issue final copy.
- Receive and incorporate comments from USAID on Ismailia IFB.
- Receive Final EA on Port Said raw water from subcontractor.
- Resolve remaining geotechnical considerations for sheet pile wall and effluent pumping station at Port Said.
- Review by the CMC joint venture partners of sludge data and demonstration project findings. Incorporate all review comments from USAID, CMC/Cairo, and joint venture partner into the final report on co-composting technologies.
- Travel to Cairo to attend the Pre-tender Conference for the Suez contract and to work with the CMC/Cairo office on overall project coordination.
- Continue updates of the Project Control Manual, as required.

SECTION 4. INSTITUTIONAL DEVELOPMENT

CMC MONTHLY PROGRESS REPORT NO. 32
Institutional Development - March 1991

TECHNICAL ACTIVITIES

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

ACTIVITIES FOR THE COMING MONTH

- There are no further scheduled activities.

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SECTION 5. PORT SAID - RAW WATER

**CMC MONTHLY PROGRESS REPORT NO. 32
Port Said-Raw Water - March 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.
- Continued preparing design criteria and drafting the 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.

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

- Review Final Environmental Assessment on Port Said raw water.
- 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.

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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	\$253,369	\$5,607,769	\$4,679,000	\$7,748,000
2. Travel Costs	2,309	278,779	385,000	541,000
3. Shipping Costs	0	19,215	434,000	744,000
4. Office Costs	34,976	637,663	655,000	999,000
5. Arrival Costs	0	20,441	165,000	307,000
6. Subcontract - Dames & Moore	43,028	1,831,840	1,188,000	1,228,000
7. Subcontract - Sabbour	19,370	553,607	895,000	1,373,000
8. Subcontract - Sheladia	0	0	350,000	350,000
Subtotal	353,053	8,949,316	8,751,000	13,290,000
Fee	35,305	894,931	875,000	1,329,000
Total	388,357	9,844,247	9,626,000	14,619,000

* Billing Period: February 1991 (Invoice No. 31)

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

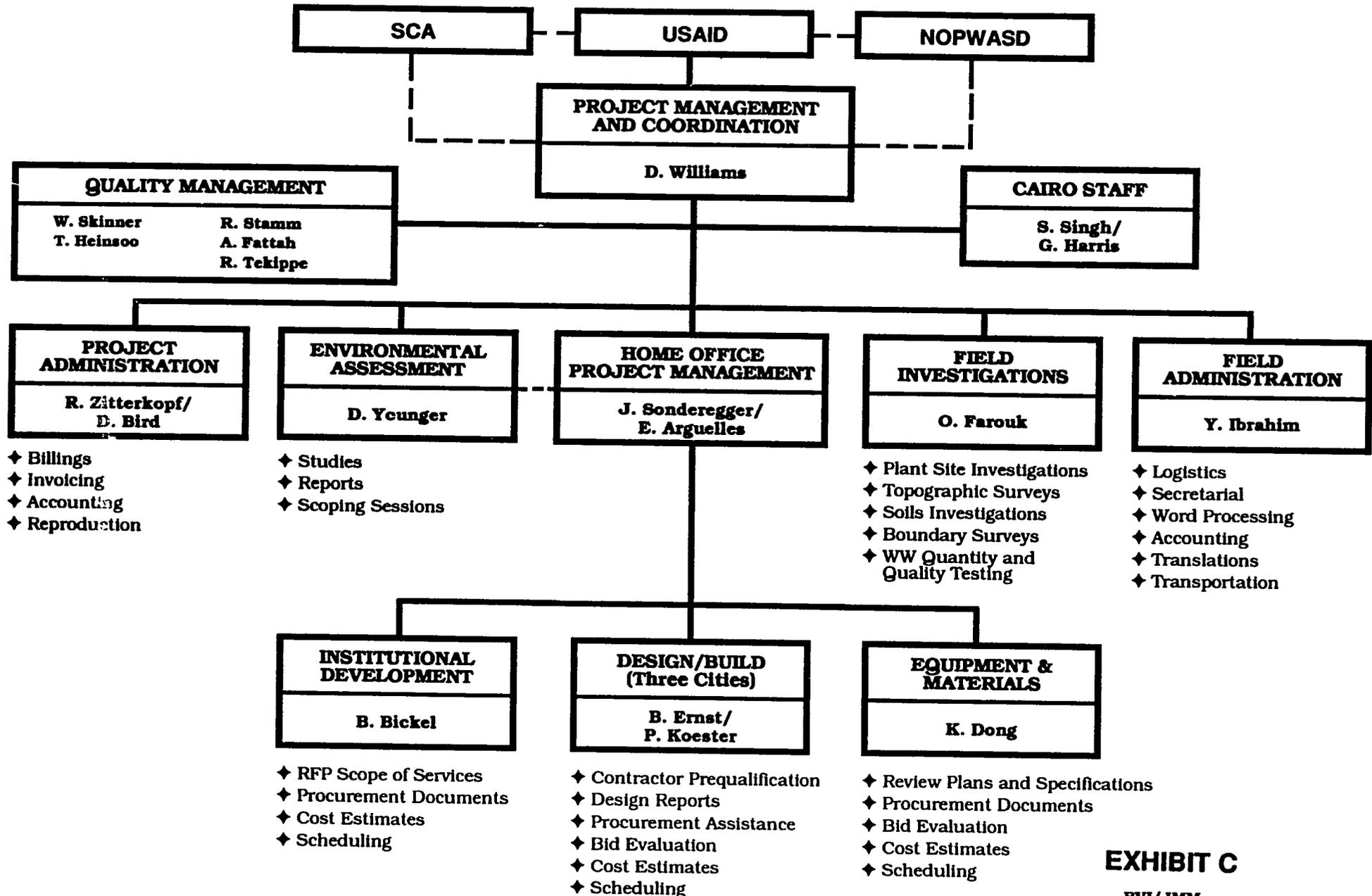


EXHIBIT C

BVI/JMM
Sabbour Associates

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

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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	2.40	80
4	Environmental Assessment	7.50	7.50	1.75	80
5	Subcontract (Sheladia)	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	81.92	80
9	IFB Preparation (6)	65.00	185.00	221.64	75
10	SCA Procurement (7)(8)	9.00	11.00	0.31	20
11	Cost Estimates	6.50	6.50	4.43	35
12	Tender Reviews	28.50	28.50	0.00	0
13	Scheduling (9)	5.00	5.00	11.21	90
14	Quality Assurance	<u>8.00</u>	<u>8.00</u>	<u>3.93</u>	30
	Subtotal	240.00	373.00	372.73	
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	9.94	100
-	O & M Cost Study(13)	0.00	2.00	3.22	95
-	Port Fouad Facilities Assessment(14)	0.00	2.40	1.40	100
-	Port Said Composting(16)	0.00	1.20	2.54	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>2.80</u>	10
	Subtotal	<u>0.00</u>	<u>53.60</u>	<u>95.62</u>	
	TOTAL	<u><u>240.00</u></u>	<u><u>426.60</u></u>	<u><u>468.35</u></u>	

MARCH '91

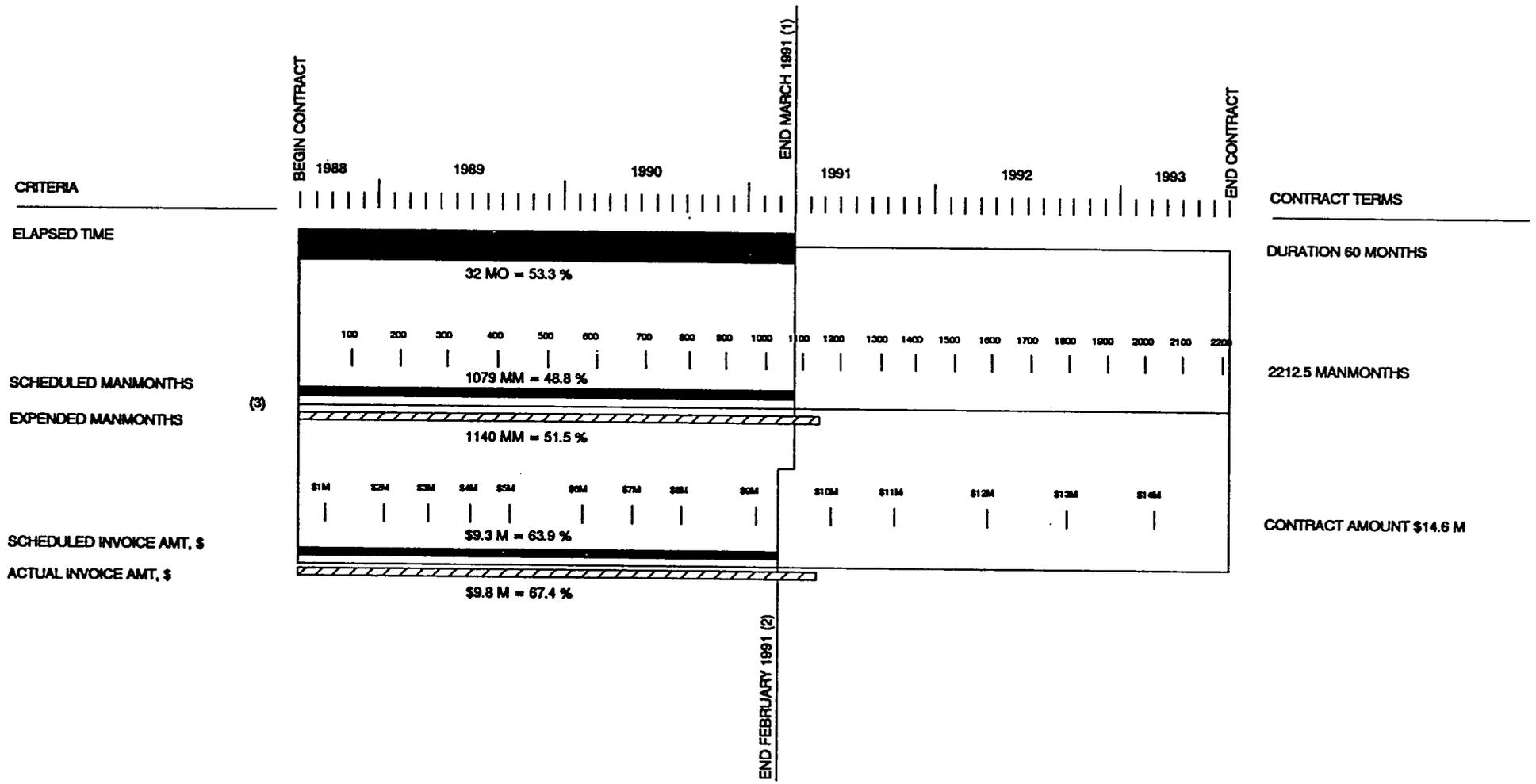
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TABLE 1 (Continued)

- (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 15 March 1991, JMM through 30 March 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 3-15-91 for BVI and 3-30-91 for JMM.
 (2) Invoiced amounts as of Canal No. 31 (latest invoice).
 (3) Manmonths include BVI, JMM, D&M, and Sabbour; home office and expat

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

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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
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

**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> <u>Position</u>	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 31 MARCH 1991

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

Name of Project City: SUEZ

<u>Activity</u>	<u>Description</u>	<u>Percent Completion</u>	
		<u>Last Month</u>	<u>Reporting Month</u>
		(28 Feb.'91)	(31 Mar.'91)
<u>Activity 01X00 Final WWTP Site Selection</u>			
01385	SZ - REMOVE/RELOCATE SITE OBSTRUCTIONS	70	80
<u>Activity 02X00 Topographic Surveys</u>			
Activity Complete			
<u>Activity 03X00 Soils Investigations</u>			
Activity Complete			
<u>Activity 04X00 Environmental Assessments</u>			
Draft Final Supplemental Environmental Assessment			
04378	SZ - REVIEW & APPROVAL (USAID)	0	0
04379	SZ - REVIEW & APPROVAL (NOPWASD)	0	0
04380	SZ - SUBMIT FINAL SUPPLEMENTAL ENV. ASSESSMENT	0	0
<u>Activity 07X00 Prequalification of D/B Contractors</u>			
07394	SZ - REVIEW & APPROVAL (USAID)	0	100
07395	SZ - REVIEW & APPROVAL (NOPWASD)	0	100
07399	SZ - NOTIFY PREQUALIFIED CONTRACTORS	0	100
<u>Activity 08X00 Basis of Design</u>			
Activity Complete			
<u>Activity 09X00 Prepare Contract Documents for D/B Contract</u>			
09368	SZ - FINAL APPROVAL USAID/NOPWASD	50	100
<u>Activity 11X00 Develop Cost Estimates</u>			
11364	SZ - REVIEW & APPROVAL (USAID)	90	100
11366	SZ - REVIEW & APPROVAL (NOPWASD)	5	100
11380	SZ - MAKE CORRECTIONS AS NOTED	0	100
11382	SZ - RESUBMIT TO USAID/NOPWASD	0	100
11384	SZ - APPROVAL (USAID)	0	100
11386	SZ - APPROVAL (NOPWASD)	0	100

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CPM UPDATE AS OF 31 MARCH 1991

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

Name of Project City: SUEZ

<u>Activity</u>	<u>Description</u>	<u>Percent Completion</u>	
		<u>Last Month</u>	<u>Reporting Month</u>
		(28 Feb.'91)	(31 Mar.'91)
<u>Activity 12X00 Evaluation of Technical & Commercial Bids</u>			
12302	SZ - DRAFT TASK ORDER	0	0
12304	SZ - ISSUE TASK ORDER (USAID)	0	0
<u>Activity RP Requirements Precedent</u>			
RP300	SZ - REQUIREMENTS PRECEDENT- CONSTRUCTION (NOP.)	90	90

CPM UPDATE AS OF 31 MARCH 1991

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

Name of Project City: ISMAILIA

<u>Activity</u>	<u>Description</u>	<u>Percent Completion</u>	
		<u>Last Month</u>	<u>Reporting Month</u>
		(28 Feb.'91)	(31 Mar.'91)
<u>Activity 01X00 Final WWTP Site Selection</u>			
(Activity complete)			
<u>Activity 02X00 Topographic Surveys</u>			
(Activity complete)			
<u>Activity 03X00 Soils Investigations</u>			
03276	IS - COMPLETE & SUBMIT REPORT TO USAID/NOPWASD	80	90
03278	IS - REVIEW & APPROVAL (USAID)	0	0
03280	IS - REVIEW & APPROVAL (NOPWASD)	0	0
<u>Activity 04X00 Environmental Assessments</u>			
04276	IS - DRAFT SUPPLEMENT TO EA REPORT	90	100
<u>Activity 07X00 Prequalification of D/B Contractors</u>			
07294	IS - REVIEW & APPROVE (USAID)	1	100
07295	IS - REVIEW & APPROVE (NOPWASD)	1	100
07299	IS - NOTIFY PREQUALIFIED CONTRACTORS	0	100
<u>Activity 08X00 Basis of Design</u>			
08246	IS - QA/QC REVIEW	80	90
08264	IS - REVIEW & APPROVAL (USAID)	10	50
08265	IS - REVIEW & APPROVAL (NOPWASD)	10	100
08266	IS - INCORPORATE COMMENTS & FINALIZE REPORT	0	20
08268	IS - SUBMIT FINAL REPORT	0	0

CPM UPDATE AS OF 31 MARCH 1991

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

Name of Project City: ISMAILIA

Activity	Description	Percent Completion	
		Last Month	Reporting Month
		(28 Feb.'91)	(31 Mar.'91)
<u>Activity 09X00 Prepare Contract Documents for D/B Contract</u>			
09206	IS - PREPARE NARRATIVE FOR INVITATIONS FOR BID	90	100
09208	IS - PREPARE GENERAL CONDITIONS & IFB	90	100
09240	IS - PREPARE TECHNICAL SPECIFICATIONS	90	100
09242	IS - PREPARE PRELIMINARY DRAWINGS	90	100
09244	IS - PREPARE BID SCHEDULE	90	100
09246	IS - DRAFT BID DOCUMENTS	90	100
09247	IS - COMPLETE DRAFT BID DOCUMENTS	0	100
<u>Activity 11X00 Develop Cost Estimates</u>			
11202	IS - DRAFT TASK ORDER	80	100
11204	IS - ISSUE TASK ORDER (USAID)	0	0
11206	IS - LIST MATERIAL, EQUIPMENT, & LABOR REQMTS.	40	60
11208	IS - DEVELOP UNIT COSTS	90	95
11210	IS - QUANTITY TAKEOFFS	0	10
<u>Activity RP Requirements Precedent</u>			
RP200	IS - REQUIREMENTS PRECEDENT- CONSTRUCTION (NOP.)	90	90

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CPM UPDATE AS OF 31 MARCH 1991

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

Name of Project City: PORT SAID

<u>Activity</u>	<u>Description</u>	<u>Percent Completion</u>	
		<u>Last Month</u>	<u>Reporting Month</u>
		(28 Feb.'91)	(31 Mar.'91)
<u>Activity 01X00 Final WWTP Site Selection</u>			
01183	PS - ACQUIRE NEW SITE FOR INF. P.S.	70	70
01185	PS - ACQUIRE NEW SITE FOR SLUDGE DISPOSAL	70	70
<u>Activity 02X00 Topographic Surveys</u>			
02150	PS - SUBMIT MAPS/DATA TO AID/NOP	95	95
02152	PS - REVIEW & APPROVAL (USAID)	90	90
02154	PS - REVIEW & APPROVAL (NOPWASD)	90	90
<u>Activity 03X00 Soils Investigations</u>			
03172	PS - ESTABLISH GEOTECH. DESIGN PARAM.	80	90
03174	PS - PREPARE DRAFT SOILS REPORT	40	50
03176	PS - COMPLETE & SUBMIT REPORT TO USAID/NOPWASD	0	
<u>Activity 04X00 Environmental Assessments</u>			
04170	PS - REVIEW & APPROVAL (USAID)	0	100
04171	PS - REVIEW & APPROVAL (NOPWASD)	0	100
04172	PS - FINALIZE ENVIRONMENTAL ASSESSMENT	0	95
04174	PS - SUBMIT FINAL ASSESSMENT TO USAID/NOPWASD	0	0
<u>Activity 07X00 Prequalification of D/B Contractors</u>			
07194	PS - REVIEW & APPROVE (USAID)	0	100
07195	PS - REVIEW & APPROVE (NOPWASD)	0	100
07199	PS - NOTIFY PREQUALIFIED CONTRACTORS	0	100
<u>Activity 08X00 Basis of Design</u>			
08108	PS - ESTABLISH DESIGN CRITERIA	95	95
08140	PS - FACILITIES DESIGN	40	60
08142	PS - CONTROLS & SUPPORT FACILITIES	10	40

CPM UPDATE AS OF 31 MARCH 1991

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

Name of Project City: PORT SAID

<u>Activity</u>	<u>Description</u>	<u>Percent Completion</u>	
		<u>Last Month</u>	<u>Reporting Month</u>
		(28 Feb.'91)	(31 Mar.'91)
<u>Activity 09X00 Prepare Contract Documents for D/B Contract</u>			
09106	PS - PREPARE NARRATIVE FOR INVITATIONS FOR BID	0	10
09108	PS - PREPARE GENERAL CONDITIONS & IFB	0	10
09140	PS - PREPARE TECHNICAL SPECIFICATIONS	0	10
09142	PS - PREPARE PRELIMINARY DRAWINGS	0	10
09144	PS - PREPARE BID SCHEDULE	0	0
09146	PS - DRAFT BID DOCUMENTS	0	0
<u>Activity 10000 Raw Water Pump Station Design</u>			
10057	RW - ISSUE T.O. DESIGN/SPEC. PUMP STATION (USAID)	0	100
10059	RW - PRELIM. DESIGN OF PUMP STATION	20	25
10061	RW - PREPARE PRELIM. SPECIFICATIONS	5	5
<u>Activity 11X00 Develop Cost Estimates</u>			
11100	PS - DEVELOP COST ESTIMATES	0	0
11102	PS - DRAFT TASK ORDER	50	50
11104	PS - ISSUE TASK ORDER (USAID)	0	0
11106	PS - LIST MATERIAL, EQUIPMENT, & LABOR REQMTS.	20	20
11108	PS - DEVELOP UNIT COSTS	60	60
<u>Activity 15400 Damietta - Co-Composting Demonstration Project</u>			
15420	DM - FIELD WORK	20	50
<u>Activity RP Requirements Precedent</u>			
RP100	PS - REQUIREMENTS PRECEDENT- CONSTRUCTION (NOP.)	90	90

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