ENGINEERING DESIGN, CONSTRUCTION MANAGEMENT, AND ENVIRONMENTAL ASSESSMENT SERVICES FOR SECONDARY CITIES PROJECT IN EGYPT

DAKAHLIA GOVERNORATE
CITY OF MANSOURA
ENVIRONMENTAL SCOPING REPORT

Submitted to

U.S. AGENCY for INTERNATIONAL DEVELOPMENT
CAIRO - EGYPT

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SECONDARY CITIES PROJECT

DAKAHLIA GOVERNORATE
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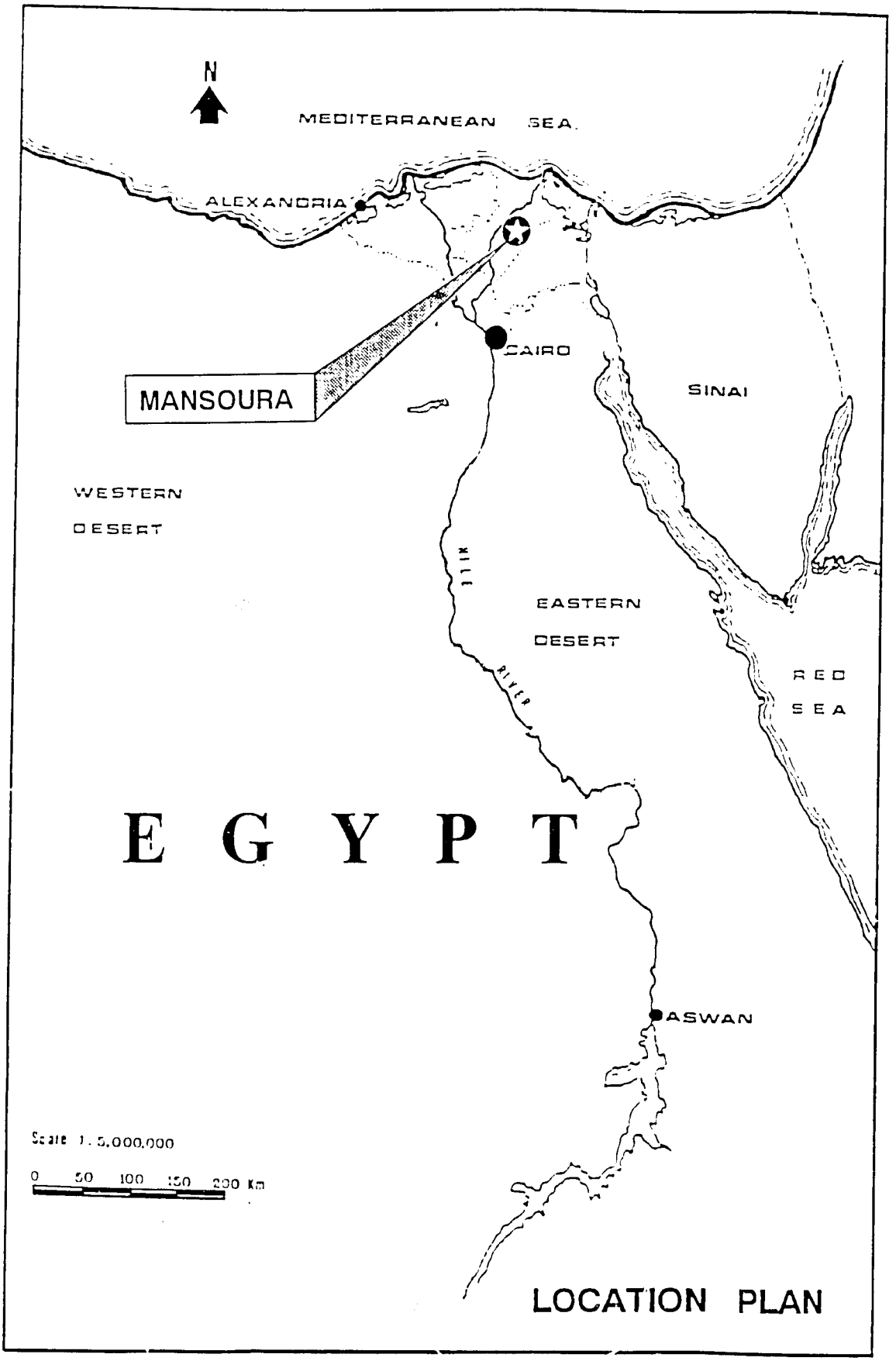
N
MEDITERRANEAN SEA
ALEXANDRIA
CAIRO
MANSOURA
SINAI
WESTERN
DESERT
NILE
EASTERN
DESERT
RIVER
RED
SEA
E G Y P T
ASWAN
Scale 1 : 5,000,000
0 50 100 150 200 Km
LOCATION PLAN

SCOPING REPORT: MANSOURA

1. Introduction

This is the Scoping Report for the Mansoura water and wastewater facilities components of the Secondary Cities Project, undertaken for the Government of Egypt (GOE) through the National Organization of Potable Water and Sanitary Drainage (NOPWASD) and the United States Agency for International Development (USAID).

Background data and information for the proposed activities in Mansoura were gathered and reported in the Secondary Cities Background Data and Information Report and Technical Annex, completed in March 1994 by USAID's Water and Sanitation for Health Project (WASH).

2. Project Description

Water supply. For Mansoura, the proposed water supply improvements include:

a) The construction of a new water treatment plant, with a currently proposed capacity of about 1200 lps. The plant design will consider the use of chemically enhanced settling/sand filtration technology. At present, there are three alternative plant sites under consideration:

- Site 1: Near the northern limits of the city, close to where the Mansouria Canal discharges to the Damietta branch of the Nile.
- Site 2: Within the city, on the site of a present prison farm, and very near the principal existing water treatment plant.
- Site 3: On the southwestern side of the city, on the site of a present solid waste landfill.

b) Rehabilitation of two existing water treatment plants;

c) Possible rehabilitation of three compact package-type water treatment plants;

d) Rehabilitation and expansion (by about 72 km) of local distribution systems; and

e) Provision of additional storage tanks.

The locations of Activities (b), (c), and (d) above are shown in Figure 1. Also shown in the figures are the three alternative locations for the new water treatment plant, Activity (a). One of the tasks of the current project is to study the alternative sites and recommend one for implementation, taking into consideration the results of this scoping session.

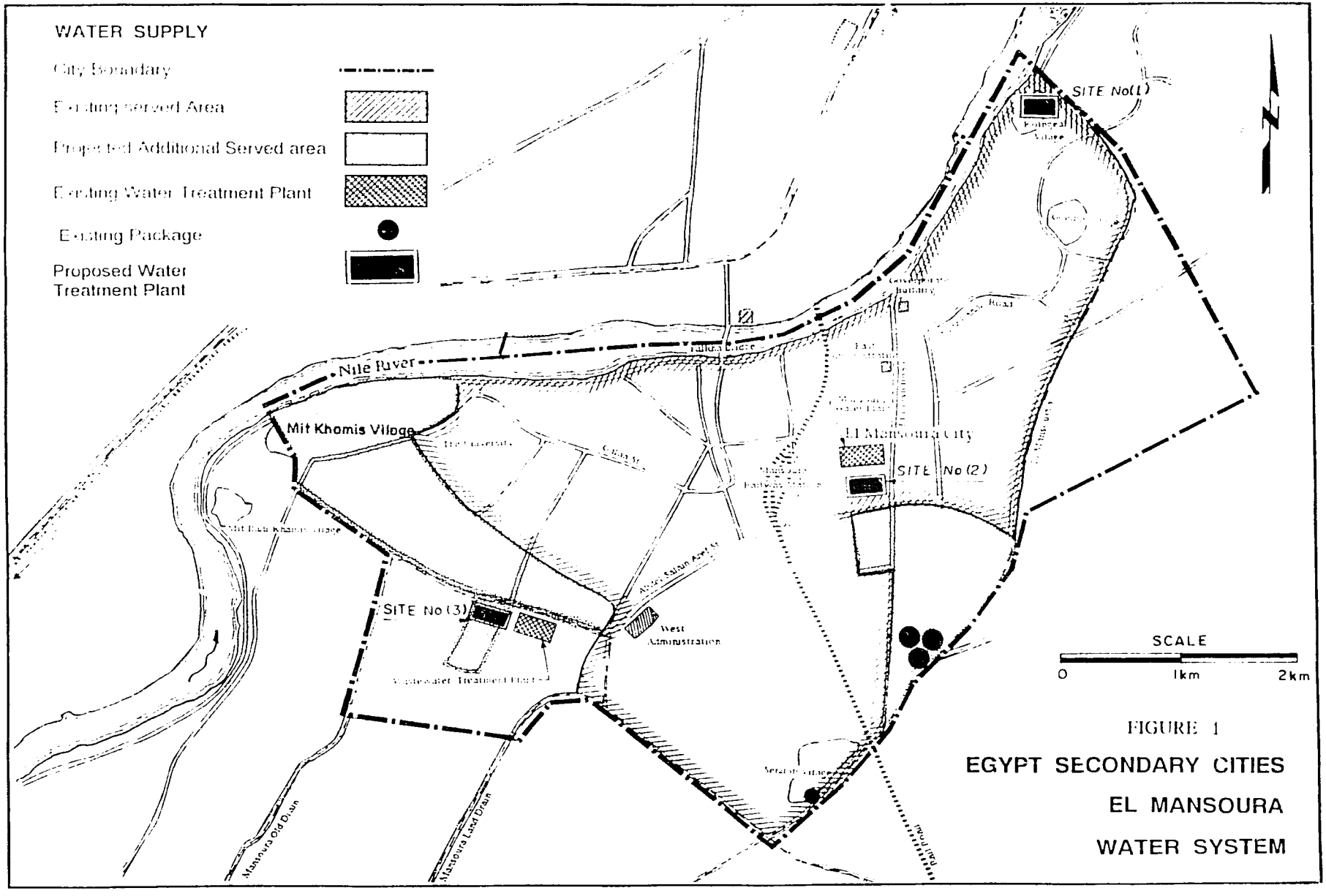

FIGURE 1

EGYPT SECONDARY CITIES

EL MANSOURA

WATER SYSTEM

Wastewater. The projected 2010 flows projected for Mansoura can be handled with the existing 135,000 m^3/d wastewater treatment plant. Sewer pump stations that presently still discharge into drains will be connected to the existing wastewater treatment plant. The proposed wastewater facilities and improvements include

e) Connection of the existing pump stations to the new Mansoura wastewater treatment plant; and

f) Rehabilitation and expansion (by about 72 km) of the local sewage collection network.

The locations of Activities (e) and (f) above are shown in Figure 2.

3. Environmental Considerations and Key Issues

The USAID-funded Secondary Cities Project is conducting an Environmental Assessment (EA) of the facilities proposed for Mansoura. An EA is a process used to identify and predict the environmental consequences of a newly planned activity and to assist in planning appropriate measures to reduce the adverse effects and maximize environmental benefits before such activities are allowed to go ahead. It is a practical and valuable means for aiding decision makers as regards to project implementation.

The EA provides the decision makers with reasonably accurate information concerning existing environmental conditions, potentially significant environmental impacts and possible mitigation measures, monitoring programs, opportunities for environmental enhancement and environmental management plans.

"Scoping" is an EA activity which

- Identifies those attributes of the environment for which there are concerns, and
- Provides a plan that enables the EA team to be focused on these attributes.

Scoping is a shared responsibility where the proponent government agencies, the Governorate of Dakhalia and USAID, and the public, both have a role. As part of this process, a Scoping Meeting was held in Mansoura on 26 September, 1995. A list of the attendees at that meeting is given in Appendix A.

Potential effects that have been identified, whether positive or negative, are listed in the following subsections. Hollow bullets ("o") denote issues that are routinely to be expected in projects of this nature. Solid bullets ("•") denote issues specifically raised in the scoping meeting.

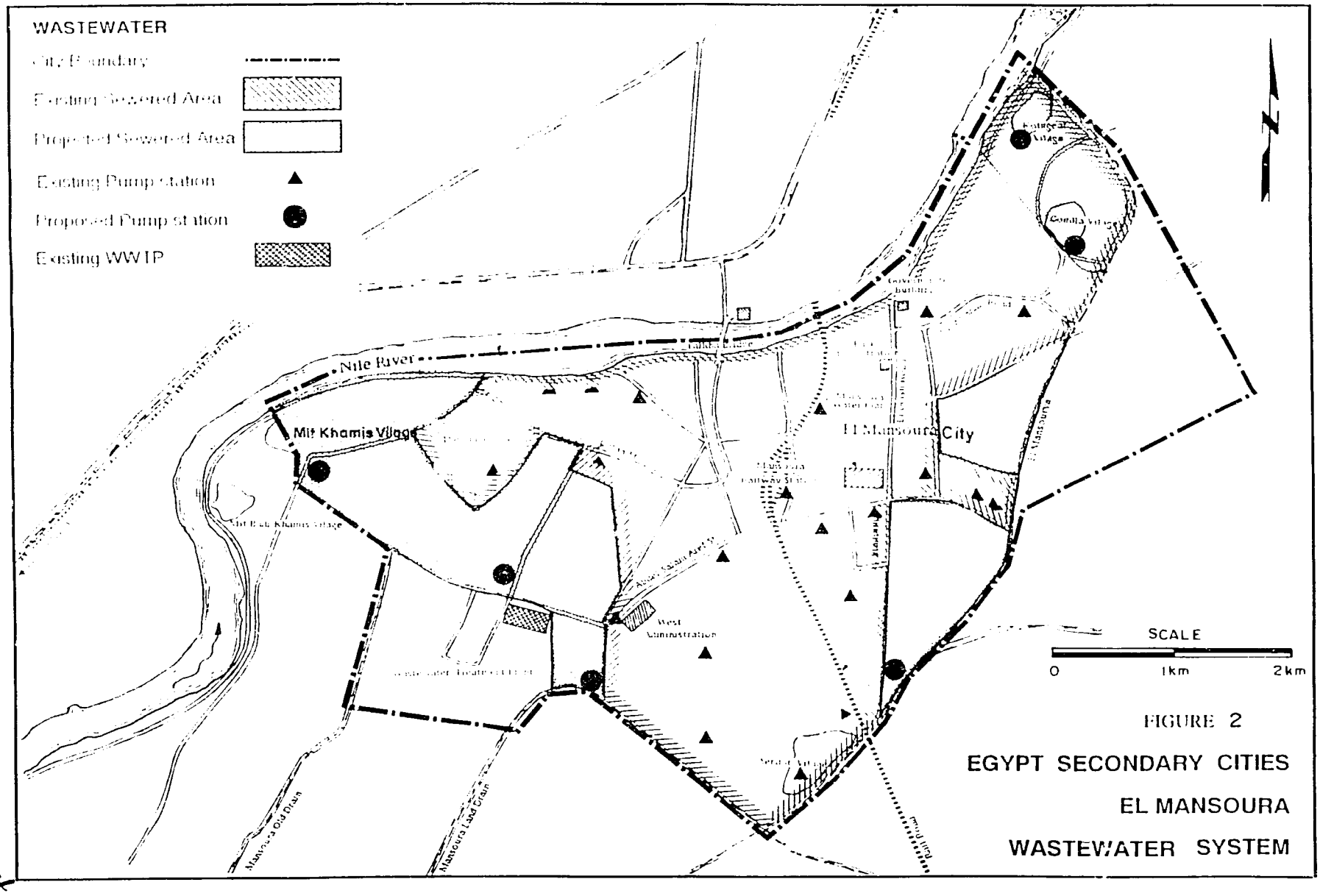

FIGURE 2

EGYPT SECONDARY CITIES

EL MANSOURA

WASTEWATER SYSTEM

3.1 Water Supply System

3.1.1 Construction of a new WTP

- There will be improvement to water supply services, in terms of quality and quantity, which may lead to economic growth in the region
- Consider the removal of four to five hectares of agricultural land from production; more important, displacement of the farmers cultivating the land, under rental agreements with the governorate
- The new inlet structure may affect the flow pattern in Damietta Branch.
- The plant will represent an additional electric load on the existing grid
- The plant will also represent a new risk for the local population because of the potential use of gaseous chlorine for disinfection and the possibilities of chlorine leaks
- Consider operation and maintenance activities including sludge disposal.
- Construction activities will increase the levels of dust and noise and will interrupt traffic and some utilities
- Consider increased loads on the wastewater system (but, to be sure, this will not increase the wastewater loads beyond the design capacity of the plant within the foreseeable future).
- Consider alternative sites in terms of population density and direction of prevailing winds.
- Design the raw water intake to handle potential blockage by weeds, and to not constrain navigation in the river
- Consider the quality of raw water (here near the downstream end of the Nile) when specifying the water treatment processes to be used, and sizing the water treatment plant, to ensure that the plant can treat water to an adequate degree.

3.1.2 Rehabilitation of existing WTPs

- There will be improvement to the services in terms of quality and quantity which may lead to economic growth in the region.
- Construction activities will increase the levels of dust and noise and will interrupt traffic,

especially since the WTP is near the center of the city.

3.1.3 Rehabilitation of the local distribution network

- o There will be improvement in public health due to reduced use of other contaminated water sources.
- o Consider public safety, traffic control and interruptions during construction including interruptions of water services
- o Consider the stability of structures due to construction activities, e g alteration of water table due to site dewatering
- o There will be an increased load on the sewerage system
- • The water distribution network should be of a closed-loop form for redundancy.

3.2 Wastewater System

3.2.1 Rehabilitation and expansion of collection system

- o There will be an improvement in public health
- o There will be improvement of water quality in Lake Manzala and the drains leading to it, once the sewerage system is connected to the waste-water treatment plant
- o Consider the stability of structures affected by construction activities.
- o Consider public safety, traffic control and interruptions during construction including interruptions of sewage and other utility services
- o Where new pump stations are added to the system, the impacts on land use, energy consumption and traffic control impacts must be assessed
- o Consider operation and maintenance activities at these new pump stations, e.g. problems of odors and disposal of screenings.
- • What is the relationship of wastewater discharge activities and the local rise in groundwater level?
- • Consider the problem of source control of industrial discharges.

- Ensure that there will still be adequate capacity in the sewer siphon crossing of the Mansoura Canal.

3.3 General

- Recognize the importance of a public awareness campaign regarding these works.

4. Outline of The Environmental Assessment Report

The Environmental Assessment Report will be written in standard NEPA (U S National Environmental Policy Act) format. The proposed outline for this report is given in Appendix B

APPENDIX A
LIST OF ATTENDEES

Mansoura Environmental Scoping Session
September 26, 1995.

	Name	Position
1.	H.E. Ibrahim El Sheikh	Governor of Dakhalia
2.	Gen. Mohamed El Beltagi	Sec. Gen. National Party in Dakahlia
3.	Eng. Talaat Shehab	Sec. Gen. of Dakahlia Governorate
4.	Eng. Saad Hasan Ismail	Asst. Sec. General of Dakahlia Governorate
5.	Ms. Shereen Mohamed Osman	West District, City of Mansoura
6.	Eng. Ahmed Helmi El Adl	NOPWASD
7.	Dr. Abdel Fatah Yousef	Faculty of Science, Mansoura University
8.	Mr. Fathy Moustafa	Health Department
9.	Dr. Hoda El Gamal	Faculty of Engineering
10.	Mr. Mohamed Helal	Talkha Fertilizer Factory
11.	Mr. Hassan Abdallah	Faculty of Agriculture
12.	Ahmed Ibrahim Abu el Ella	Industrial Safety Department, Dakhlia Governorate
13.	Hamdi Ahmed Abd El Salam	Faculty of Engineering
14.	Adel Abd El Ghaffar	Faculty of Medicine

15.	Mokhtar El Sherif	Faculty of Agriculture
16.	Mohamed El Hussein El Hattab	Markaz Chief, Mansoura
17	Eng. Ahmed Fawzi Mohamed Moussa	Housing Department
18	Adel Ahmed Khalifa	Housing & Utilities Department
19	Mohamed El Sergani	Head of East District, Mansoura
20.	Adel Osman El Said Shalabi	Head of Potable Water Authority, Dakahlia
21.	Mohamed Ali Ahmed Hegazi	Director Industerial Safety Department
22.	Eng. Mohamed Hussein El Ghazali	Director of Research Unit, Labor Force Dept.
23	Eng. Samir Hashish	Undersecretary Ministry of Public Work
24	Dr. Mohamed Fadi	Faculty of Agriculture, Insecticide Dept.
25.	Col. Ibrahim El Zomor	Manzala Lake Executive Authority
26.	Ms. Nafissa el Gamil	Journalist
27.	Dr. Mohamed El Demerdash	Faculty of Science
28.	Dr Ibrahim Gar El Alam Rashed	Faculty of Engineering
29.	Dr. Hekmat Mohi Masoud	Faculty of Engineering
30.	Abd El Hamid Abou El Enein	Middle East News Agency
31.	Dr. Attef Abd El Sattar Sadek	Environmental Health Department, Health Directorate, Governorate
32.	Mr. Mohamed Abd El Hamid	Director of Housing
33.	Mr. Ahmed Mahmoud El Bastawisi	Director of Utilities in West District, Mansoura
34.	Eng. El Said Abdallah Al Armoussi	East Delta Irrigation Directorate

35.	Dr. Said Shehab El Din	Health Directorate, Dakahlia
36.	Eng. Fathy Antar Foda	Housing Directorate, Dakahlia Governorate
37.	Mr. Farouk Mohamed Zein el Abedin	University of Mansoura
38.	Dr. Abou Mandour Abd El Dayem	University of Mansoura
39.	Ms. Nagwa Moustafa El Damassi	Public Relation Dept. Housing Directorate
40.	Mr. Khaled Abd El Hamid	Shoura Council
41.	Ms. Nadia El Nadi	News reporter, Sixth Channel
42.	Mohamed Abd El Salem Oweida	Faculty of Agriculture
43.	Mr. Mansour Mohamed Zein	Al Messa Newspaper
44.	Dr. Ahmed Niazi Mosailama	Faculty of Medicine
45.	Dr. Ali Maher El Adl	University of Mansoura
46.	Mr. Ramadan Attia Arrafa	Housing Department, Dakahlia Gov.
47.	Eng. Housam El Din Beheiri	NOPWASD
48.	Eng. Mohamed El Kerdani	Industrial & Engineering Projects Company
49.	Dr. Tarek Osman Said	Marine Science Institute
50.	Dr. Khaled Touloon	Environmental Affair Office Governorate of Dakahlia
51.	Eng. Shawky Mattar Ellias	Water Director City of Mansoura
52.	Mr. Attia Abd El Hamid	El Ahram - Mansoura
53.	Ms. Azza Fahmy	Alwafd Office
54.	Mr. Karem	Public Relation Dept.
55.	Mr. Peter Argo	USAID

56.	Dr. Anne Patterson	USAID
57.	Mr. Mamdouh Raslan	USAID
58.	Mr. Tarek Bekheit	USAID
59.	Mr. Leo St. Michel	CDM/AAW-SCP
60.	Mr. Louis G. Marcello	CDM/AAW-SCP
61.	Dr. Hesham El Badry	CDM/AAW-SCP
62.	Mr. Moustafa El Tayeb	CDM/AAW-SCP
63.	Dr. Jonathan A. French	CDM/AAW-SCP
64.	Eng. Samir Ghith	CDM/AAW-SCP
65.	Mr. Dewey L. Bryant	Chemomics Int'L
66.	Mr. Tarek M. Selim	CDM/AAW-SCP
67.	Ms. Farida Morkos	CDM/AAW-SCP

APPENDIX B

OUTLINE OF THE ENVIRONMENTAL ASSESSMENT REPORT

Executive Summary (Arabic and English)

1 Introduction

1.1 Background
1.2 Proposed action
1.3 Environmental regulatory procedures
1.3.1 Egyptian environmental legislation
1.3.2 USAID environmental procedures.

2. Project description

2.1 Background
2.2 Layout and description of proposed facilities
2.3 Construction activities
2.4 Operation activities.

3 Environmental Setting

3.1 Background
3.2 Physical environment
3.3 Socio-economic environment
3.4 Cultural and aesthetic environment

Environmental Effects

4.1 Background
4.2 Physical environment impacts
4.3 Socio-economic environment impacts
4.4 Cultural and aesthetic environmental impacts
4.5 No - action alternative

APPENDIX B: OUTLINE OF THE ENVIRONMENTAL ASSESSMENT REPORT (Continued)

5 Mitigation, Monitoring and Management

- 5.1 Background
- 5.2 Physical environment
- 5.3 Socio-economic environment
- 5.4 Cultural and aesthetic environment

Appendices

List of EA preparers
Scoping Report
Public NGOs correspondence