

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

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

**SCOPING REPORT
ENVIRONMENTAL ASSESSMENT OF A
NEW POTABLE WATER SUPPLY LINE
AND PUMP STATION FOR
PORT SAID**

10 JULY 1990



**BLACK & VEATCH INTERNATIONAL
ENGINEERS-ARCHITECTS**

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Consulting Engineers Inc



in association with
SABBOUR ASSOCIATES

SCOPING REPORT
ENVIRONMENTAL ASSESSMENT OF A NEW POTABLE WATER
SUPPLY LINE AND PUMP STATION FOR PORT SAID

Government of Egypt-United States Agency for International
Development: Canal Cities Water and Wastewater
Project - Phase II

June 19, 1990

Port Said

INTRODUCTION

Egypt's National Organization for Potable Water and Sanitary Drainage (NOPWASD), in association with the United States Agency for International Development (USAID), is proposing to expand the potable water supply facilities for the City of Port Said. The proposed facilities include a new pumping station located immediately south of Qantara, and a new pipeline from the pumping station to the existing water treatment plant at Port Said. The proposed facilities will supplement the Port Said Sweetwater Canal, whose capacity is no longer large enough to meet the needs of the growing city. NOPWASD, a unit of the Ministry of Development, New Communities, Housing and Public Utilities, is responsible for building the new pipeline and pump station. After completion, it will be operated by the Port Said Governorate.

The proposed pipeline and pump station is one element of Phase II of the Canal Cities Water and Wastewater Project, partially funded by USAID. Phase II continues more than a decade of effort to rehabilitate the Canal Cities' war-damaged water and wastewater systems, and expand these systems to serve future urban growth of this important region. The potable water component of Phase I upgraded and expanded delivery of safe drinking water. Phase II includes funds for expanding Port Said's potable water delivery system.

Phase II construction and related activities are being managed for NOPWASD and USAID by Construction Management Consultants (CMC), a team supplied through a joint venture of the firms Black & Veatch International and James M. Montgomery of the United States, in association with Sabbour Associates of Egypt. Dames & Moore International serves as a subcontractor to the CMC, and bears responsibility for environmental, geotechnical, and related studies.

In 1987, the Ministry of Development, New Communities, Housing, and Public Utilities issued Ministerial Decree No. 76 designating the Mokhtar Ibrahim Contracting Company to be the design-build contractor for a new Port Said water pipeline and pumping facilities. Preliminary designs have been produced by

Mokhtar Ibrahim's subcontractor, Utilities Consulting Engineering Bureau.

NOPWASD, the Suez Canal Authority, and USAID tentatively agree with designs for a pump station at Qantara that lifts water from the Port Said Sweetwater Canal and pumps it through a single 1500 mm pipe approximately 50 km to Port Said. For the most part, the pipeline will be above ground, built on a raised gravel bed. Engineering studies over the years have considered other options for increasing Port Said's water supply, most of which involve expanding and lining the existing Sweetwater Canal. After review, the contractor, consultants, and authorities agree that for the next 10-15 years Port Said's water should be provided by the unlined Sweetwater Canal augmented by a single 1500 mm pipeline. In the longer term, the Sweetwater Canal would be closed and Port Said's water conveyed entirely by pipeline.

Augmenting Port Said's water supply by the proposed pipeline will benefit the residents of Port Said. Their water supply will be assured for the coming years, and the inconvenience, as well as adverse health effects, of a water shortfall will be avoided. Nevertheless, construction of the new pipeline may have some environmental impacts along its 50 km route from Qantara.

NOPWASD, in association with USAID, is conducting an Environmental Assessment of Port Said's proposed new potable water pipeline and pump station. The Environmental Assessment (EA) will be conducted with the assistance of Dames & Moore International. An Environmental Assessment (EA) provides decision-makers with information concerning: existing environmental conditions, potential environmental impacts of the proposed project's construction and operation, possible mitigating measures, monitoring programs, and opportunities for environmental enhancement.

As part of preparing the EA, a scoping meeting was held in Port Said on June 19. The meeting's purpose was to bring together all parties with an interest in Port Said's proposed new potable water pipeline to assist NOPWASD and USAID in identifying environmental issues that should be addressed by the Environmental Assessment Study Team. Participants were invited to voice their concerns, questions, and comments regarding technical and environmental aspects of the planned raw water supply facilities. Participants were further invited to submit comments in writing to the CMC by July 7. This scoping report summarizes oral and written comments received for the Port Said potable water supply project EA. It provides a work plan based in part on these comments, and a tentative outline for the EA report. A list of scoping meeting attendees is attached.

PROJECT DESCRIPTION

Background

In 1988, Port Said's Abu Raswa potable water plant produced an average of 125,000 cubic meters/day (cmd) with a peak daily production of approximately 156,000 cmd. This plant provides water service for the cities of Port Said and Port Fouad. The combined 1988 population of these two cities is roughly 426,000. Approximately 80 percent of this total population is provided with full water service, and this portion of the population consumes potable water at an approximate average rate of 240 liters per capita per day (lcd). The remainder of the total water consumption is attributable to public water fountains, industrial users, and losses, which include wash water at the plant.

A medium-expectation projection shows the city's population growing to 714,000 by the year 2005. The average year-2005 potable water demand is forecast at 256,000 cmd, with a peak demand of 320,000 cmd. Since the Sweetwater Canal has a capacity of only 150,000 cmd, Port Said will be unable to continue to consume potable water at the same rate without a new source of supply.

Port Said apparently uses water at a comparatively high per capita rate for a city with few "wet" industries. Precise explanations are lacking, but probably include "wastage" from leaky faucets, toilets, and distribution lines, and the possibility that the actual number of people present and using water in the city on many days is much higher than the official population.

Design Parameters

The proposed pipeline will be 1500 mm in diameter with a capacity of 170,000 cmd. The pump station and pipeline right-of-way will be designed for a future capacity of 400,000 cmd.

The proposed pump station will be located adjacent the Port Said Sweetwater Canal just south of Qantara near the start of the new Qantara bypass road. The pipe will be positioned on a raised gravel bed about 8 m wide and covered. Alongside it will be a single-lane service road 6 m wide. The total required right-of-way will be about 15 m wide.

The pipeline will travel adjacent the new Qantara bypass road until the road rejoins the main Port Said highway, the "Moahada" Road. It will then pass under the highway and continue to Port Said along the western edge of the Suez Canal service

corridor next to the rail line. This service corridor now contains from east to west: the Suez Canal service road, the Sweetwater Canal, and the railroad.

ENVIRONMENTAL CONSIDERATIONS

Impacts from the proposed pipeline will stem mainly from occupation of land by the 15 m wide right-of-way over the roughly 50 km route. Along the 4 km Qantara bypass road, this land is almost entirely in intensive agricultural use. Military facilities also lie in the proposed right-of-way along the ring road near the southern end. North of Qantara, a 100-300 m strip of land lies between the main Moahada highway and the Suez Canal service corridor. Despite high groundwater and heavy saline soils, about one-third of this strip is cropped. Cropping is most intensive in the first 15 km north of Qantara. The irrigation water appears to come mainly from the Sweetwater Canal via diversions under the rail line. Poultry farms, housing, warehouses and military facilities can also be found in this strip of land, some built to the edge of the rail line. Agricultural use of the 15-m wide right-of-way will be lost, and other land uses will require adjustment. Should the authorities deem that irrigation of the land between the highway and pipeline right-of-way be preserved, then irrigation delivery structures will have to be built under the new pipeline. Otherwise, irrigation from the Sweetwater Canal north of Qantara will largely cease since the new construction will block existing irrigation structures.

Building the pipeline will cause some changes in the total area of wetland with some effects on plant and animal communities. If cropping of the strip north of Qantara between the highway and right-of-way ends, the land will revert to desert, salt marsh, and lake.

To some extent, the impacts of expanding both water supply and treatment systems can be lessened by reducing losses and wastage. Conservation is one alternative to the proposed project, but not a practical one given the immediacy of Port Said's water problem. In the longer term, conservation may prove an effective way to reduce the need for expanding water supply capacity.

COMMENTS RECEIVED

Several participants at the scoping meeting offered comments relevant to the scope of the EA. The following briefly summarizes these comments.

Oral Comments

- o Concern was expressed about the loss of agricultural land to the 15 m wide pipeline right-of-way, about compensating the farmers, and about maintenance of irrigation water delivery to the unaffected areas.
- o Qantara officials stated that its positioning along the bypass road will "constrain" the city's expansion.
- o It was stated that the sweetwater canal irrigates about 2,000 feddans north of Qantara, and that in the future water could be delivered to these areas by the El Salaam Canal.
- o The validity of tenancy of farmers to the land between the Port Said highway and the railroad north of Qantara was questioned. This land apparently falls within the 3 km buffer zone on either side of the Suez Canal and belongs to the Suez Canal Authority.
- o The proposed pipeline route was objected to by other commenters for a variety of reasons in addition to the loss of agricultural land. Most favored putting the pipeline west of the highway.
- o The Suez Canal Authority said it was requesting relocation of both the railroad and sweetwater canal from km 18 north (the beginning of the Port Said bypass channel).
- o Several comments were made expressing concern about O&M of the pipeline and pump station, and about managing accidents that might disrupt flow through the pipeline.
- o Complaints were voiced about the difficulty with maintaining the sweetwater canal, and expressing a desire to convert entirely to supplying Port Said's potable water by pipeline.

Written Comments

The mayor of West Qantara sent the attached memorandum to the chairman of NOPWASD expressing concern about the effects of the proposed pipeline route on the development of West Qantara. It proposed two alternative routes (Attachment C).

Summary

Based on preliminary analysis by the EA study team and comments received at the scoping meeting and after, the following appear to be issues of main concern:

- o loss of agricultural land, housing, and other structures to the pipeline right-of-way;
- o compensation to farmers and others for loss of land and other property to the pipeline right-of-way; and
- o identification of alternative routes for the pipeline that have fewer adverse impacts particularly to the human environment.

WORK PLAN

A tentative outline of the EA is attached. The detail at which the points will be addressed is partly determined by comments received in the scoping meeting.

The work plan includes tours of the proposed pipeline route and alternative routes by a biologist and an agriculturalist. Interviews will be made with officials from the involved agencies: NOPWASD, USAID, offices of the Port Said and Ismailia Governorates, local offices of the Ministries of Agriculture and Land Reclamation (MALR), and Public Works and Water Resources (Irrigation), and the contractor Mokhtar Ibrahim Company. In addition, farmers and residents along the proposed pipeline route will be interviewed. Relevant documents, maps, and diagrams will be collected in Egypt.

LIST OF ATTACHMENTS

- A - LIST OF ATTENDEES**
- B - TENTATIVE OUTLINE OF ENVIRONMENTAL ASSESSMENT REPORT**
- C - CORRESPONDENCE BETWEEN QANTARA OFFICIALS AND NOPWASD**
- D - MINUTES OF A MEETING BETWEEN QANTARA OFFICIALS AND
NOPWASD**

ATTACHMENT A
LIST OF ATTENDEES

<u>NAME</u>	<u>POSITION</u>
<u>Port Said Governorate</u>	
General Samy Khodier	Governor
Aly Magayery	General Secretary
Farouk Ismail	Agriculture Dept.
Mohamed El Naba	Environment Dept.
Ahmed H. Abdel Razek	Environment Dept.
El Sayed M. Shafik	Environment Dept.
Rushdy Zenou	Wastewater Dept.
El Dosoky Abd El Hakim	Wastewater Dept.
Alaa Abdel Rehim	Wastewater Dept.
Hossam Abdel Hady	Health Dept.
Fouad Said	Economic Development Dept.
Abdel Mounem Kassam	Utilities Dept.
Mohamed Khodier	Land Planning Dept.
Fayza Momtaz	Land Planning Dept.
Ezzidin Abu Summra	Port Fouad District
Aly El Atawy	Parliament Member
Hassan Ahmed	Parliament Member

Ministry of Development, Housing, and New Communities

Abdel Salam Awad	Undersecretary
Mohamed Abdel Haleem	Port Said Dev. Zone
Mostafa Sharoush	Port Said Dev. Zone
Abdel Mouniem Ayoub	GOPP Ismailia
Mohamed Ibrahim	GOPP Ismailia
General Abdel Moniem El Katory	Sinai Dev. Authority

NOPWASD

Mahmoud Abdel Haleem A. Aal	Chairman
Alia El Gebaly	Head, Design Dept.
Mostafa Sharaf	Head, Implementation Dept.
Mohamed Negm	Head, Research & Studies
Said Momtaz	Design Dept.
Said Helal	Design Dept.
Aly Seleem	Design Dept.
Aly Hussein	Implementation Dept.
Samira Nekola	Research Dept.
Mohamed Mostafa	Research Dept.

Suez Canal Authority

Abdel Aziz Basyouni	Head, Works Dept.
Hany El Bonn	Works Dept. Port Said

Mohamed El Kholy

Water Dept. Port Said

Ministry of Public Works and Water ResourcesArtin Haleem
Abdel Galil Semeda
Mohamed Fathy AhmedUndersecretary
Gen'l Mgr. East Delta
Ismailia Irrigation Dept.Suez Canal UniversityAhmed Dewedar
Abdel Fattah MohamedVice President
Deputy of DeanMunicipality of West QantaraSaad Ahmed Hussein
El Said El Shahat
Fawazy Fahmy
Ahmed Mohamed
Shoukry Yousef
Mohamed Tawfik Hamam
Mohsen Ahmed Bayoumy
Mohamed El DaidamonyMayor
Deputy Mayor
Agriculture Dept.
Local Council
Local Council
Local Council
Local Council
Local CouncilUSAIDJohn Saccheri
Peter Downs
Medhat WissaCMCDavid Williams
Harvey Van Veldhuizen
Omar El Farouk
Mohamed Abdel El Fattah
Mohamed MoustafaManager
Environmental Specialist
Deputy Manager
Engineer
EngineerOthersAly El Hakim
Maher Khedr
Saadawy Aly
Mohamed El TohamyUtilities Co. Engineer
Arab Contractors
Arab Contractors
El Gumhuriya Newspaper

**ATTACHMENT B
TENTATIVE OUTLINE
PORT SAID RAW WATER SUPPLY PIPELINE EA**

**Title Page
Table of Contents
Executive Summary**

Introduction

**The Proposed Project
Background
The Environmental Assessment
USAID Environmental Procedures
Egyptian Environmental Procedures
Methodology**

Proposed Action and Alternatives

**Background
The Proposed Action
Other Alternatives**

Existing Environment

**Introduction
Physical Resources
Biological Resources
Human Resources**

Environmental Impacts of the Proposed Action and Alternatives

**Impacts on the Physical Environment
Impacts on the Biological Environment
Impacts on the Human Environment**

Mitigation Measures

References

List of People Contacted

Appendices

**A - Scoping Report
B - Fauna of the Qantara-Port Said Area
C - Site Photos
D - Obstacles along the Proposed Route
E - Archaeological Chance Find Procedures**

ATTACHMENT C

To: Chairman of NOPWASD

Date: June 21, 1990

According to the scoping meeting held in Port Said on June 19 for the Environmental Assessment of the raw water project from Qantara to Port Said, we found that:

1. The proposed route will prevent any further extension of the city.
2. The width of the route is about 15 m. This means:
 - A. A loss of 250 feddans of the best agricultural land.
 - B. Destruction of houses in the route. This will cause housing problems, in addition to the high restitution that will be paid.

Thus, we suggest a committee to study the best solutions, and we suggest two alternative routes:

1. Starts from the Ismailia Sweetwater West Canal at Salheya Bridge, and passes along the Salheya Road until its intersection with the North Ismailia Drain. It then passes along this drain until Lake Manzala, then along the barrier of the lake until its intersection with the Ismailia-Port Said Road. The route then continues along the railroad line until Port Said.
2. Along the El Raya Sweetwater Canal, then along the barrier of Lake Manzala until the Ismailia-Port Said Road. The route then continues along the railroad line until Port Said.

These routings avoid closing the outlets from the Port Said Sweetwater Canal north of Qantara that irrigate about 2000 feddans in West Qantara.

We hope to set a date for a meeting in the Ismailia Governor's office to discuss this subject.

Signatures

Ismailia Local Council
 Mohsen Bayyoumi
 Shukri Khalil

Mayor of West Qantara
 Saad Hussein

ATTACHMENT D

MINUTES OF MEETING

DATE: Sunday, June 24, 1990

PLACE: NOPWASD Building

SUBJECT: The letter sent from representatives of West Qantara to NOPWASD concerning their complaint about the route of the raw water pipeline from Qantara to Port Said

ATTENDEES:

NOPWASD

Eng. Alia El Gebali	Head of Design Section
Eng. M. Negm	Head of Research Section
Eng. Said Momtaz	Director, Hydrological Design
Er. J. Mohamed El Gohari	Engineer, Hydrological Design

West Qantara City

Eng. Saad Hussein	City Manager
Eng. Shoukri Youssef	Ismailia Local Council
Eng. Mohsen Bayyoumi	Ismailia Local Council

THE ATTENDEES AGREED THAT:

1. The West Qantara Council members would locate their two proposed alternative routes on maps, and send them to NOPWASD before July 10, 1990.
2. The two proposed alternative routes will be studied with the consultant of the project to find the best solution.
3. After study, a committee from the NOPWASD consultant and Council representatives will make a site visit.

Signatures

NOPWASD

West Qantara Representatives