

## 2-3 Obligations of Egyptian Government

In the implementation of the Japan Grant Aid project, the government of Egypt is required to undertake such necessary measures as follows:

### 2-3-1 General

- (1) To provide necessary data and information for detailed design conducted by the Japanese consultant after commencement of the Project,
- (2) To secure land necessary for the sites of the Project prior to commencement of the installation,
- (3) To provide facilities for the distribution of electricity and other incidental facilities in and around the sites,
- (4) To bear an advising commission of an authorization to pay and payment commissions to the Bank.
- (5) To ensure all the expenses and prompt execution for unloading, customs clearance at the port of Alexandria and internal transportation of the pump stations purchased under the Grant Aid,
- (6) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in Egypt with respect to the supply of the products and services under the Verified Contracts,
- (7) To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into Egypt and stay therein for the performance of their works,
- (8) "Proper Use"
- (9) The recipient country is required to maintain and use the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for this operation and maintenance as well as to inform the conditions of equipment procured by the Grant aid to Japanese side as requested.  
The products purchased under the Grant Aid should not be re-exported from the recipient country,
- (10) To bear all the expenses other than those to be borne by the Grant Aid, necessary for the execution of the Project.

### 2-3-2 Costs Borne by the Government of Egypt

Total costs borne by the Government of Egypt for the project implementation is estimated as follows.

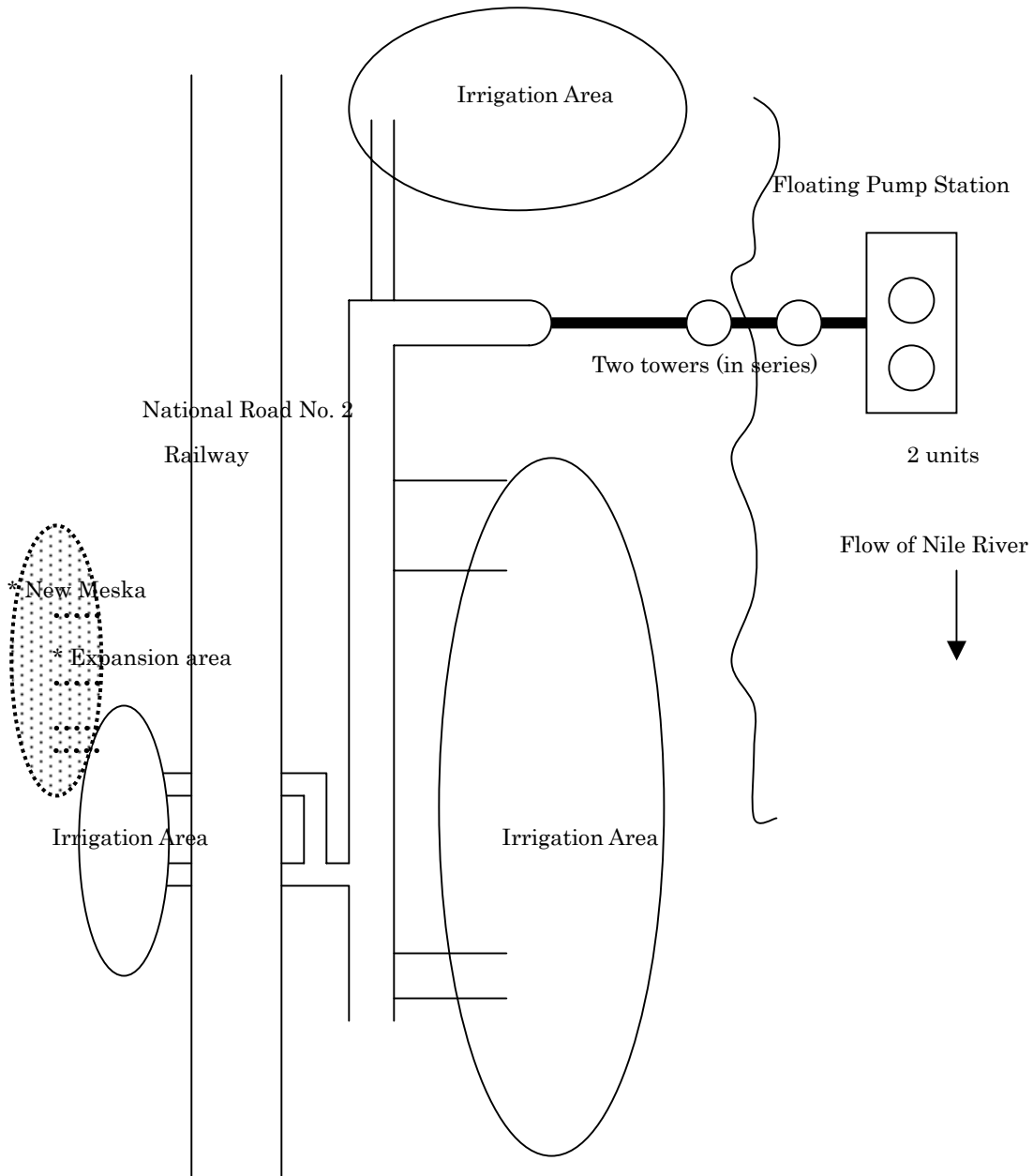
Cost Description	Amount ( Thousand LE )	
(1) Custom clearance and Inland transport	Approx.	160
(2) Installation	Approx.	40
(3) Irrigation facilities development	Approx.	1,762
Total	Approx.	1,962

Note: Transportation from Alexandria to the project site and installation shall be borne by the Government of Egypt.

Estimation shall be made and confirmed by MED.

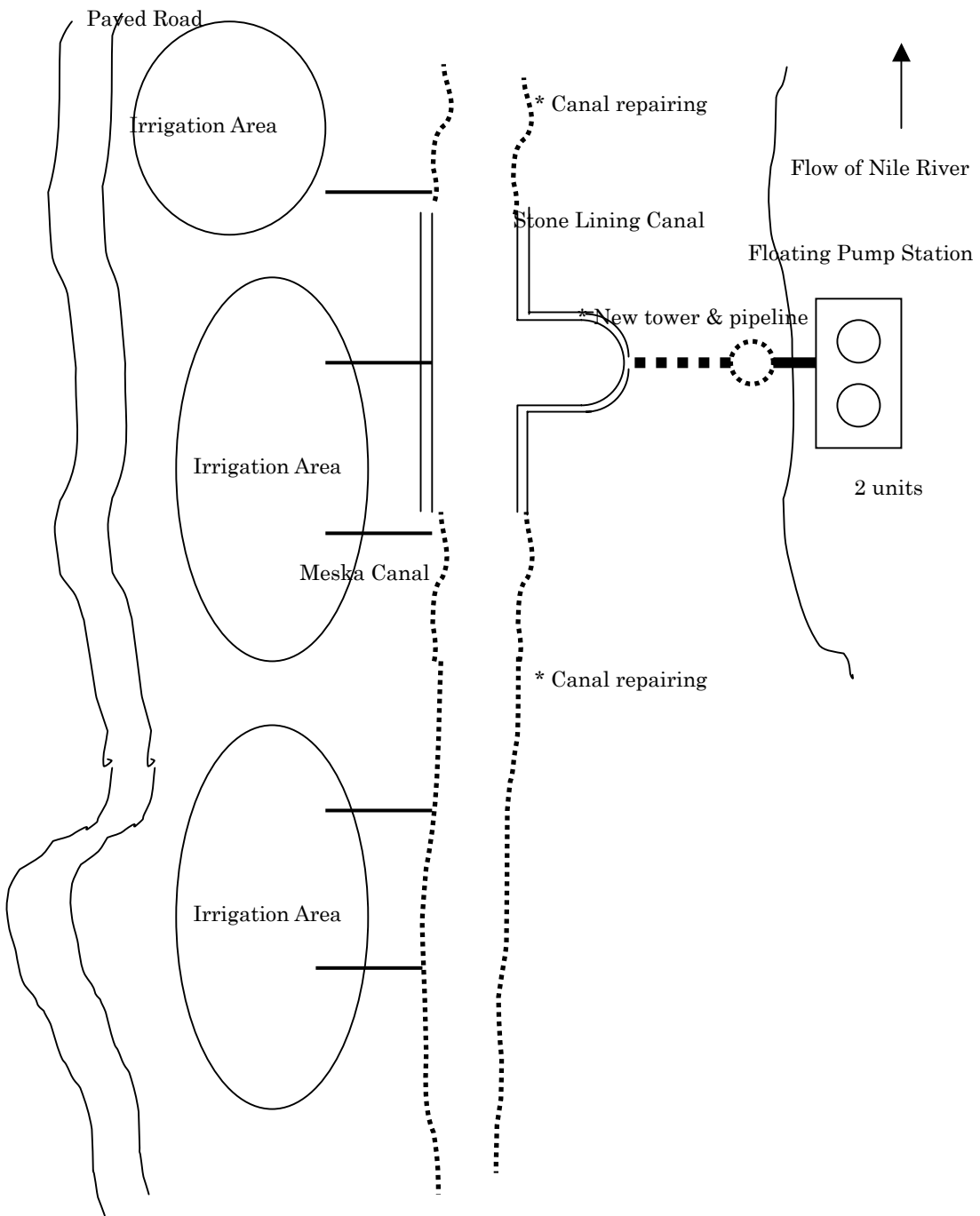
**Figure 2-3(1) No. 22 Sahel Arakaba Kebli Pump Station**

Planned Illustration Map (with Expansion Area)

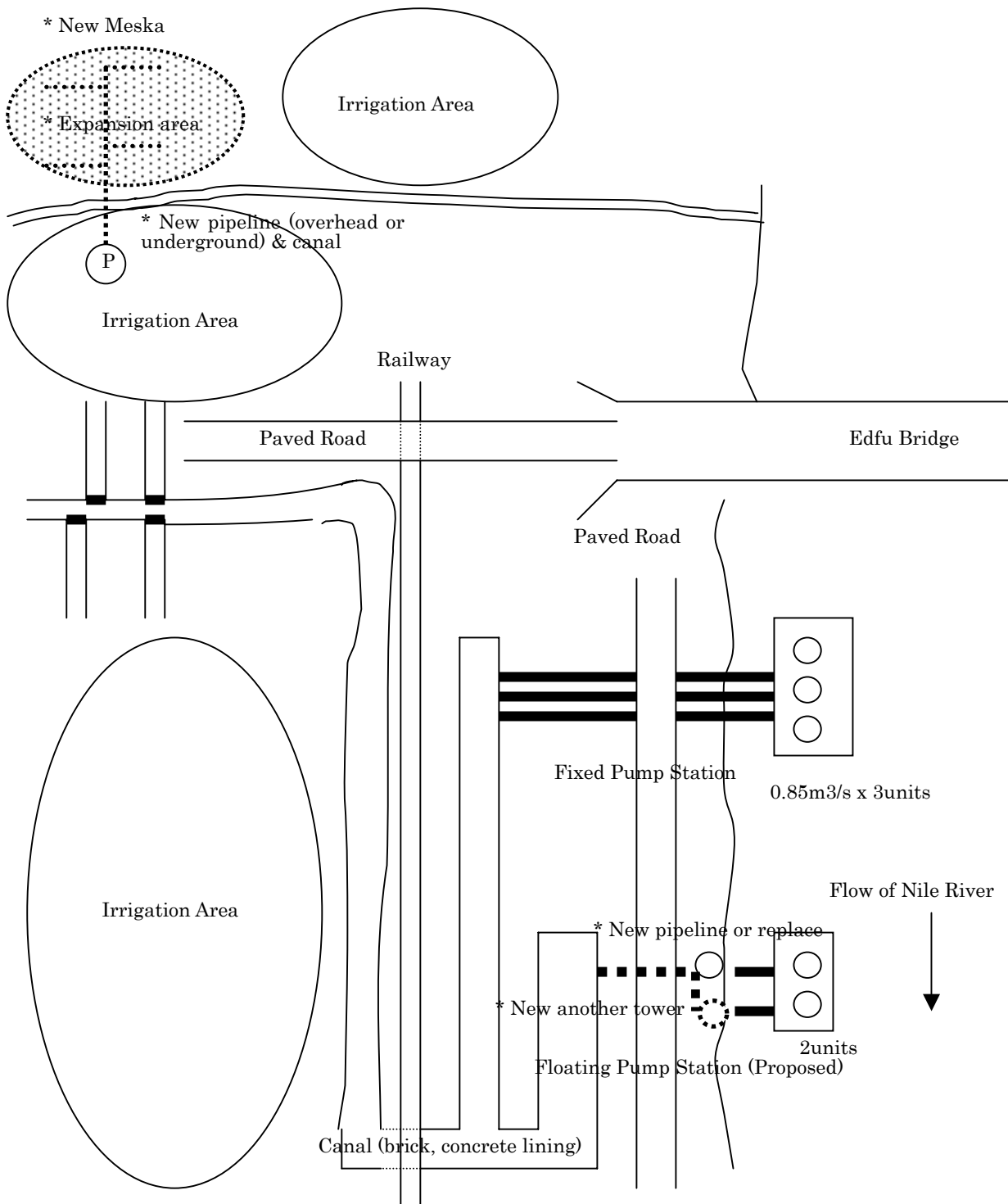


**Figure 2-3(2) No. 23 Al Rakikin Sahel Pump Station**

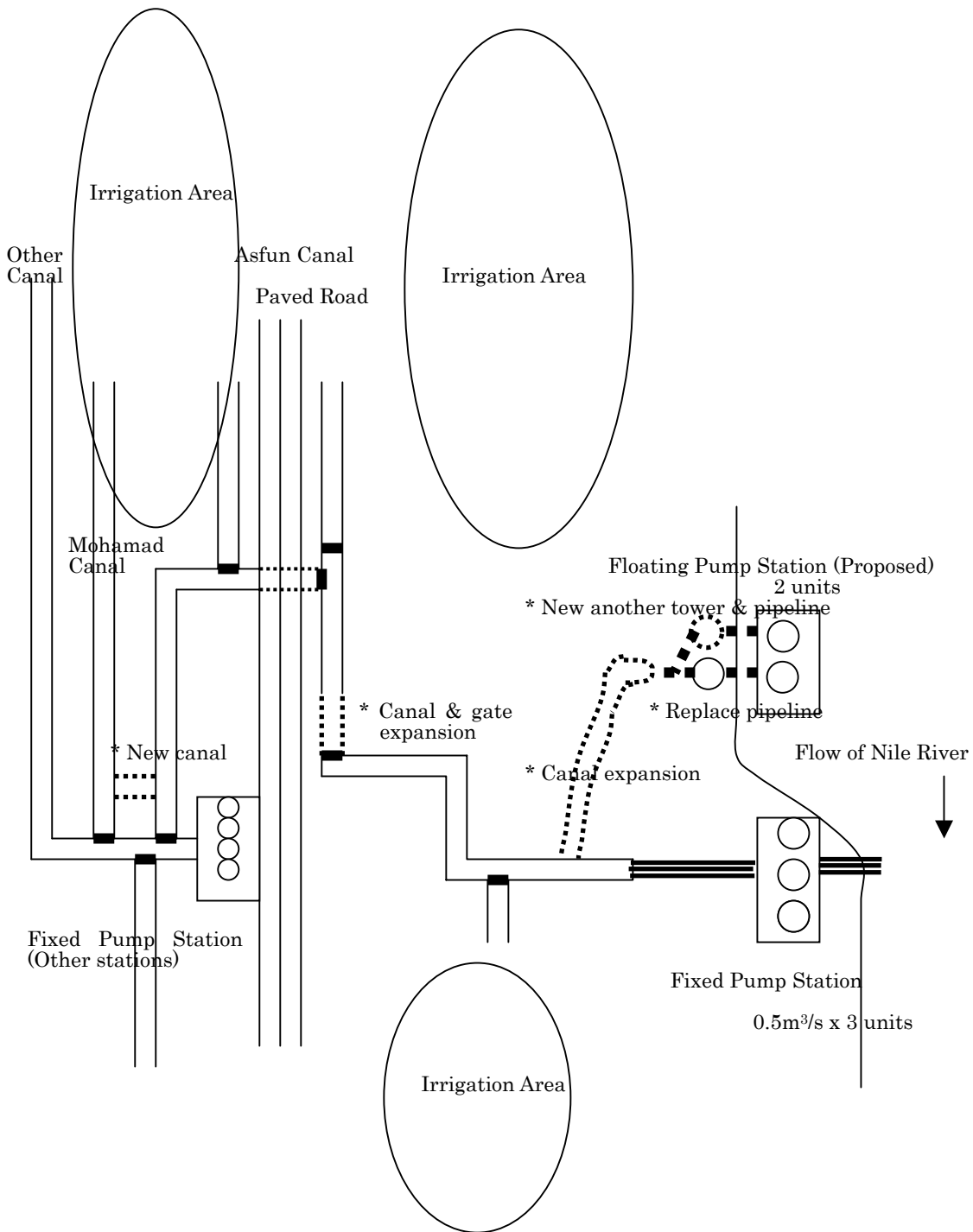
Planned Illustration Map



**Figure 2-3(3) No. 24 Blowkher Pump Station**  
Planned Illustration Map (with Expansion Area)

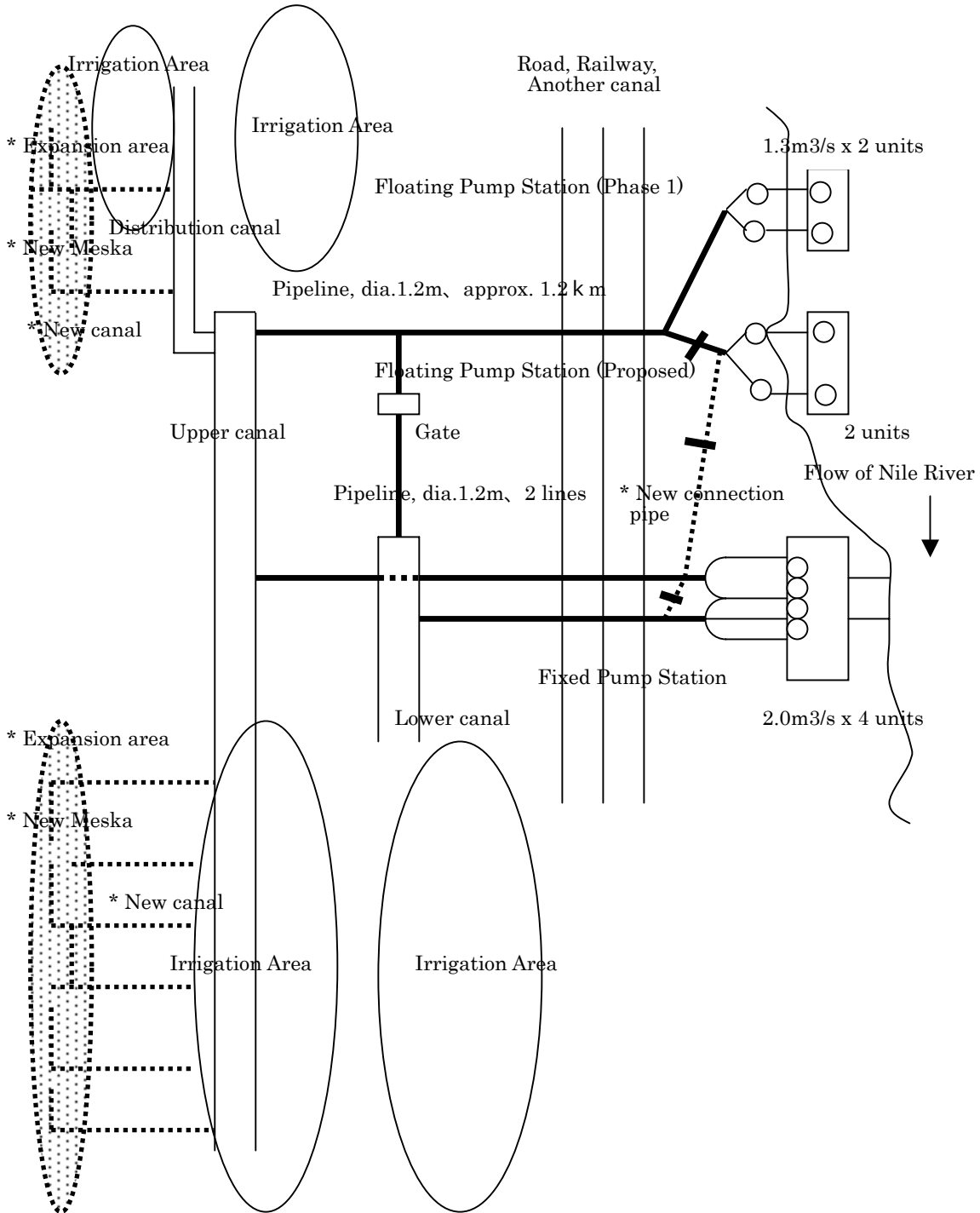


**Figure 2-3(4) No. 25 El Ghorera Pump Station**  
Planned Illustration Map



**Figure 2-3(5) No. 26 El Biadiea El Ollia Pump Station**

Planned Illustration Map (with Expansion Area)



**Table 2-3 List of Necessary Measures at the Site borne by Egyptian Country**

Pump Station Item	No. 22 Sahel Alakaba Kebli	No. 23 Al Rakikin Sahel	No. 24 Blowkher	No. 25 El Ghorera	No. 26 El Biadiea El Ollia
1 Discharge Tower	Re-paint	Construction of new tower (φ500mm)	Construction of another tower (φ1,000mm)	Construction of another tower (φ1,200mm)	-
2 Discharge Pipe	Re-paint	Construction of new discharge pipe (φ350mm)	Construction of new discharge pipes (φ1,000mm x one line)	Construction of new discharge pipes (φ1,200mm x one line)	Construction of new connecting pipe (φ1,200mm) from pump station to discharge pipe for fixed pump station)
3 Transformer	Re-paint	Re-paint	Installation of new transformer (750kVA, output: 380V, 50Hz)	Installation of new transformer (1,250kVA, output: 380V, 50Hz)	Use stand-by transformer (2,500kVA) for proposed floating pump station
4 Power Cable	Replace	Insulation measure such as burring	Replace	Replace	Installation of cable support for security
5 Irrigation Canal	Construction of secondary canals	Rehabilitation of both side-slope	Construction of secondary canal, Installation of small pumping facilities	Expansion of canal (from pump station to main canal), Construction of connecting canal (from siphon portion to Mahamed canal)	Construction of secondary canals
6 Gate	-	-	-	Expansion of gate at the end of main canal	-
7 Supporting to farmers	Advices and instructions to farmers who will construct Meska canals.	-	Advices and instructions to farmers who will construct Meska canals.	-	Advices and instructions to farmers who will construct Meska canals.

Note: Parentheses ( ) in the columns show the minimum sizes or capacities

## 2- 4 Project Operation Plan

### 2-4-1 Staff

M & O General Directorate of Middle Upper Egypt (in Naga Hammady) and M & O General Directorate of South Upper Egypt (in Kom Ombo) are responsible for execution and operation of the floating pump stations of the Project under MED.

Arrangement of the staff in each floating pump station except No. 25 El Ghorera station will not change. El Ghorera station, which does not operate, has no staff. In future, 10 members of El Ghorera management office will be arranged to the station. The Aswan MED will pick up 8 members from the maintenance institution under the jurisdiction as staffs of the maintenance barges.

Floating pump stations in the Upper Egypt region have been managed and operated well for the long time. The present staffs have implemented the Phase I and Phase II project and their technique level is sufficient.

The maintenance barge planed to be newly placed is to repair pumps and so on, to take to pieces, to assemble, to convey parts and to exchange parts on itself. After providing the barge, the maintenance staffs, who have treated complicated instruments similar to newly installed instruments on the barge, will be arranged to the barge from the Aswan maintenance institution. Because the instruments are easy to treat, there is no problem to use on condition that the explication of how to use is done in delivering these.

### 2-4-2 Contents of Maintenance

Pump stations rehabilitated will be maintained in accordance with the following manner.

- Specifications of facilities, operation manuals, maintenance manuals, spare parts list, operation records and so on should always be available for the daily inspection and maintenance to prolong the equipment life. In the operation records, pump working conditions shall be recorded in accordance with the checking items listed (suction pressure, discharge pressure, discharge, Electric current, voltage, suction water level, vibration, noise, etc.).
- Spare parts, gaskets, grease, tools, etc. should be equipped.
- Inspection shall be made periodically with short intervals at the initiation period of pump operation in order to maintain fitness and stability between pump equipment and barge as well as pipefittings.

1<sup>st</sup> month : Checking a temperature of a shaft bearing and conditions of ground gasket

3rd month : Measurement of vibration and noise of shaft bearing

6<sup>th</sup> month : Exchange of grease at shaft bearings and gaskets

One year : Disassemble, checking and cleaning the looseness of joints, disorder of equipment such as pump, valve, motor and auxiliary.



### 2-4-3 Operation and Maintenance Cost

The annual operation and maintenance cost of the 5 floating pump stations is 1.94 million LE (259LE/Feddan), as average of past 3 years. After implementation of the Project, annual operation and maintenance cost for 5 pump stations composed of renewal floating pumps and existing pumps is estimated at approximately 1.75 million LE as shown below, which means about 10% reduction of the annual cost and about 35% of reduction of the cost per unit area. In addition, annual cost for the maintenance barge is estimated at approximately 62 thousand LE, which are mainly cost for fuel and wages.

**Table 2-4(1) Annual Operation and Maintenance Cost of Pump Stations (LE)**

	Past Records for Existing 5 Stations			Estimated for 5 stations after rehabilitation
	1998 / 1999	1999/2000	2000/2001	
Maintenance	98,546	927,591	227,687	169,846
Electricity	1,310,680	1,303,570	1,347,655	1,362,504
Wages and salary	184,508	198,573	214,480	214,480
Total	1,593,734	2,429,733	1,789,821	1,746,831
Service Area (feddan)	7,470	7,470	7,470	10,400
Unit cost per feddan	213	325	240	168

**Table 2-4 (2) Annual Operation and Maintenance Cost of Maintenance Barge (LE)**

	Quantity	Unit	Unit cost	Cost	Remarks
Fuel	14,645	liter	2.0	29,290	Tugboat, Generator
Labor cost	96	Man-month	340	32,640	8persons
Total				61,930	

In the project, some pump stations are renewed in pumping capacity while there is no pump station newly constructed, and the number of the staffs does not change although there are some movement of the staffs. As a result, the new augmentation of annual O&M cost is estimated about 29 thousand LE (1.6% of the total cost) for fuel of the maintenance barge. However, MED is considered to deal with the augmentation in their budget because the annual O&M cost of the floating pump station is prospected to reduce. Thus, MED is capable of O&M by the existing organization.