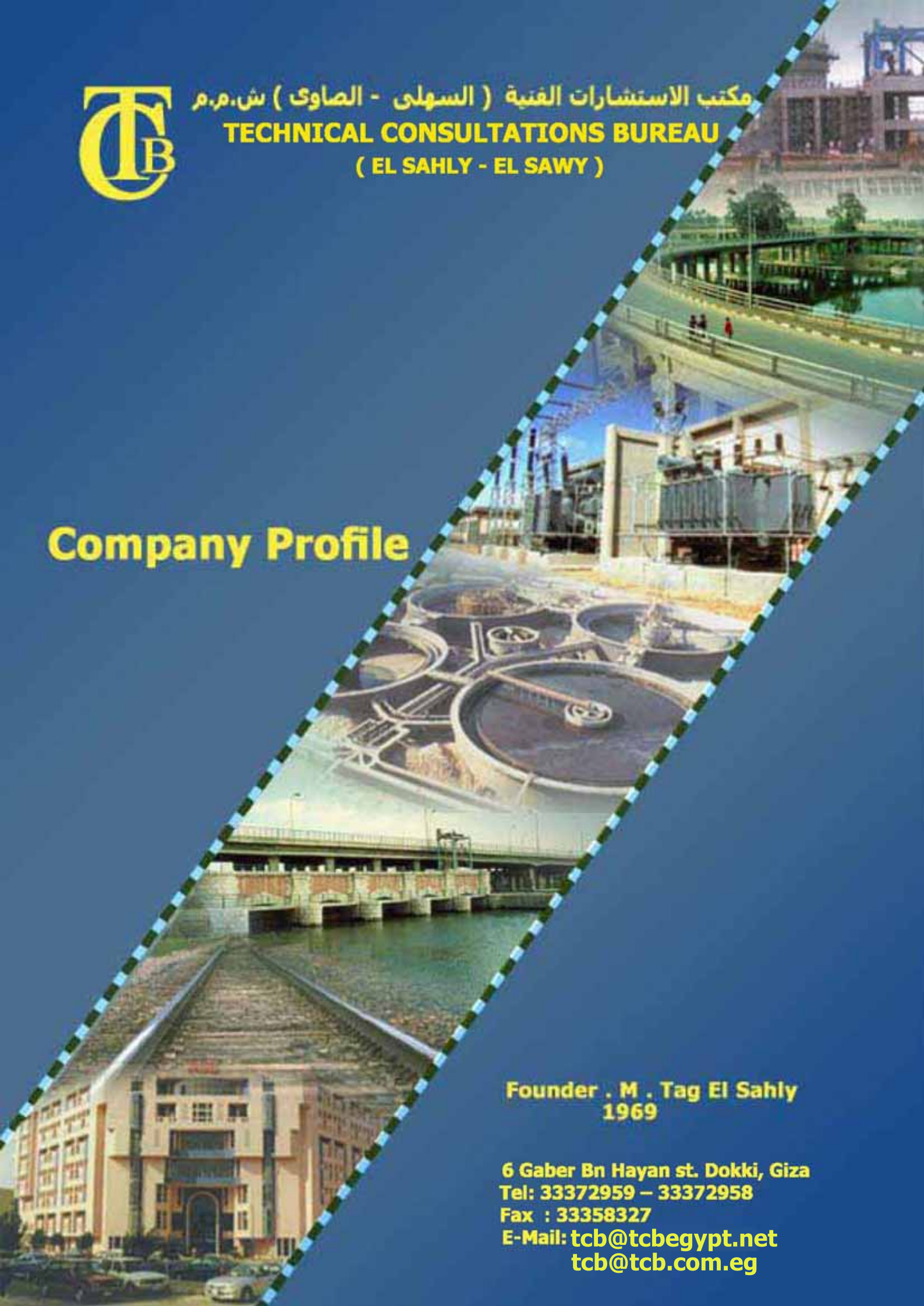
مكتب الاستشارات الفنية (السهلى - الصاوى) ش.م.م

TECHNICAL CONSULTATIONS BUREAU

(EL SAHLY - EL SAWY)



Company Profile

Founder . M . Tag El Sahly
1969

6 Gaber Bn Hayan st. Dokki, Giza
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TECHNICAL CONSULTATIONS BUREAU

(EL SAHLY – EL SAWY)

OFFICE PROFILE

Head office : 6 Gaber Ibn Hayan St., Dokki, Giza, Egypt
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INTRODUCTION

TCB is one of the independent well-organized prominent reputable firms of Consulting Engineers working in Egypt & abroad.

TCB is qualified and equipped sufficiently to provide most of the Engineering services from conceptual design to completion of projects in the fields of **Civil** & **Architectural** engineering besides Economic & Investment Studies.

The firm

Technical Consultations Bureau was founded by Eng. Tag El Sahly in 1969 in Cairo, Egypt, specialized in structural engineering. The firm continually broadened its scope of practice, as it became a multi-discipline service provider in a global community. Today the company provides a full range of engineering design, and project management services, besides it has been developed from individual ownership to a joint stock Co.
The firm has completed consultancy service work on projects throughout Egypt and abroad.
The experience gained from applying traditional methodologies combined with innovative and new technology provides TCB with a comprehensive resource for developing effective solutions.
TCB has demonstrated a commitment to become knowledgeable and invest in evolving technologies. The firm's ability to listen to client's needs and to meet them within a prescribed budget and schedule, has secured a portfolio of long-term clients.
TCB's commitment to excellence provides confidence to the owners that their interests are well looked after.

Subsidiaries

Technical Consultation Laboratory (TCL) was established in 1998 to furnish quality control techniques .

Associations

Since the year 2001 , TCB is providing its services as sub consultant to international corporations e.g MTH∅jgaard and FLSMITH of Denmark , VA-TECH of Austria , and CNTIC of China …. etc .
Studies and designs in variety of projects were carried out and implemented in cooperation with firms from Germany, France, Italy, Denmark, China, Japan and KSA.

Structure & Organization

TCB is operated as a joint stock company has all the necessary local presence with full administrative facilities in place.
We own our headquarters building in Giza, which working area is about 1200 m2

FIELDS OF ACTIVITY

1. **Industrial Facilities** (Different types of factories e.g. refractories – Chemicals – Cement Plants – Glass works ....etc.)
2. Environmental Studies:
   - Data Collection: Location, Sites, Soil quality, Vicinity, and Process Description .
   - Water and waste water treatment plants & networks.
   - Environmental Impacts: Air Emissions, Solid & Liquid Wastes, and Noise.
   - Classification: Green, White, Grey or Black.
   - Restrictions & Assessment Measures.
   - Monitoring Programs.

3. Transportation & Traffic Studies:
   - Transport Planning.
   - Rapid transit systems.
   - Railways. (planning and design of track).
   - Highways (planning and design) .
   - Design of roads & Railways bridges .
   - Traffic: Engineering, Studies and management.
   - Fluvial Transportation, and Fluvial Ports .
   - Airports Facilities .
4. Power Transmission Constructions.
5. Different types of Buildings: Residential, Commercial, Administrative, Educational & Recreation Resorts & Housing Compounds Buildings.

Urban Planning

- Natural Resources, Human Activities.
- Industrial development & Environmental Impact.
- Land Classification, Land Use Planning & Master Plans.
- Infrastructure Planning.
- Transport Planning.

Real Estate Evaluation

1. Data Collection.
2. Inspection of documents.
3. Site inspection.
4. Survey of the Market needs & prices.
5. Pre-feasibility and / or detailed feasibility studies.
   - Conceptual.
   - Alternatives.
   - Technical evaluation.
   - Costing.
   - Financial and / or Economic Analysis.
   - Project Finance.

Service

TCB activities cover the engineering consultancy for projects from planning to tender documents & site supervision. Our scope of work covers three sectors which are new projects, Rehabilitation of existing buildings and site supervision :

1. New Projects

1. Site investigation: Geological, Topographic, Mapping and Geo-technical.
2. Detailed studies: design, technical specification and bills of quantities for various disciplines.
3. Tendering: Documentation, Evaluation of tenders, award and contracting.
4. Preparation of the construction drawings and shop drawings.
5. Construction management: Programming, Coordination, Quality management (QA/QC and site supervision), Quantity take off, Invoice auditing evaluation of variations, and Arbitration Findings.
6. Individual testing, commissioning & handing over regularities up to the issuance of the final acceptance certificates.

2. Rehabilitation of existing buildings , upgrading , remodeling and retrofit studies

1. Data collection including targets of the study.
2. Observation of the existing situation and non-destructive testing.
3. Checking design and safety factors.
4. Evaluation of the structural condition and feasibility of rehabilitation.
5. Detailed study including repair and strengthening methods and specifications.
6. Quality plan.

3. Site Supervision

Firm's Resources

Full time engineers are 55, AutoCAD Operators, in addition to the technicians, financial and administrative officers. (See the organizations chart)

Part time individuals are under call to give support to the permanent staff to expedite the performance and / or to cover unique specialty. Moreover, the staff can be expanded whenever a project may need.

The experience of TCB employee's is gained due to the performance of the Engineering services for a vast number of projects covering a wide spectrum of activities.

These projects are nearly covering the whole country including projects in the western desert, Mediterranean and Red sea coasts, as well abroad e.g UK-Vitnem, Syria, KSA …. etc. This adds another dimension to the Bureau's gained experience concerning the environmental conditions of those sites. Besides dealing with international firms e.g. Sanyu of Japan, GKW of Germany, Systra & BCEOM of France, ABB, Schneider Electric, ALSTOM, VA.TECH of Austria, Cntic, Angel Co.& Centamin ltd. of Austraila.

IT Facilities & Equipments.

TCB is equipped with computerized facilities as listed hereinafter.
For Topographic work (Site and office) most modern equipments are used.
Also our Material's testing laboratory & Soil testing Laboratory are well equipped.
Refer to details of these equipments.

IT Facilities

A) Hardware

	unit
Pentium IV	60
Printer (Hp Disk – Jet + Hp Laser – Jet)	14
Server	
DSL : (Digital Subscriber Line)	

B) Soft ware

AutoCAD2010, Sap 2000 Plus, Windows, office

Survey Equipments

- Intelligent total station (Set 3 c II) SOKKIA
- Power set total station (Set 3000) SOKKIA
- (Complete prism sets, complete range pole prism sets, Detachable tribrach Filted with optical plummet & Memory card 256 k bytes)
- Electronic distance meters (D I 4 L)
- Electronic Digital theodolites
- Optical theodolites
- Automatic levels
- G.P.S Navigation
- Leveling stave
- G.P.S Receiver

Equipment of Construction Material's Testing laboratory

- Hand operated sieve Shakers for fine & coarse aggregate.
- Compression testing machine 2000 KN capacity.
- Flakiness gauge.
- Vicate apparatus
- Volumeter for aggregate.
- Mortar mixer
- Concrete mixer.
- Vibrating machine for Cement
- Slump cone test set.
- Humidity Cabinet
- Bulk density measures.
- Proctor test set
- Steel cube moulds.
- Sand replacement cone apparatus
- Curing tank.
- Mechanical & electric balances
- Universal electric core drilling machine
- Hand tools
- Mechanical strain Gauges.
- Ultrasonic concrete tester.
- Blain apparatus
- Concrete test hammer
- Le chatelier mould

Equipment Of Geotechnical Laboratory

- Complete set of sieves for soil.
- Swelling Test app
- Hydrometer for wet analysis
- Triaxial app
- Electrical balances of different sensitivities
- Casagrand app
- Drying oven
- Shear box app
- Unconfined compression strength app. for cohesive soil
- Odometer.
- Mechanical Sieve Shaker
- Standard & Modified Proctor test
- Lab. C. B. R. test app.
- Hand tools
- Plate loading test app

BOARD of DIRECTORS

1. Eng. Mohamed Tag El-Din El-Sahly — **President**
2. Eng. Hussein El- Sawy — **Vice President & & CEO**
3. Eng. K. Heshmat Gado
4. Eng. Mohamed Said Salem
5. Pro Dr. Eng. Ali El Sawy
6. Dr. Eng. Osman Ramadan
7. Eng. Ayman Sayed
8. Eng. Sayed Saad Mostafa

SENIOR TECHNICAL STAFF

(1) ARCHITECTURAL& INTERIOR DESIGN
1- Prof. Dr.Eng. Ali El- Sawy
2- Eng. Mohy Mohamed

(3) SANITARY ENGINEERING (STATIONS AND NETWORKS)
1- Eng. Hazem Hegazy
2 - Eng. Ali Abdel Maksoud
3 - Eng. Tamer Mohamed

(5) ELECTOMECHANICAL
1 – Eng. Faysal El-Refaei
2 - Eng. K. El Mawi

(7) TRANSPORT & HIGHWAYS AND RAILWAYS ENGINEERING
1 - Eng. Kamal Heshmat Gado
2- Prof. Dr. Eng. Said Fahmy Zedan
3 -Dr. Emad Nabil
4- Eng. Nada Manaf

(9) GEOTECHNICAL & FOUNDATION STUDIES
1- Dr. Eng. Hussein Hamed El-Mamlouk.

(11) STRENGTH OF MATERIALS & QUALITY CONTROL-+, REPAIRS
1- Dr. Eng. Mohamed El Sayed.

(13) CONSTRUCTION MANAGEMENT & SITE SUPERVISION
1- Eng. Mohamed Saeed Salem.
2- Eng. Sayed S. Moustafa
3- Eng. Hussein H. Gado

(2) STRUCTURAL DESIGN
1- Prof. Dr.Eng. Osman Mohamed Osman
2- Prof. Dr Eng. Maher Adam
3- Dr. Eng.Ahmed Hassan Youssif
4-Eng.Fayez Kerolos
5- Eng. Nabil Sobhy
6- Eng. Ayman Sayed

(4) ENVIROMENTAL STUDIES :
1 – Prof. Dr.Eng. Mahoud El Kadi

(6) HVAC
1- Eng. Magdi Rafla.

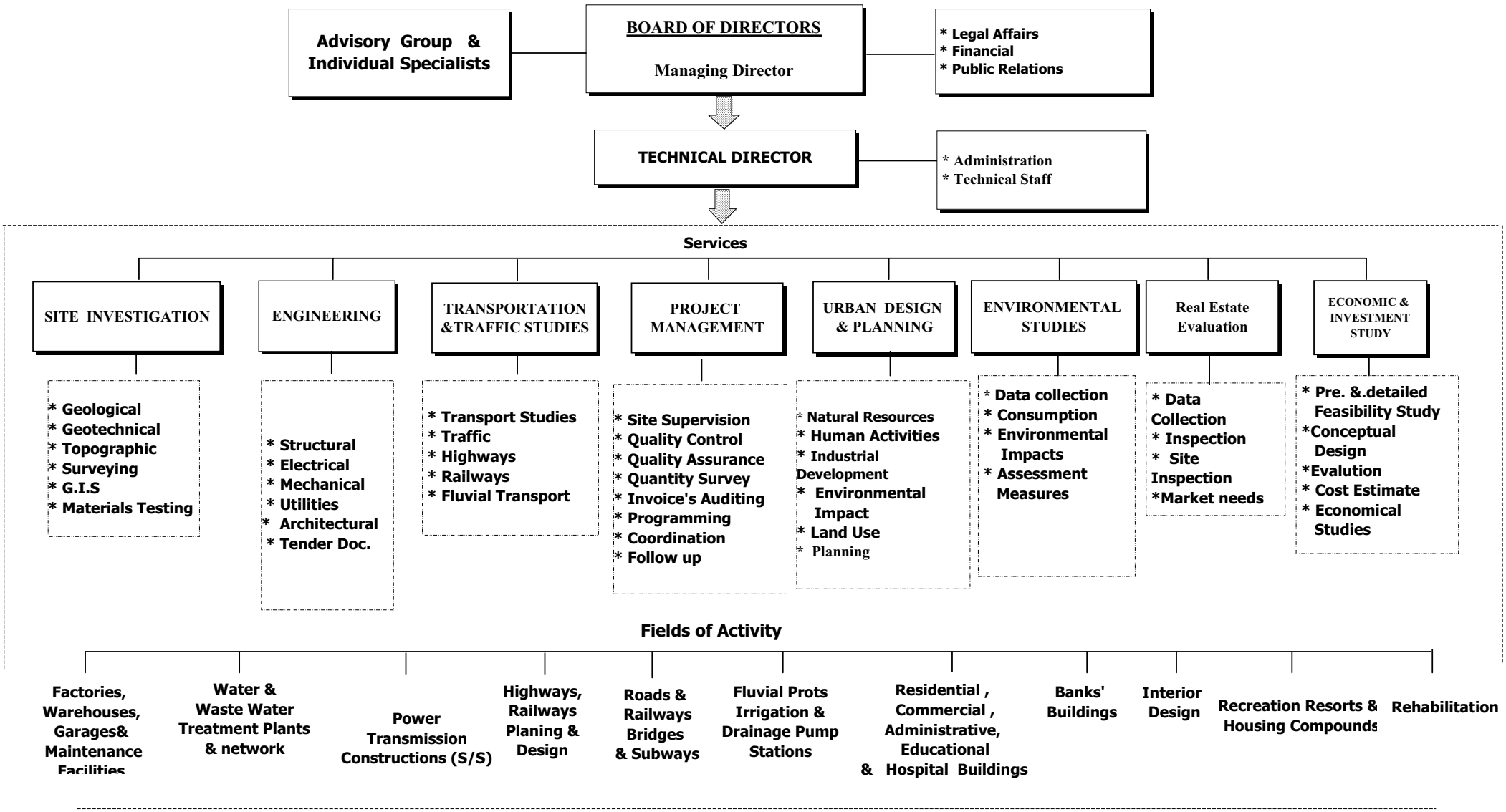
(8) COMPUTERISED STRUCUTRAL ANALYSIS
1 - Dr.Eng. Ahmed Farouk

(10) SURVEYING
1- Dr. Eng. M. El Toukhey .
2- Eng. Maged Moustafa

(12) QUANTITY SURVEYOR & SPECIFICATIONS
1 - Eng. Khaled Amer .

(14) ECONOMIC STUDIES
1- Dr. Abu El Saoud El Souda

TECHNICAL CONSULTATIONS BUREAU (TCB)
Organization Chart



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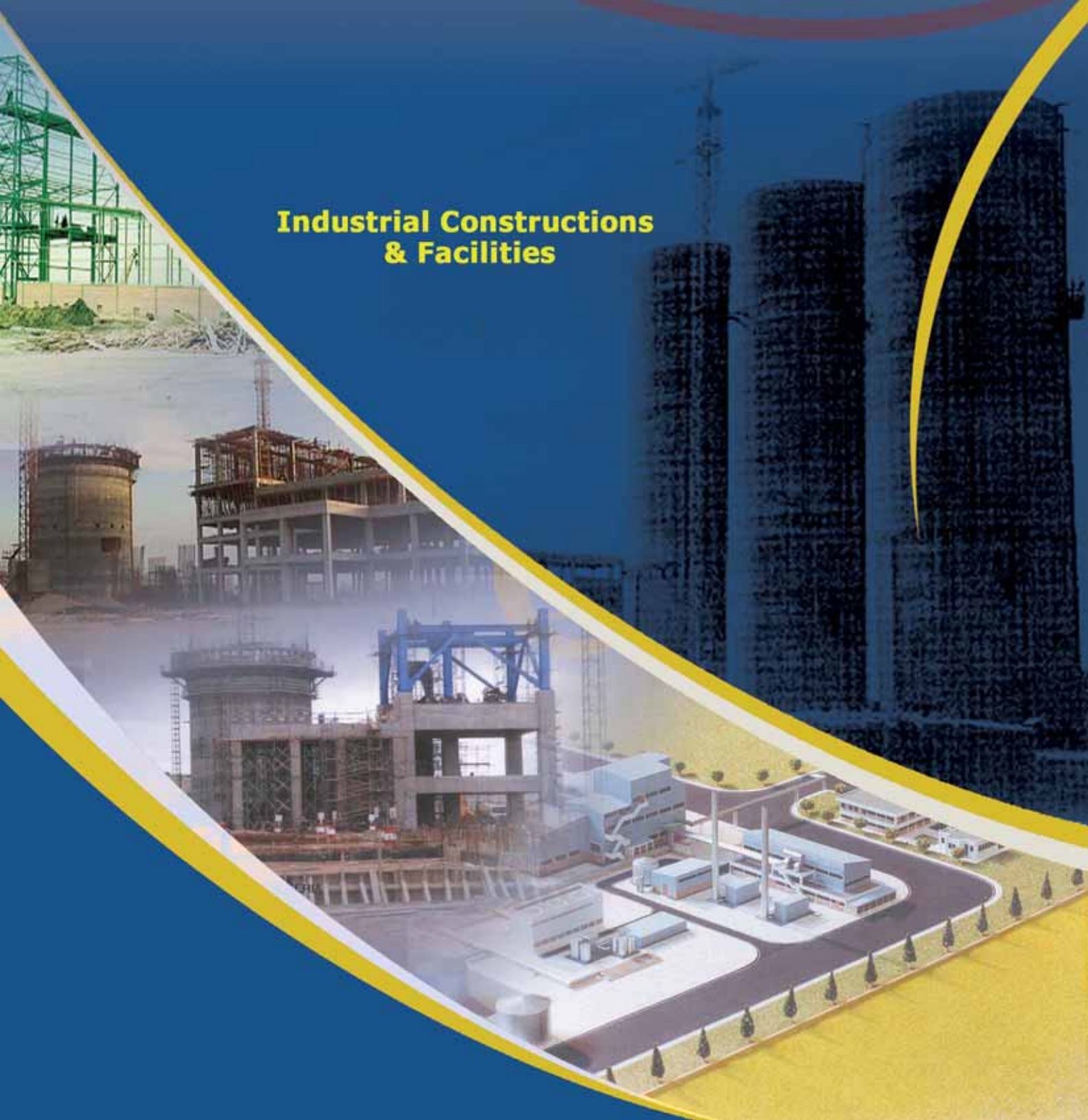


Industrial Constructions & Facilities

Industrial Constructions & Facilities

It is worthy mentioning that TCB since the very beginning of its activity in 1969 have been often assigned to prepare the structural designs and details of the constructions of many factories.

The following record is giving information about some of the Industrial Constructions & Facilities Entrusted to TCB for providing Engineering Services, divided in two parts one general , the second is for cement plants only.

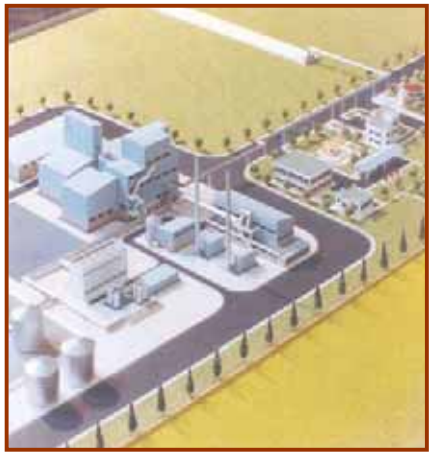
Project : **Extraction of mineral salts from Quaroun Lake at Al Fayoum Governorate**
Owner : The Egyptian Mineral Salts Company (EMISAL)

Components of the project

1. Sodium Sulphate production line of total cost LE. 25 million.(completed 1989)
2. Sodium Chloride production line of total cost LE. 50 million (completed 1995)
3. Magnesium sulphate production line of total cost LE. 90 million (commenced 2006)

TCB Role :

1. In the first production line : Complete planning including the main road net, the main utilities , the residential area and complete design of the buildings and the recreation units (Architectural, Structural, Landscaping, Sanitary & Electrical), Also the design of the civil works for some of the production units and review of the structural design for the remaining units.
2. For the second and third production lines: Site investigation and complete design of the civil works for the whole production line and supervision of the execution of all stages.



Project : **Glass Factories :** Development and modernization of Glass work in Cairo
Owner : El Nasr co. for Glass & Crystal – Cairo – Egypt.
TCB Role :

1. Studies with Russian Party.
2. Rehabilitation designs.

Project : **Bus Maintenance & Repair Workshops - El Minya - Upper Egypt**
Owner : General Nile Co. for Upper Egypt Bus
TCB Role : General planning, Architectural, Structural & Electromechanical designs & tender documents.

Project : **Cairo Transport Authority:** garage, maintenance workshops, fueling station, service building and administration building for 220 buses operated by compressed natural gas. (Financed by USAID).
Owner : Cairo Transport Authority
TCB Role : complete civil / Architectural designs

Project : **Vehicle Emission Test Facilities constructed in (3) sites one in west, two in north Cairo. Financed by USAID**
Owner : Chemonics Consortium
TCB Role : same as a/m projects

Project : **Paper Works: in Badr City – East of Cairo - Egypt**
Corrugated Cartoon, Press and Enfolding Factory – 16200 m2 production hall.
Owner : Al Jawhara Investment Group (Egyptian – Emarites) Co.
TCB Role : Design some parts, revision of all other.

Project : **As Sukari Gold Mine** Marsa Alam at the Red Sea coast.
Owner : Pharouh Gold Mines (Australian Corporation)
TCB Role : Preparation of the conceptual design and cost estimate for the feasibility study, then preparation of the detailed design and tender documents for the various disciplines (Architectural, Civil, Mechanical, Electrical & Plumbing) for the construction of the following components:

I- Infrastructure
- Sea water intake or (sea water well field) for water supply capacity of 660m3/hr, pipe line and pumping stations.

II- Gold Production Line
- Heavy Mobile Equipments Workshop covering an area of 4000 m2 complete civil / structural designs.

Project : **Kaolin Bearing Silica Sand Plant at Kantara Shark & Mines facilities at Saint Catherine in Sinai North East of Egypt**
Owner : Middle East Mining Investment Co.
TCB Role : Complete Civil & Architectural Design for all the components of the project in both sites. Geotechnical Studies – Infrastructure Design.

Project : **Single stack Bell Type F**
Owner : Egyptian Iron & steel works. Helwan - Egypt
TCB Role : This furnace shall be constructed inside the existing Cold Rolling Mill Hall. "EBNER" Austrian Co. is the supplier of the furnace. TCB is the civil deign consultant. This includes the foundations of the furnace, the electrical rooms, steam reformer, Hydrogen & Nitrogen vessels.

Project : **Float Glass Plant 600 t/ day – at Sadat City – Egypt**
Owner : Sphinx Glass Co.
TCB Role : Ianua S.P.a (Italian Co.) is the main contractor for design, supply and erection of the plant. TCB is the Egyptian local check and review of the civil works and architectural as well as utility system in order to be in compliance with the Egyptian codes.

Project : **Yeast Productions Plant (Beni Swief)**
Owner : Angel Yeast (Egypt) Co.
TCB Role : Structural / Architectural / design of the product line department

Cement Factories

Project : **Al Arish Cement Factory - Jabal Labani - Sinai, Egypt**
Owner : Sinai Cement Company
TCB Role : Auditing the structural design prepared by European designer and the structural design of some departments of the factory as well as calculations of the dynamic effect of the earthquakes for some units.

Project : **Sinai White Cement Factory - Jabal Labani - Sinai, Egypt**
Owner : Sinai Cement Company
TCB Role : Structural design of some departments such as Cement Packing & Loading Plant and auditing the structural design of the remaining units.

Project : **Quena Cement Factory**
Owner : Egypt Cement Company
TCB Role : The structural design of some departments namely :

- **a.** Limestone Transport to storage
- **b.** Limestone storage
- **c.** Sand / Additive
- **d.** Raw mill feed
- **e.** Kiln
- **f.** By Pass
- **g.** Clinker storage & transport
- **h.** Gypsum crusher & transport
- **i.** Cement Packing & Dispatch
- **j.** Tertiary air duct
- **k.** Auditing the structural design of the remaining departments prepared by European designer

Project : **Upgrading of Assuit Cement Factory**
Owner : CEMEX - Egypt
TCB Role : Rehabilitation studies of some existing units and structural design of some new departments in production lines #2 &#3.

Project : **Buxton Cement Factory - United Kingdom**
Owner : MTH∅jgaard
TCB Role : Structural design of some departments.

Project : **AUCC Cement factory stages I&II- Libya**
Owner : Arab Union Cement Production Company,
TCB Role : Structural design of some departments (as a subconsultant the Danish firm MTH∅jgaard)

Project : **CIBA White - Cement Factory (Algeria)**
TCB Role : Structural design of some departments (as a subconsultant MTH∅jgaard of Denmark)

Project : **Aleppo Cement Plant - Syria**
Owner : Syrian Cement Company
TCB Role : Structural designs of some departments (as subconsultant to the Danish firm MTH∅jgaard)

Project : **Ramliya Clinker Production Plant - El Aine El Sukhna - Egypt**
Owner : Arabian Cement Company,
TCB Role : Subconsultant FLSMIDTH (Danish company) entrusted to check of the structural design of all the production units (22 units) in addition to the service buildings design of limestone crushing plant .

Project : **Qatar Umm Bab Cement Plant**
Owner : Gulf Cement Company
TCB Role : Structural designs of some departments (as subconsultant to the Danish firm MTH∅jgaard)

Project : **Hoang Thach 3 , Vietnam**
TCB Role : Structural designs of some departments (as subconsultant to the Danish firm MTH∅jgaard)

Project : **Egypt Royal El Menya 1000 tpd**
Owner : Royal white Cement Co.
TCB Role : Complete Civil / Structural design for the production line, Services and auxiliary buildings, infrastructure (roads – water & sewage networks – street lighting).

Project : **South valley cement plant – 6000 tpd – Beni Suef - Egypt**
Owner : El Sewedy Co.
TCB Role : Structural Design of some major production departments – Auditing of other departments .

Project : **GOE cement plant 2500 tpd**
Owner : Ministry of Defense
TCB Role : Auditing of Civil design for production of some major departments.

Project : **Djelfa Cement Plant 2×4500 tpd – Algeria**
Owner : ASEC Cement Holding
TCB Role : Structural Design of the production line departments.

Project : **Wadi el Nile cement plant**
Owner : Wadi el Nile cement Co. (WNCC)
TCB Role : Structural design for (lime stone crusher, lime stone transport , lime stone clay mix storage , additive storages and transports up raw mill feed, gypsum crusher and transports (up to cement mill feed) , cement transport and bulk loading , packing , water distribution (tank and pump house) , oil intake and storage packing plant substation)

Project : **El Takamol cement plant – (SUDAN)**
Owner : ASEC cement Holding
TCB Role : Structural design for bag storage building , cable bridge and elevated tank
Structural revision for power generation plant (power house , radiator cooling , tank farm , pump house and fire lighting room)
Work shop and weigh - bridge

Project : **El shamal cement plant – Atbara - Sudan**
Owner : ASEC cement Holding Co.
TCB Role : Structural design for(kiln , Raw mill , cement mill feed and cement mill)

Project : **El-Minya Cement Project 5500 ton/day**
Owner : Arab National Cement Company
TCB Role : Structural design of the product line department

Project : **El-Nahda Cement plant 500 tpd – Governorate of Qena**
Owner : El Nahda Company for industries
TCB Role :
- Review all Structural and Architectural drawings
- Complete design of water system (wells, 2 pump station, pipe line 17 km , water tanks).

Project : **Assuit Cement Plant 1.5 million ton Annual**
Owner : Building Material industries company
TCB Role : Review all Structural and Architectural drawings

Project : **Modern Suez Gypsum project**
Owner : Building Material industries company
TCB Role : Structural design of the product line departments

Project : **Al Madina Gypsum Plant**
Owner : Allam Abdel El Salam Allam
TCB Role : Structural of the product line departments and Arch. And Civil design of ancillary Buildings

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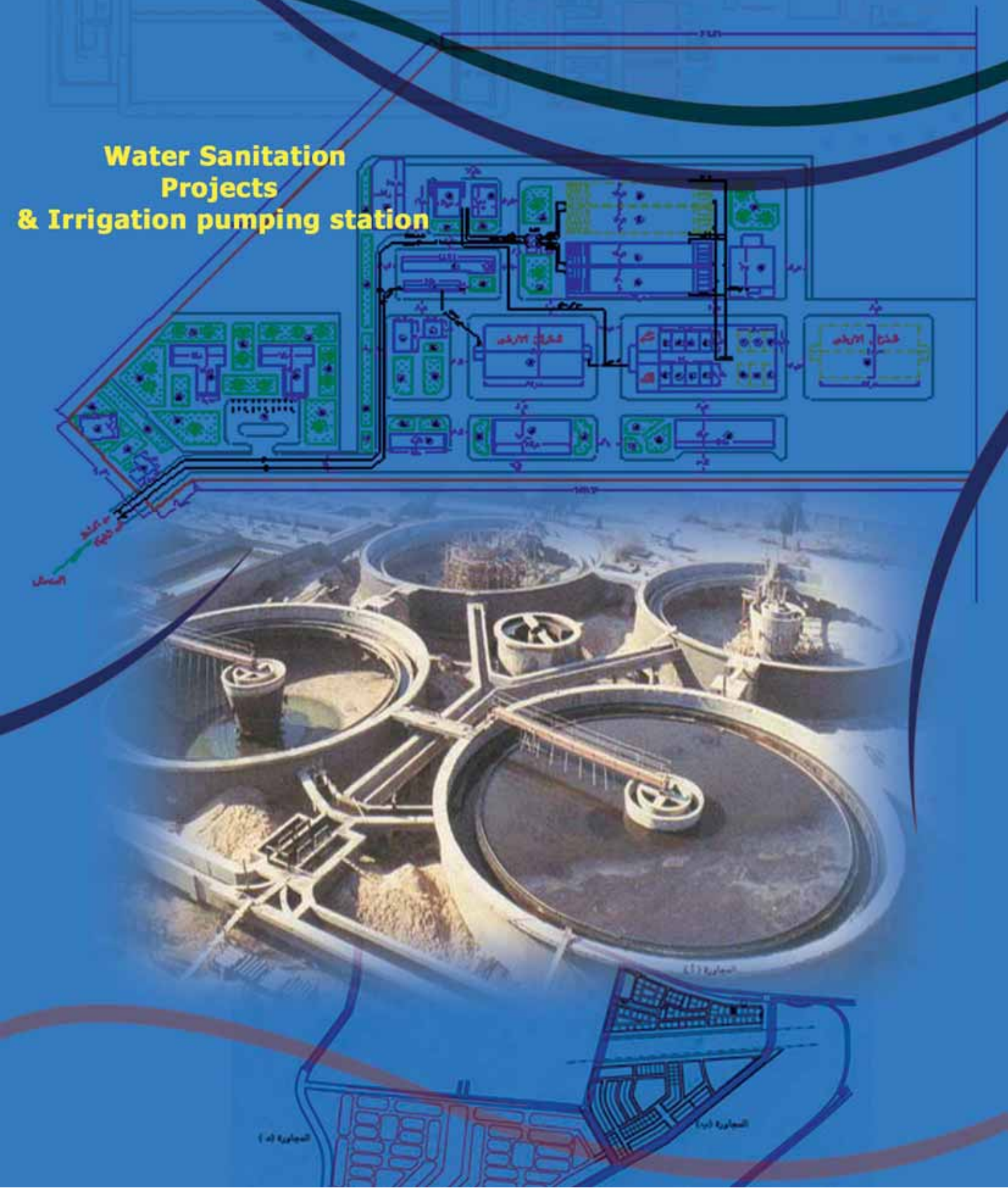
Water Sanitation Projects & Irrigation pumping station



Water / Sanitation Projects

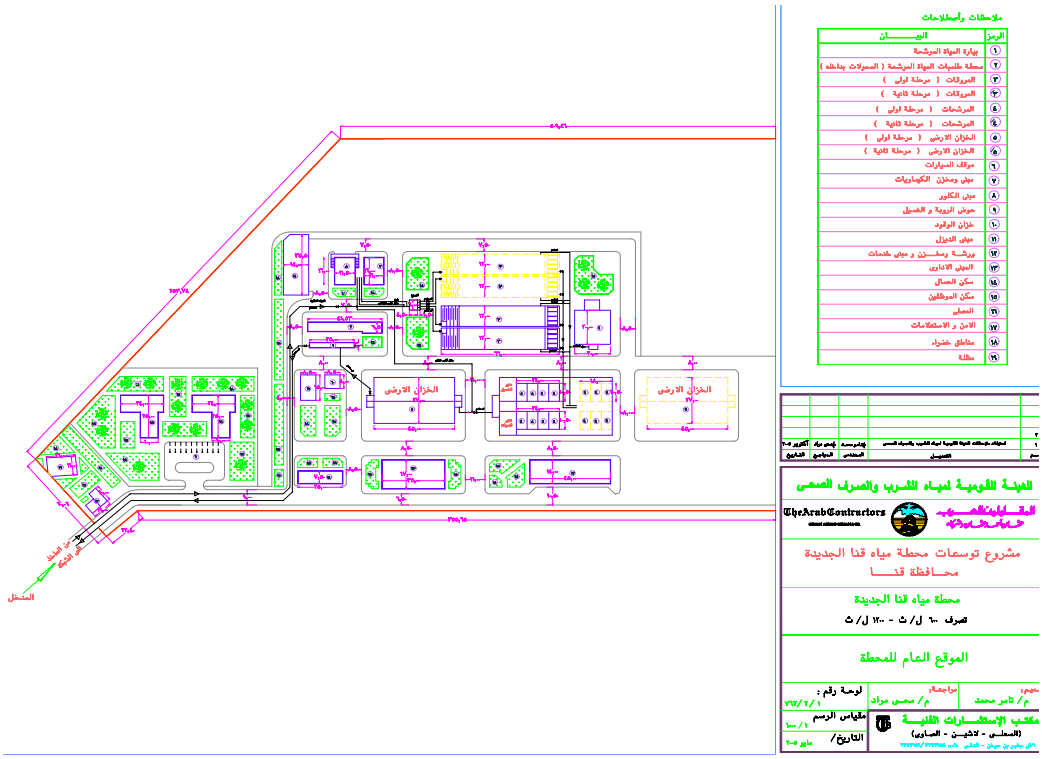
TCB has long and distinguished experience in the studies, alignment, design and specifying utility works as they had provide these engineering services some cities in Egypt, tourist villages and factories. The services provided by TCB for these projects include all / or most of the components (purification plants, networks).

In the next pages samples of water / sanitation projects designed by TCB are given.

Project : **Quena Water Purification Plant & The City Distribution Network**

The first stage of the plant of discharge 600 liter/ second was designed by TCB and constructed 1993. The second stage aiming to increase the discharge to 1200 liter /second was commenced 2005

TCB Role :
1. Land survey & Geo - technical studies
2. Preliminary studies & initial report
3. Hydraulic analyses & design
4. Mechanical & Electrical design
5. Structural design
6. Architectural design
7. Design of the elevated water tanks
8. Internal infra-structure (roads, lightning, ... etc)



Project : **Saidabad Treatment – Bangladesh**

Client :MTHØjgaard Co. od Denmark

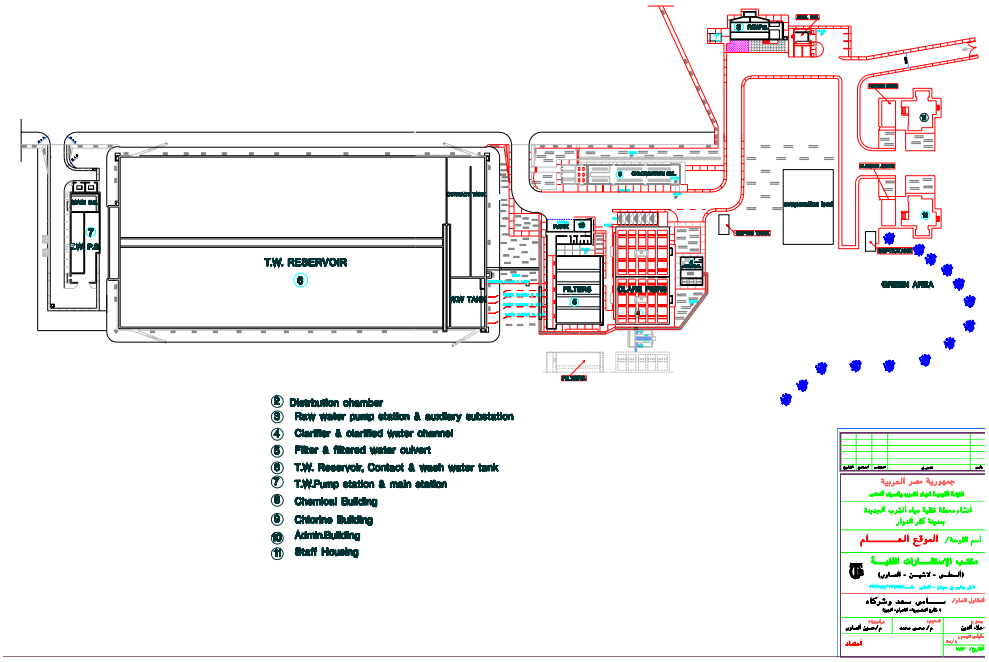
TCB Role : Structural and Architectural design of the following units Pulsator – Treatment water tank pump station

Project : **Kafr El Dawwar and Nobaria Water Purification Plants**

Each plant is of discharge 800 liter /second . Works completed within the year 1995 and each plant costs LE 25 million

TCB Role :

1. Geotechnical studies
2. Architectural Design
3. Structural design
4. Design of mechanical, electrical & plumbing works

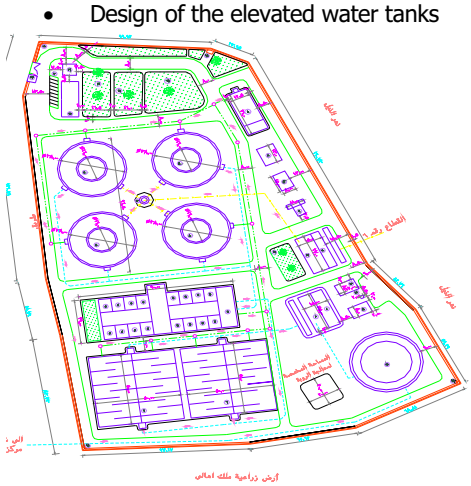


Project : **Extension of Esna Water Purification Plant & Networks**

The Extension is aiming to increase the discharge from 750 liter/second to 1500 liter /second. Works shall be commenced 2007

TCB Role :

- Land survey & Geo - technical studies
- Preliminary studies & initial report
- Hydraulic analyses & design
- Mechanical & Electrical design
- Architectural design
- Structural design
- Design of the elevated water tanks
- Internal road planning & design
- Water supply
- Electromechanical services.
- Planning & design of the water pipe nets for Esna City of 180 Km total length.
- Preparation of tender documents for the various disciplines



Sewage Treatment Plants

Plant	Discharge m3/day	TCB assignments	Cost LE Million
Belbes	40,000	Geotechnical studies Architectural Design Structural design Design of mechanical, electrical & plumbing works Preparation of tender documents for the designed disciplines	40
Malawi	40,000	Land Survey, Geotechnical studies, Architectural design, Structural design Design of electrical & plumbing works	40
Ganzour & Mit Berah	10,000	Geotechnical studies, Architectural design, Structural design Design of electrical & plumbing works	5
Samadoon	10,000	Geotechnical studies, Architectural design, Structural design Design of electrical & plumbing works	5
Talia & Ashmun	10,000	Land Survey, Geotechnical studies, Architectural design, Structural design Design of electrical & plumbing works	5.5
Qaha	10,000	Land Survey, Geotechnical studies, Architectural design, Structural design Design of electrical & plumbing works	3.3

Project : **Sanitary Designs for MANSHET ELAMARI village of luxor city – Qena Governorate.**
TCB Role : Hydraulic analyses and design – mechanical and electrical design – Architectural design – structural design

Project : **Sanitary Drainage for BHo Industrail zone – MARKZ NAGA HAMADI – Qena Governorate**
TCB Role : Hydraulic analyses and design – mechanical and electrical design – Architectural design – structural design

Project : **Sanitary Designs for ELAMAL - GIZA**
TCB Role : Hydraulic analyses and design – mechanical and electrical design – Architectural design – structural design

Networks for water supply & Sewage

Project : **Hadayek Al Nasr Neighborhood**

A new neighborhood located east of Cairo city on Cairo - Suez Desert road. The total area of this neighborhood is 3,360,000 m^2 with a total length of roads of about 32 km and widths vary between 10 and 50 meters.The area comprises of an entertainment area of about 840,000 m^2 and five residential areas each is divided into residential blocks annexed with all needed services

TCB Role : detailed design of the infrastructures including internal roads, sewerage, water and electricity networks, and to prepare tender documents.

Project : **Providing Deprived Villages in Upper Egypt With Potable Water**

TCB Role : All the studies and design works necessary for providing 6 deprived villages in Sohaj governorate, the services entrusted to TCB include :

- Land survey & Geo - technical studies
- Preliminary studies & initial report
- Hydraulic analyses & design
- Mechanical & Electrical design.
- Architectural design
- Structural design
- Design of the elevated water tanks
- Road planning
- Planning & design of the water pipe nets for the villages.
- Preparation of tender documents for the various disciplines

Project : **The Second Sector of the Western Tourist area, 6th of October city.**

Total area is 450000 sq.m including a hotel 300 rooms, 64 Villas and 540 tourism residential units, recreation and service areas

TCB Role : Alignment, design & specifying of the infrastructures (Roads, road lighting, power & telephone cables, water supply network, fire fighting & drainage systems.... etc.).

Project : **Potable water pipe nets & tanks for Deshna city**

TCB Role : Alignment, design & specifying of the potable water pipe nets, hydraulic design and design of the elevated tanks

Project : **Sanitary Drainage for Forests' Quarter, Drau – Aswan**

TCB Role : Alignment, hydraulic design & specifying of the drainage pipe net

Project : **Sanitary Drainage for Al Mesaada Al Sagherah & Al Sheikh Mansour Villages of Hehia Town - Al Sharqueya Governorate**

TCB Role : Planning, hydraulic design & drainage pipe net as well as the pump station

Project : **Sanitary Drainage for Asdima & Qualib Ibiar Villages of Kafr ElZaiat Town - Al Gharbiya Governorate**

TCB Role : Planning, hydraulic design & drainage pipe net as well as the pump station

Project : **Sanitary Drainage for Abu Hakem of Zagazig Town - Al Sharqueya Governorate**
TCB Role : Planning, hydraulic design & drainage pipe net as well as the pump station

Project : **As Sukkari Gold Mine**
Tender for the construction of pipelines & the pump stations to supply the sea water to the mine site.
TCB Role : Providing the mines at 335 m altitude with 660 m3 form a well field at the Red Sea meter per hour, from a well field at the Red Sea.
The supply will by two pipe lines are provided with three pump stations

Project : **Qosia water plant and networks**
TCB Role : Complete Design (Hydraulic, Electro, Mechanical , Structural and Architectural Designs)

Project : **Sanitary Designs and water network for 10 Ramadan (Zones 5 – Zones5d)**
TCB Role : Hydraulic analyses and design – mechanical and electrical design – Architectural design – structural design

Project : **Sanitary Designs and water network for EBNI BETK – sohag Governorate**
TCB Role : Hydraulic analyses and design – mechanical and electrical design – Architectural design – structural design

Irrigation Constructions

Project : **Irrigation Regulator and a lock on Ismailia canal (km 75) El –Salheya**
Five – span barrage , length 36,5 with 20 mm Navigation lock (first degree) of dimensions 116 x 17 m- overhead bridge of total length 600 m including its ramps .

TCB Role : -Hydraulic design check
- structural design check
- Bridge design with exits and entrances

Project : **Al Abbasa Drainage pumping station in Al Sharqueya Governorate**

TCB Role : Pump stations composed of 4 units

Project : **Faraskour drainage pumping station – Faraskour**

TCB Role : Complete Civil design

Project : **Pumping station for Al Bayara , koam Aombo- Aswan**
Pump stations composed of 4 units on pile foundations for positing water directly from the river Nile to deliver in kasel channel via delivery pipes

TCB Role : Complete Civil design

Project : **El –Batita pumping station in Kafr El- Sheikh**
Pumping station composed of 4 pumping units (3.5 pressure)

TCB Role : Complete Civil design

Project : **Al – Maana pumping station in Assiut**
Pumping station composed of 5 pumping units (2.4 pressure)

TCB Role : Complete Civil design

Project : **Al – Mallaha pumping station**
Pumping station composed of 5 pumping units

TCB Role : Complete Civil design

Project **Al Shabab pumping station**
Pumping station composed of 7 pumping units

TCB Role - Study of bids

Project **Kahbouna pumping station in Sharkia Governorate**
Pumping station composed of 3 pumping units

TCB Role - Study for bidding , then integrated designs (Arch. & Structural)

Project **Plumping station for the pumping Canal in Ismailia governorate**
Pumping station composed of 7 pumping units

TCB Role **-** Study for bidding , then integrated designs

Fluvial Navigation Constructions

Project owner

Transshipment & Inland Grains Terminal (Under Design)

Middle East River Transportation Co.(MERT) (Kharafi group)

- The designated terminal land is located directly on the Nubareyya canal at 7 Km south of Alexandria port.
- Current land size is around 28,000 m2
- (350 m length X 80 m width) (can be extended on need basis).
- Overall length (Water front): approximately 350 m, can accommodate up to 6 barges at a time. Width: 80 m.
- Project consists of:
  1. Three externally warehouses, internally separated to allow storage segregation of different cargos /for different customers (50 m X 100 m.; 5000 M2/each; Overall capacity for grains avr. density 0.75 ; 150,000 Mts).
  2. Jetty alongside the land water front for barges' Berthing and to accommodate the barges discharging equipment .
  3. Pneumatic barges unloaders and grabs material handers linked to a conveying system to transfer the grains to storage warehouses or directly to delivery trucks.
  4. A fully automated warehousing system starting from the entrance gate, trucks' weighbridge , distribution of bulk materials in warehouses ,etc.
  5. Loading equipment; wheel loaders, hoppers, bagging machines, etc.
  6. Administration building for terminal management and stuff.
  7. Workshops for in-house maintenance.

TCB Role: Complete design site supervision (under study)

Project : **300 ton slipway on the River Nile & Tebbin – Helwan**

The slipway is designed to accommodate 300 t fluvial ships, together with a yard for 8 units.

The system consists – interalia – of hydraulic winch, steel trolley etc .. . the slipway is served by following facilities :

a- workshops for inspection and maintenance of motors, as well shopping of steel plates , forging , foundry and painting

TCB Role:
- complete design
- construction supervision

Project : **600 ton slipway in Suez port**

The slipway is constructed as steel structure grid, 100 m length to deal with 600 t ships.

Served by a yard 140 x 92 m – a quay of 140 m is also added

TCB Role : Structural design & checks

Project : **A quay for the sugar and distillation Co. (in Abu Korkas)**

A quay for loading and unloading with a 15 ton carrying capacity winch

TCB Role :
- structural design for the quay and lifting facilities
- Preparation of BOQ

Project : **A platform in the River Nile for El Nasr phosphate factories in sebaeia**

An L- section quay (175 x 10,57+ 13,6x 7,0m) for loading the phosphate.

TCB Role : Complete design

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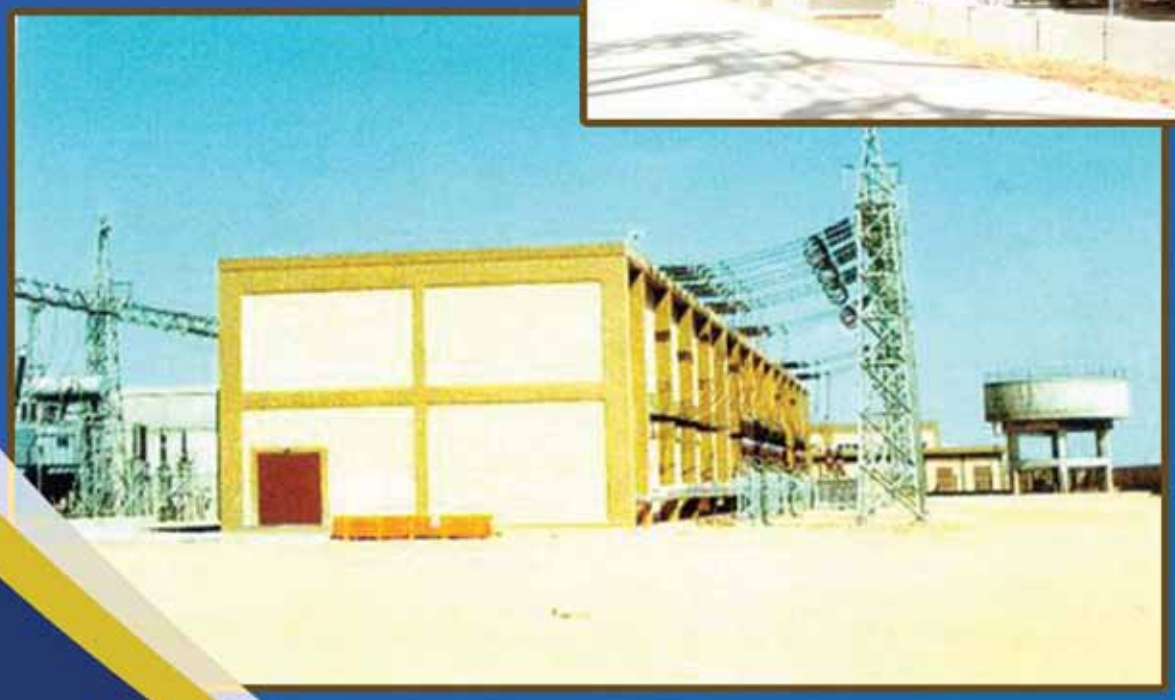
TECHNICAL CONSULTATIONS BUREAU

(EL SAHLY - EL SAWY)

Power Transmission Substations



Electric Power Distribution Constructions

Project : **Maghagha Substation 220\66 KV - El Minia**
The project was built on 7 feddan
(~ 30,000m2) and includes:

1. Control Building
2. 66 Kv building
3. 125 MVA transformers' fiundation
4. Kv switchyard foundations.
5. Boundary wall, guard towers, guard room, car shed, elevated water tank, internal roads, cable trenches, pipe nets for potable water, waste water, & fire fighting.

TCB Role : Geotechnical studies, architectural, civil and structural designs & details as well as design of lighting & sanitary works in addition to the preparation of the tender documents.

Project : **Karmouz Transformers' Station – Alexandria**
The project was built on 5 feddan
(~ 21,000m2) and includes:

1. Control Building
2. 66 Kv building
3. 125 MVA transformers' fiundation
4. Kv switchyard foundations.
5. Boundary wall, guard towers, guard room, car shed, elevated water tank, internal roads, cable trenches, pipe nets for potable water, waste water, & fire fighting.

TCB Role : Architectural, civil and structural designs & details as well as design of lighting & sanitary works in addition to the preparation of the tender documents

In the following more of the substations TCB had completed their civil designs and some are still under design. It is to be noted that TCB assignments for all these S/S is complete structural – architectural and infra–structure design.

A. Substation For ABB :

1. EL-ESLAH (1) 66/22 kv
2. BALAT 66/33/11 kv
3. EL-ESLAH (2) 66/22 kv
4. ABU EL-MATAMEER. 220/66/11 kv
5. EL-ESLAH (3) 66/22/11 kv
6. BANI MAZAR 66/11 kv
7. EL-ESLAH (4) 66/22/11 kv
8. Kom Osheem 66/11 kv
9. EL-HARAM 220/66/11 kv
10. NEW BAGHDAD 220/66/22 kv

B. Electric Substations for ALSTOM :

1. Helioplis substation 220/11/66 KV.
2. Karmouz substation 220/66 KV.
3. Alexandria cement factory substation 220/66 KV .

C. Electric Substations for Schneider Electric High Voltage :

1. west of Suez Canal 220 KV Terminal stations east
2. Al Giza , Algeria Cement Factory 220/66/11 KV
3. El Tal El Kabeer 66/11 KV
4. Giza substation 220/66/11 kv AIS
5. EL TAL EL KEBEER S/S 66/11 kv 2x25 MVA

D. Electric Substations Stations for SIEMENS

1. ARABIAN CEMENT S/S 220/6.3 kv. 2x35 MVA
2. DISHNA Substations 3x25 MVA – 66/11kv
3. EL- KURIMATE S/S 2x10 MVA & 2x20 MVA
4. EL-MAGD SUBSTATION 2x10 MVA – 66/11 kv
5. TEBEEN SOUTH S/S EXTENSION

E. Electric Substations Stations for VATECH-Austria

New Naga Hammadi 220/66 KV Substation and Extension of 220/66 KV Aluminum City Substation.

TCB Role : Geotechnical studies, Architectural, Structural, Sanitary, and Internal roads design, tender documents and evaluation of bids and supervision of the execution of the civil works.

F. In addition to substations for cement factories for ARESCO,&DLS.SMITH

TCB Role : Architectural, Structural, Sanitary, and Internal roads design

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TECHNICAL CONSULTATIONS BUREAU

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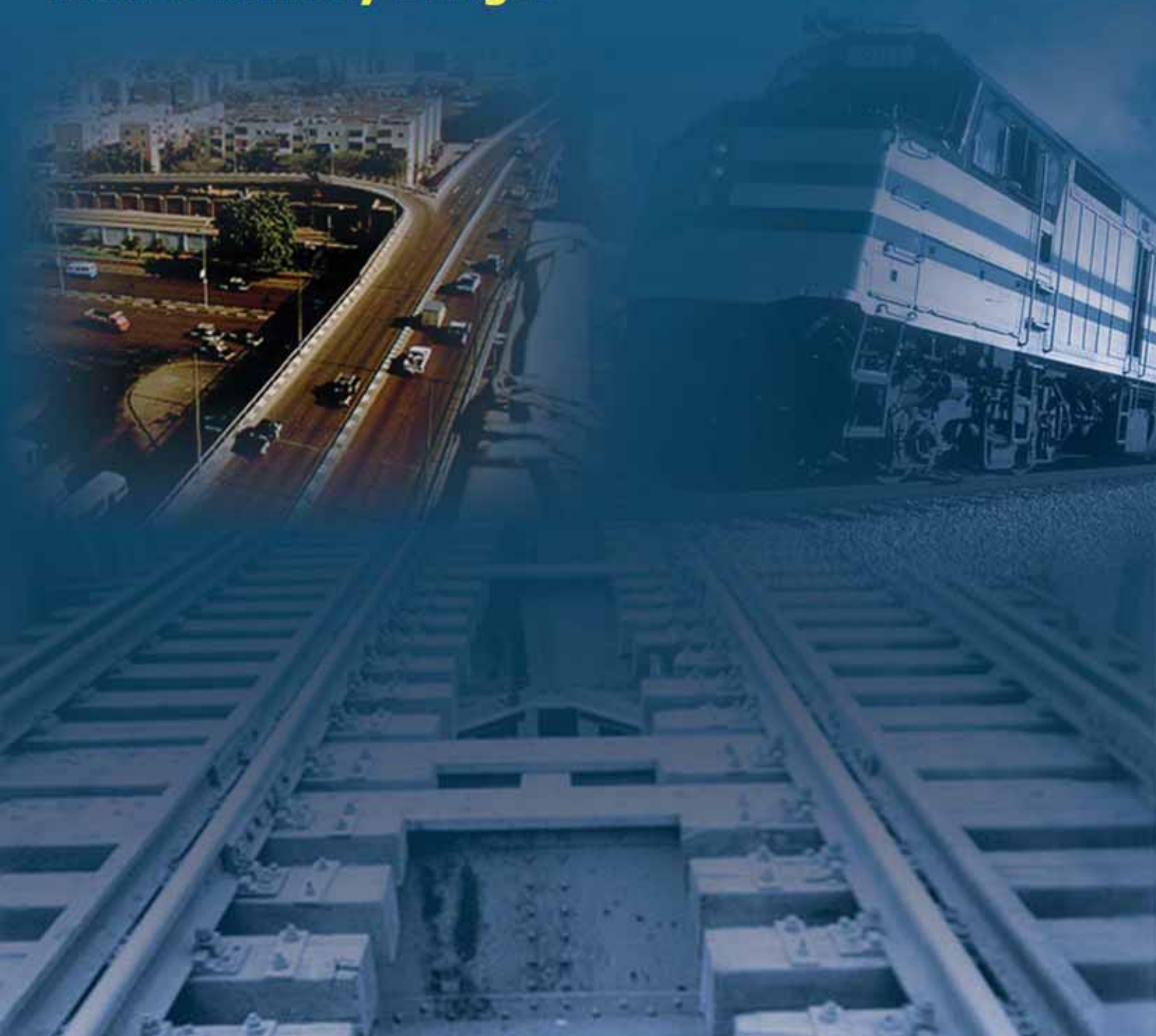
Road & Railway Bridges



Road Bridges

Project : **Abu Wafia Bridge crossing Cairo-Alexandria Railway & Ahmed Helmy street**

Replacing the at grade crossing with the railway, Tramway & Ahmed Heelmy street by free crossing.

Reinforced concrete bridge of 15.5 ms. width & 274 ms. length in addition to 49 ms. of earth approaches and two approaches of 7 ms. width and about 250 ms. length

TCB Role : Traffic & transport studies, general arrangement, alignment, geometrical design, structural design, details and technical specifications.

Project : **Ahmed Orabi bridge along Ahmed Orabi street crossing Cairo - High Dam railway & Sudan street**

Replacing the at grade crossing with the railway by free crossing.

Reinforced concrete bridge of 15.5 ms. width & 480 ms. length in addition to 130 ms. of earth approaches and four approaching loupes each of 8 ms width & 240 ms length.

TCB Role : Traffic & transport studies, general arrangement, alignment, structural design, details and specifications

Project : **Abdul Salam Arif Bridge Over Al Mansoura - Al Zagazig Railway line**

Replacing the at grade crossing with the railway by free crossing

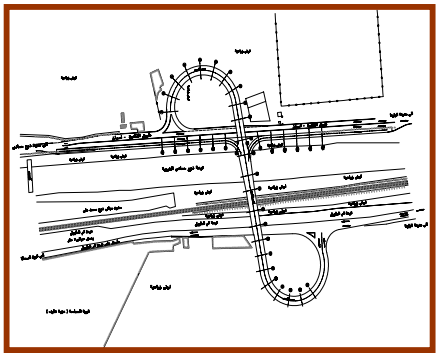
Reinforced concrete bridge of 18 ms. width & 446 ms. length provided with steel beams in addition to 200ms. of earth apprroaches

TCB Role : Checking the structural design of the bridge components

Project : **Al Belyana Bridge Over Cairo - High Dam Railway & Cair- Aswan Road**

Replacing the at grade crossing with the railway and the main road by free crossing.

Reinforced concrete bridge of 16 ms. width & 700 ms total length in addition to two approaches each of 300 ms length and 8 ms width.



TCB Role : Site survey - Geometrical design - Preliminary structural design - Bills of quantities

Project : **Al Maamoura Bridge – Alexandria**

Replacing the at grade crossing with Alexandria - Abu Queer Railway by free crossing

Reinforced concrete bridge of 16 ms. width and 280. length consists in addition to 160 ms. of earth apprroaches with reinforced concrete retaining walls.

TCB Role : Traffic studies, feasibility study - Geometrical design - Preliminary structural design - Bills of quantities

Project : **Bridge at the extension of Port said street crossing Ismailia canal at K.m. 4.50**

Connecting the industrial areas at the eastern & western banks of Ismailia Canal with Cairo down town and the agricultural road to Alexandria.

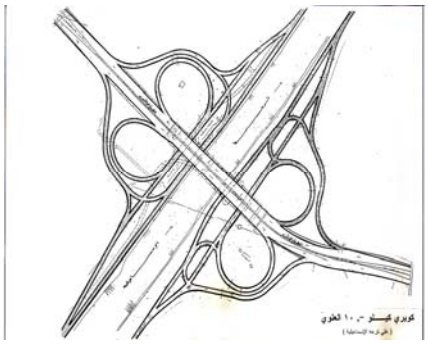
Reinforced concrete bridge of 36 ms. width & 440 ms. length consists of 21 spans of 20 to 38 ms. length in addition to 380 ms. of earth apprroaches and three approches each of 9 ms width & about 400 ms length

TCB Role : Traffic & transport studies, general arrangement, alignment, structural design, details and specifications. Then specifying & supervision of the repair works required to rehabilitate the slab of the bridge using modern technology

Project : **Bridge along the circular road around Cairo crossing Ismailia canal at K.m. 10**

Surrounding greater Cairo with circular free road.

Reinforced concrete bridge of 46 ms. width & 800 ms. length consists in addition to 200 ms. of earth apprroaches and four approching loups each of 8 ms width & 180 ms length



TCB Role : Traffic & transport studies, general arrangement, alignment, structural design, details and specifications.

Project : **Seryaqus flyover crossing Ismailia canal at k.m 13.5**

To connect the traffic at the two banks of the canal
Reinforced concrete bridge of H shape in plan consists of 48 spans of 7.7 ms width & 14 ms averag length ,6 spans of 11 ms width & 14 ms length and one navigable span of steel beams of 11 ms width & 30 ms length in addition to 4 earth apprroaches each of 7.7 ms width & 53 ms. Length

TCB Role : Traffic & transport studies, general arrangement, alignment, structural design, details and specifications.

Project : **EL Khazendaria Road Bridge Sohag Governorate (Upper Egypt)**

R.C. Bridge connecting an island in river Nile , with the main highway Cairo-Aswan , its total length together with its approaches about 400 K/m length

TCB Role : Complete designs

Project : **Abu Hummos Bridge crossing El-Mahmoudeya canal**

To connect the traffic at the two banks of the canal
Reinforced concrete bridge of 14 ms. width & 415 ms. length with navigable span of 33 ms. in addition to 120 ms. of earth approaches

TCB Role : Traffic & transport studies, general arrangement, alignment, structural design, details and specifications.

Bridges in Kingdom of Saudi Arabia (KSA)

Project : **Main intersection Bridges at eastern province (Al Dammam) Kingdom of Saudi Arabia**

Four precast bridges with length about 600 ms for each and width 9.4 & 17.7 ms middle main span 34 & 40 & 45 ms

TCB Role :
- Review of the geometrical design
- Structural design (abutments supports cast in situe-main beams pre cast) .
- Technical specification, Bills of quantities.
- Architectural (design for layout)

Project : **Main intersection Bridges at eastern province (Al Khbar) Kingdom of Saudi Arabia**

Three precast bridges with length about 600 ms for each and width 17.7 & 24.7 ms middle main span 30 & 38 ms

TCB Role :
- Review of the geometrical design
- Structural design (abutments supports cast in situe-main beams pre cast) .
- Technical specification, Bills of quantities.
- Architectural (design for layout)

Project : **Al Bark Bridge at Asser**

Reinforcement concrete bridges of 170 ms length & 13.4 m width. The spas about 15 – 16 ms

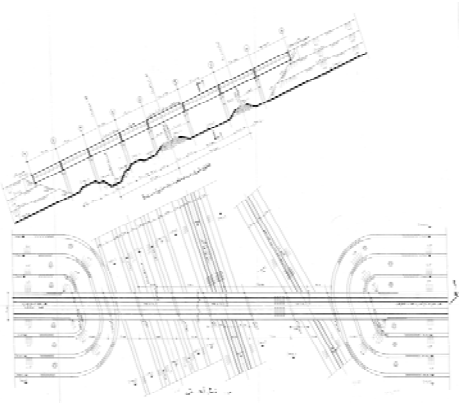
TCB Role :
- Review of the Structural design
- Preparation of calculation sheets .

Railway Bridges

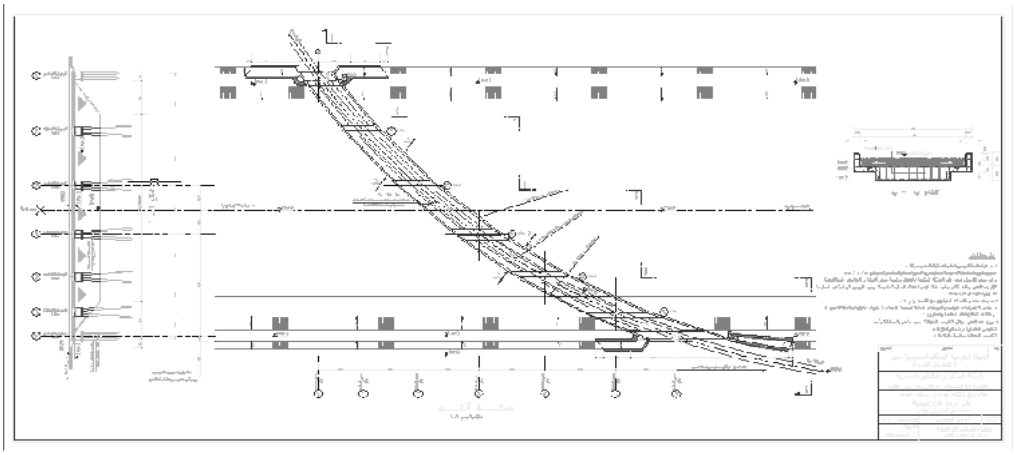
Project : **All bridges needed for the railway line connecting Safaga Port on the Red sea and crossing River Nile near Qena City Upper Egypt**

This project is owned by the Egyptian Railways its cost is equivalent to about 500 million USD
TCB assignments are divided in three parts

1. **In the eastern desert** : it consists of the Hydrological studies needed for the protection of the railways against flush floods and the design of about 38 culverts and bridges
2. **Qena bridge over the Nile** – TCB completed the full design of the piers , abutments and approaches.
3. **In the western desert** :TCB completed all the geometrical & structural design of 8 R.C. bridges its cost is equivalent to about 40 Million USD .



Project : **Railway bridges over Ibrahimia main canal (Upper Egypt)**
It is a curved skew single track railway bridge of total length 90 mm
TCB Role : complete geometrical & structural design



Project : **Double track railway steel bridge**
For Quabbari – Burg El Arab line
Crossing Baheeg canal – span 17 kms
TCB Role : Structural detailed design of the steel deck the abutments on piles.

Project : **3 Reinforced concrete culverts for torrent Spillway**
undercrossing Alex. Matroh railway
TCB Role : Geometrical and Structural detailed design

Project : **Two Reinforced concrete double track railway bridges for El Tebbin factories**
TCB Role : Geometrical and Structural detailed design

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TECHNICAL CONSULTATIONS BUREAU

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Planning and Design of Railway Lines

Planning and Design of Railway Lines

Project : **Alignment of Quena (Upper Egypt) - Abu Tartour (at west Desert) Railway line**
The project is to connect Abu Tartour Mines with the Egyptian Railway net and protecting the line against sand drifts sand dunes

TCB Role : Planning the route of the line, study of the zones subjected to sand dunes. Monitoring the history of these sand dunes, to protect the line from the sand dunes.
Preparing complete construction documents and Site supervision

Project : **El-Salloum (Egypt's western boarders) Tobrok (Republie of Libya) Railway Line**
The project is to connect with the Egyptian Railway net ending at El Salloum City with Tobroq in Libya. Its length is 140 km.

TCB Role : Studies, planning alternatives of the line route , on site alignment of the chosen planning, detailed design of components (embankment, track, stations, signals, yards, facilities.....etc.) specifications and tender document

Project : **Road El Farag (North Cairo) – 6, October New City (west Cairo)**
The Railway line shall connect north of Cairo to the New City by mass transit system. Letter to be electric traction.

TCB Role : Proposing the best route. Complete design of all its components.

Project : **Feasibility study for constructions of Railway line between Edfu & Mersa Alam**
To connect the Red Sea Coast with the valley by Railway to Serve the growing tourism activities in Mersa Alam, and the expected development project.
Brief Description of the project: A railway line crossing the eastern Plato of Egypt of about 255 kilometers length.

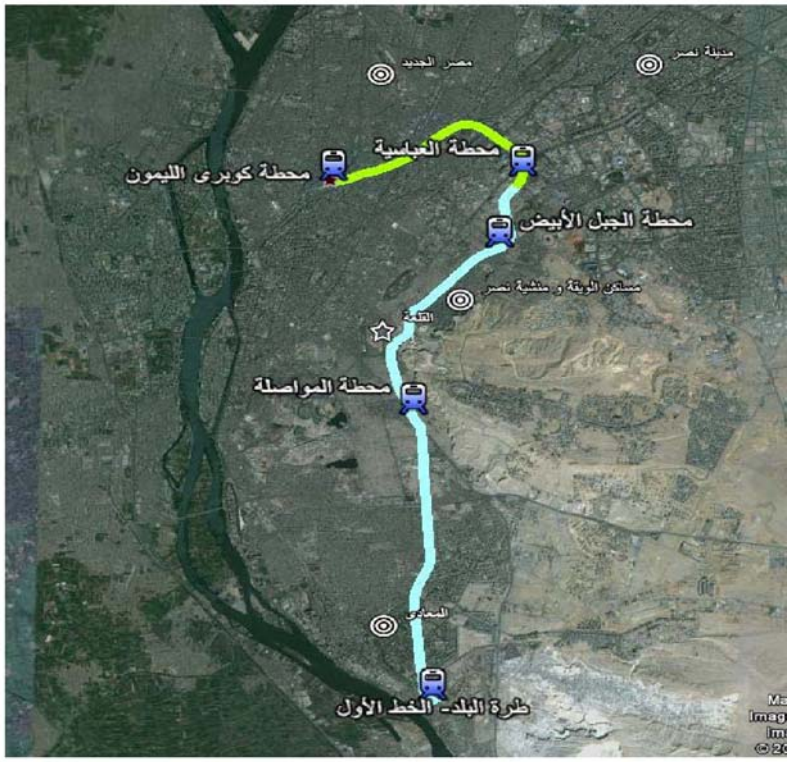
TCB Role :
1. Data collection.
2. Choice of the alternatives of the routes.
3. Initial horizontal and vertical planning of the line including the appointment of the intermediate and end stations as well as the workshops.
4. Geological and hydrological studies of the route.
5. Urban and Tourism Development of the area.
6. Transportation and traffic studies.
7. Appointment of the technical requirements for operation and maintenance including signaling and rolling stock.
8. Cost estimate for construction and economic feasibility, which is about one billion USD

Project : **Doubling and Increasing Efficiency Abbasia – Toru Railway line**

Doubling and upgrading the Railway line between Abbasia – Tura. The main target is to reinforce the public transport network within greater Cairo

TCB Role :

1. Evaluation of the existing track and the embankment suitability for the new track.
2. Design complete grade separation along the whole track (by bridges - culverts)
3. Modernizing the stations .
4. Preparation of complete tender documents.



Project : **Cairo (at Embaba) with 6th of October City Railway line**

Engineering Studies for the Construction of a new railway line connecting Cairo (at Embaba) with 6th of October City

TCB Role :

1. Study different alternatives for the track and its alignment
2. Upgrading Embaba station to be terminal for the proposed line
3. Study a connection with Cairo – Metro line 3
4. Site exploration and detailed site survey allover the existing line.
5. Soil investigation and geo-technical studies.
6. Planning and geometrical design of the line .
7. Structural design, details, technical specifications and bills of quantities for all the components of the line i.e. embankment, track, stations including platforms & buildings, bridges and subways, retaining walls and fences.
8. Cost estimate

Development and Modernization of Tura Workshops for Cairo Metro Units

Cairo metro network.

During year 1978 a comprehensive transport master plan was carried out for Greater Cairo including three main Metro lines. The three lines intersect at two levels with interchange underground stations at the main squares of the city centre i.e Ramses square , Tahrir square and Attaba Square .

The first line is of 44 kms long. It was composed of two suburban railway lines which were electrified and upgraded to run as a metro line by connecting them together with an underground link of about 4.5 kms.

The second line is a new underground metro of 19 kms long .

The third line is of about 30 kms already under construction as an underground metro.

Cairo metro workshops.

The first line was completed on year 1989 using the railway old workshop at Tura after some modifications to suit the new metro units. After increasing the number of the running units to more than 50 ones the workshop was in need to be developed and modernized.

The second line was completed on year 2005

On the contrary lines No. 2 and No. 3 both lines are equipped with a modern complete workshop to cover the maintenance requirements i.e preventive maintenance, predictive maintenance, corrective maintenance and incident Handling and recovery.

The Designed Modifications of Tura workshop :

TCB carried out the modifications needed for Tura workshop to cover the following :

- Light repair workshop (L.R.W) with adequate number of tracks required to carry out the different types of maintenance.
- General over haul workshops (GOW) with the following maintenance departments :
  - Car body lifting jacks.
  - Bogie maintenance.
  - Gear box maintenance.
  - Wheel and axel maintenance.
  - Motors maintenance.
- Lathe on pit (L.O.P) for griding the wheels equipped with a computer to defermine the optimum lathing amount necessary for the wheel profile.
- Bogie changing using a Bogie drop machine.
- Painting workshop which will allow painting of train car body. The car bodies will be transferred from one process to another using the car transversal.
- Test track of about 900 ms with an alignment that allows reaching the required speed for the dynamic test .
- Storage building for different parts needed for maintenance.
- Lockers, dining, first aid and showering rooms.
- Administration building and operation control center (OCC)
- Circulating roads and car parking areas to allow reaching all different zones for the emergency cases or for materials and spare parts delivery as well as evacuation of scrap.

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TECHNICAL CONSULTATIONS BUREAU

(EL SAHLY - EL SAWY)

ROADS Planning & Design

Roads Planning & Design

Project : **GIS–BASED PAVEMENT MANAGEMENT SYSTEM**

The General Authority for Roads, Bridges and Land Transport (GARBLT); which is the Authority responsible for the national roads network; facing the challenges of preserving this vital national asset, launched a major project to develop and implement a GIS-based Pavement Management System (PMS) for its entire road network which is approximately 22,000 kilometers of paved roads. The project was awarded to TCB in 1998.

TCB Role :

1. To develop a GIS map for the National road network.
2. To manage and preserve the National road network using the state of the art PMS software.
3. To purchase advanced pavement condition evaluation equipment (Profilometer & Skid Tester).
4. To develop a comprehensive data base for the road network.

Project : **CAIRO-AIN AL SUKHNA HIGHWAY AS BOOT**

Build Cairo- Ain Al Sukhna tolled freeway on the basis of Build-Own-Operate-Transfer (BOOT) agreement. The total length of the road is 115 km

TCB Role :

1. Preliminary Design.
2. Detailed Design and Tender Documents.
3. Construction Technical Support

Project : **HELWAN - KORIMAT BOOT ROAD**

Build Helwan- Korimat tolled freeway on the basis of Build-Own-Operate-Transfer (BOOT) agreement. The total length of the road is 85 km

TCB Role :

1. Preliminary Design.
2. Detailed Design and Tender Documents.
3. Construction Technical Support

Project : **CAIRO-ALEXANDRIA MIDDLE BOOT ROAD**

The proposed road is to be located between Cairo–Alexandria Desert and Agricultural roads, respectively with an approximate length of 177 km

TCB Role :

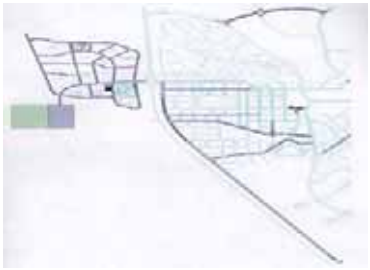
1. Selection and evaluation of road alignment alternatives.
2. Traffic prediction.
3. Preliminary design of selected alternative including horizontal and vertical alignments and proposed alignment of interchanges.
4. Construction phasing.
5. Maintenance planning, costing and operation.
6. Toll system and operation.
7. Operational management and quality assurance plan.
8. Cost estimation (construction, maintenance and operation costs).

Project : **The Internal Road Network Of The Free Zone Compound At Nasr City**
The rehabilitation and the reconstruction activities needed to renew the internal road network

TCB Role :
1. Conduct a detailed pavement condition inspection for the project area.
2. Evaluation of present condition of roads and sidewalks including levels, drainage and crossings.
3. Study the surface water drainage system.
4. Analysis and design of rehabilitation activities.
5. Recommend construction materials.
6. Redesign of horizontal and vertical alignments of roads.
7. Preparation of tender documents.
8. Tender evaluation.
9. Construction quality control and assurance

Project : **Internal Roads Of Tower Village And Emak Village At Port Ghalib, Red Sea Coast**
Design and to prepare the tender documents

TCB Role :
1. Preliminary Design
2. Detailed Design
3. Final Design and Tender Documents



Project : **INFRASTRUCTURE OF HADAYEK AL NASR NEIGHBORHOOD**
Design of the infrastructures including internal roads, sewerage, water and electricity networks, and to prepare tender documents for the internal road network.

TCB Role :
1. General Layout of the project area, showing the roads categories and their relation to the existing roads.
2. Horizontal alignment for roads and intersections.
3. Vertical alignment, showing the roads centerlines, the existing ground elevations, locations, lengths and elevations of vertical curves.
4. Typical sections of roads showing, widths and cross slopes of lanes and sidewalks, and the pavement types.
5. Construction details of the intersections, pavement types and thicknesses, types of curbs.
6. Traffic markings and signs details.
7. Tender documents and bill of quantities.

Project : **Feasibility study of Converting Cairo – Alexandria – MatRouh & Cairo – Ismailia – Port Saeed Roads to Freeways**

TCB Role :
1. Defining several alternatives for the two corridors alignment.
2. Site reconnaissance.
3. Traffic analysis including future traffic prediction & management of the traffic flow during construction.
4. Preliminary design of selected alternative including: horizontal and vertical alignment of the freeways, plans that show locations of toll stations, and plans of the link roads showing concession boarders and proposed alignment of the interchanges.
5. Toll system and operation.
6. Cost estimation (construction, maintenance, and operation costs).
7. Preparation of the Bill of Quantities. (BOQ).

Project : **Kalibso Touristic Village at Ras Sudr, red sea coast**
TCB Role : construction management of the village components including the master plan, alignment & design of the infrastructures (Roads, road lighting, power & telephone cables, hard & soft landscaping, water desalination, water supply networks, fire fighting & drainage systems, waste water treatment.... etc)

Project : **Aurura Touristic Village at El-Ain El-Sukna, red sea coast**
TCB Role : design & construction management of the village components including the master plan, alignment & design of the infrastructures (Roads, road lighting, power & telephone cables, hard & soft landscaping, water desalination, water supply network, fire fighting & drainage systems, waste water treatment… etc).

Project : **The seconed sector of the western tourist area, 6th of OCTOBER CITY**
TCB Role : design & specifying of the infrastructures (Roads, road lighting, power & telephone cables, water supply network, fire fighting & drainage systems.... etc)

Project : **Transportation Master Plan and Feasibility Study of Urban Transport Projects in Greater Cairo Region in the Arab Republic of Egypt**
(CREATS – Cairo Regional Area Transportation Study)

TCB Role :
1. Screen line survey
2. Traffic count survey
3. Travel speed survey
4. Road condition survey
5. Parking surveys

Project : **A Demonstration of A Traffic Safety Education Program and Campaign as a part of the Transportation Master Plan and Feasibility Study of Urban Transport Projects in Greater Cairo Region in the Arab Republic of Egypt (CREATS – Cairo Regional Area Transportation Study)**
TCB Role : Training education by "Workshops 1,2,3" of traffic safety for government-employed drivers and public utility drivers, traffic trainers and traffic police and driving trainers

Project : **The design of four secondary roads to link the Qena Villages to the main roads of Qena Governorate**
TCB Role :
1. Design of horizontal, vertical alignments, typical cross sections and at grade intersections.
2. Construction details of the intersections and pavement types.
3. Traffic markings and signs details.
4. Preparation of tender documents and the bill of quantities

Project : **Improving the traffic FLOW IN Tanta by PROVIDING CONSULTING studies and services.**

TCB Role :
1. Studying of main traffic streams and defining of the traffic characteristics. In addition, to parking lots locations.
2. Studying of Mahalaa and surrounding area traffic movements and different possible treatments to solve the traffic.
3. Included all the zones between two railway lines (Tanta – Mahalaa) and (Tanta – Alexanderia). In addition to parking design.

Project : **Feasibility study for Naga Hamadi Bridge over railway.**
TCB Role : study the economic and feasibility aspects related to the Naga Hamadi Bridge

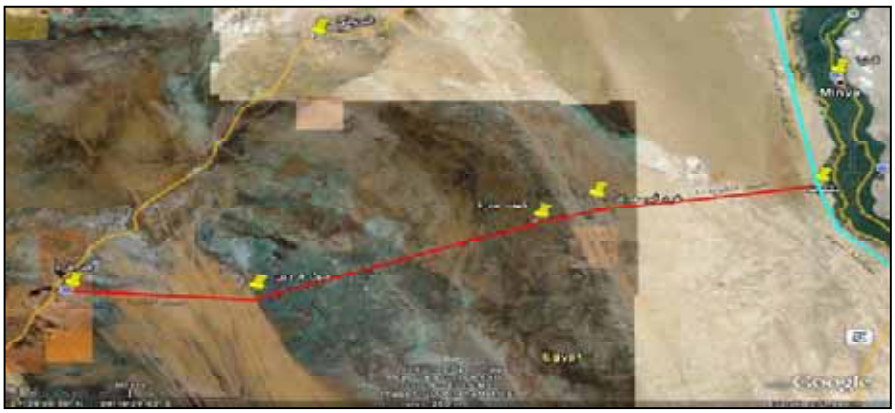
Project : **Feasibility study for Tahta Bridge over railway.**
TCB Role : study the economic and feasibility aspects related to the Tahta Bridge

Project : **Construction of Sukkari gold mines road. (Australian / Egyptians)**
TCB Role :
1. Design of horizontal, vertical alignments and typical cross sections.
2. Construction details.
3. Preparation of tender documents and the bill of quantities.

Project : **Internal roads of Port Ghalib Village At Port Ghalib, Red Sea Coast**
TCB Role :
1. Design of horizontal, vertical alignments, typical cross sections and at grade intersections.
2. Construction details of the intersections and pavement types.
3. Traffic markings and signs details.
4. Preparation of tender documents and the bill of quantities.

Project : **Dayrout – El Farrafra raod**
The ministry of housing, utilities and urban development – the research and construction studies. Was proposed to study and design a freeway with an approximate length of 280 KM between El Farrafra at the new valley governorate and Dayrout of Assiout governorate

TCB Role :
1. Selection and evaluation of road alignment alternatives.
2. Traffic prediction.
3. Total surrey for the project area.
4. Preliminary design.
5. Detailed design and tender documents.
6. Construction technical support.



Project : **Internal roads design for Cairo west thermal power plant**
Archirodon construction (overseas) Co. contracted with TCB to make a full design for the internal roads of the thermal power plant.

TCB Role : Prepare and submit the detailed design criteria for roads (geometric and structural)

مكتب الاستشارات الفنية (السهلى - الصاوى) ش.م.م

TECHNICAL CONSULTATIONS BUREAU

(EL SAHLY - EL SAWY)

Residential , Administrative, Commercial,
Touristic & Public Service Buildings

Residential, Administrative
Commercial, Touristic & Public Service Buildings

Project : **Asea Brown Boveri -Egypt (ABB) Headquarters, Cairo, Heliopolis - El Nozha El Jedida**

Prestigious 7 floors Office Building of 11,000 sq. ms. in addition to two basements each of 2800 sq. ms utilized as car park, stores and service rooms. The building is centrally air conditioned and provided wit 4 passengers' lifts, one cargo lift, fire alarm and fire fighting systems, public address, data net, telephone, emergency generator, ATS & UPS

TCB Role : Winning the first prize of the Architectural Competence, preliminary and detailed studies, design, tender document for various disciplines (Architectural, Structural, Landscaping , Sanitary, Electrical & Mechanical), evaluation of bids, award, project management, supervision of the execution , quality management, quantity take off, invoice auditing, commissioning of the systems and handing over to the user .

Project : **Jeel 2000 School, Sixth of October City, Giza – Egypt**

Four educational buildings, adminstration building, two multipurpose halls, car park and green areas Total built area 9600 sq m occupying foot print 3500 sq.m

TCB Role :

1. Site investigation (Geotechnical)
2. Detailed Design for various disciplines : Architectural, Structural, Sanitary, Electrical, Fire protection, Paved areas & Landscaping
3. Tender documents & tendering: Drawings, general conditions, technical specifications & bills of quantities.
4. Evaluation of bids & award
5. Project management:

Project : **The construction of Distinct School in Sixth of October City - The Fourth quarter**

it includes the following buildings :

1. Administration building : one floor 36 ms. x 24 ms.
2. Basic Education Building consists of 3 floors each 0f 43 ms. X 38 ms
3. Kinder Garden : One Floor of 17.7 ms. Diameter
4. Secondary education building consists of 3 floors each 0f 38 ms. x 36 ms.
5. Service buildings & Guard room
6. Sporting Yard & Fences

TCB Role : Complete design and details the buildings and the fence.

Project : **New Cairo Acadmy - New Cairo City- Egypt**
Four amphitheaters each of 500 seats, Central library, two residential buildings for students, cafeterias, green areas, car park and service buildings.

TCB Role :
1. Site investigation (Geotechnical)
2. Detailed Design for various disciplines : Architectural, Structural, Sanitary, Electrical, Fire protection, Paved areas & Landscaping
3. Tender documents & tendering : Drawings, general conditions, technical specifications & bills of quantities.
4. Evaluation of bids & award

Project : **Model for Central Library for youth & Childern - Upper Egypt Villages**
Four reading halls, open yard for reading, stores & offices
Built area 2500 sq.m.

TCB Role :
1. Winning first prize in the architectural competence
2. Detailed Design for various disciplines : Architectural, Structural, Sanitary, Electrical, Fire protection, Paved areas & Landscaping
3. Tender documents & tendering : Drawings, general conditions, technical specifications & bills of quantities.
4. Evaluation of bids & award supervision of the execution

Project : **Kalibso Tourist Village , Ras Sudr , Suez Gulf – Egypt**
Tourist Village on 273000 sq. ms. (Hotel including 300 rooms, 64 Villas and 540 tourism residential units, recreation areas and services). the internal roads are accomodated on 13% of the total area

TCB Role :
1. Site investigation (Survey & Geotechnical Studies)
2. Detailed Design for various disciplines (Architectural, Structural, Sanitary, Electrical, Fire protection, Roads, parking areas, road lighting, power & elephone cables, hard & soft landscaping, water desalination, nets for water supply, fire fighting & drainage systems, waste water treatement.... etc)
3. Environmental Impact Assessment
4. Tender documents : Drawings, general conditions, technical specifications & bills of quantities
5. Technical evaluation of tenders.
6. Construction management: Quality assurance, site supervision, monitoring, progress reports, invoice auditing & Commissioning.

Project : **Aurura Tourist Village, El-Ain EL-Sukhna, Suez Gulf – Egypt**
Tourist Village on 87500 sq. ms. (Hotel including 180 rooms, 19 Villas and 150 tourism residential units, recreation areas and services). The internal roads are accomodated on 12% of the total area

TCB Role : Same as that of previous (Kalibso)

Bank Building

Project : **Faisal Islamic Bank Tower Building, Ghamra Cairo- Egypt**
Administrative and residential tower building of 450 sq.m foot print consists of two basements and 11 floors. Ground, Mezannine and first floors used as bank branch.

TCB Role :
1. Detailed Design for various disciplines : Architectural, Structural, Sanitary, Electrical, Fire protection,
2. Tender documents & tendering: Drawings, general conditions, technical specifications & bills of quantities.
3. Evaluation of bids & award supervision of the execution

Project : **Faisal Islamic Bank Building, Damietta – Egypt**
Administrative and residential building of 2400 sq.m foot print consists of 6 floors. Ground and Mezannine floors used as bank branch and commercial centre.

TCB Role :
1. Detailed Design for various disciplines : Architectural, Structural, Sanitary, Electrical, Fire protection,
2. Tender documents & tendering : Drawings, general conditions, technical specifications & bills of quantities. Evaluation of bids & award
3. Site supervision.

Project : **Faisal Islamic Bank Building, El Mansoura – Egypt**
Administrative and residential tower building of 900 sq.m foot print consists of two basements and 11 floors. Ground, Mezannine and first floors used as bank branch.

TCB Role :
1. Detailed Design for various disciplines : Architectural, Structural, Sanitary, Electrical, Fire protection,
2. Tender documents & tendering: Drawings, general conditions, technical specifications & bills of quantities.
3. Evaluation of bids & award supervision of the execution

Project : **Mega Market and Shopping Resort in Dreamland, Sixth of October City.**
TCB Role : Structural design, tender document, evaluation of bids, and quality management of the execution, and some minor architectural

Project : **D1 – Tower - Arabtec / Emirates Sunland "JV"**
Tower consists of (3 basements + 80 floors)
Podium consists of (3 basements + ground floors)
The project has a total area of 2218 m2
The budget of the project is 775 million UAE Dhs, around 215 million USA $

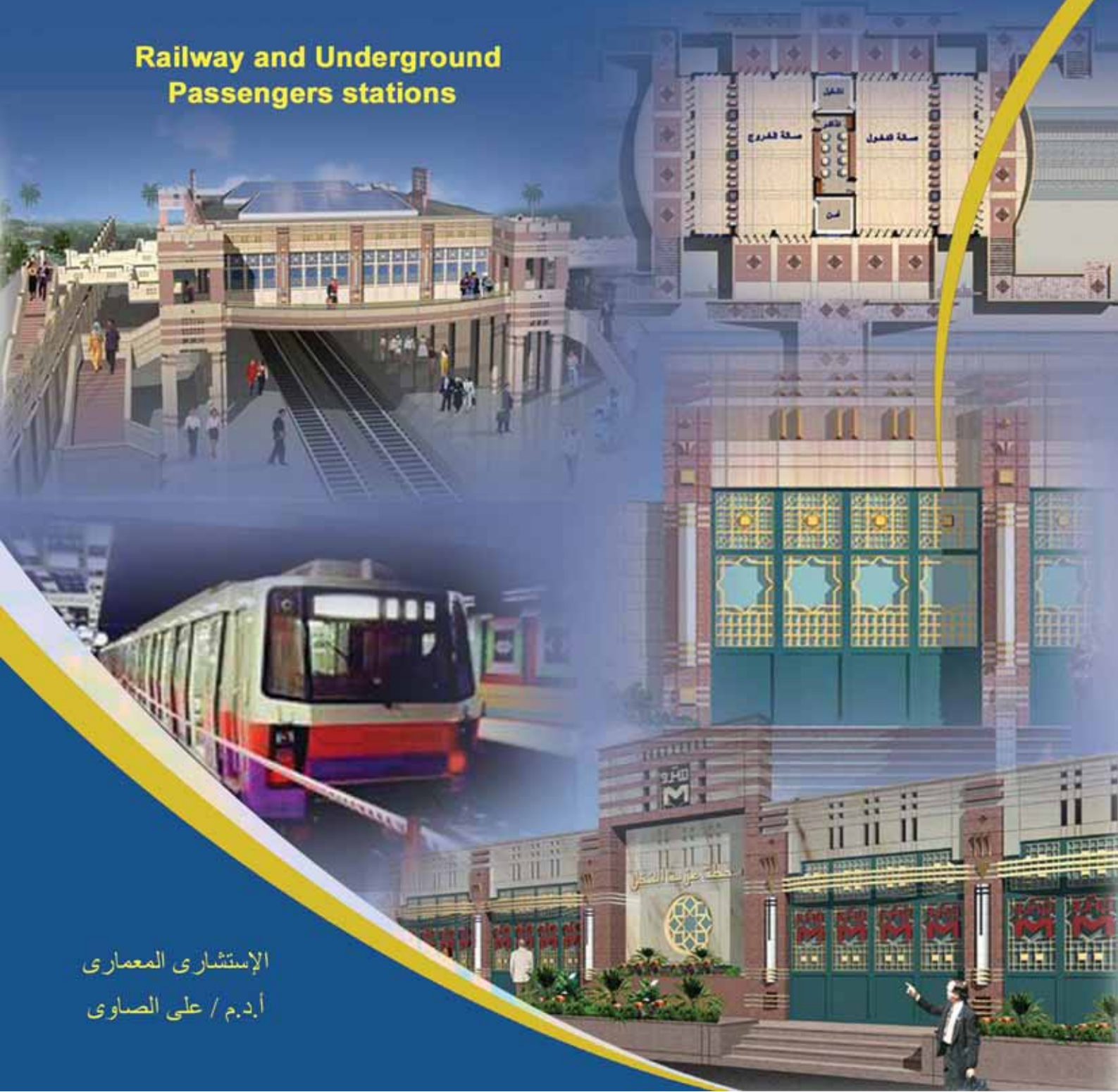
TCB Role : Workshop drawings of the steel reinforcement and bar bending lists for the tower and its basements

مكتب الاستشارات الفنية (السهلى - الصاوى) ش.م.م

TECHNICAL CONSULTATIONS BUREAU

(EL SAHLY - EL SAWY)

Railway and Underground Passengers stations



الإستشارى المعمارى

أ.د.م / على الصاوى

Underground Metro Stations and Railway

Underground Metro Stations

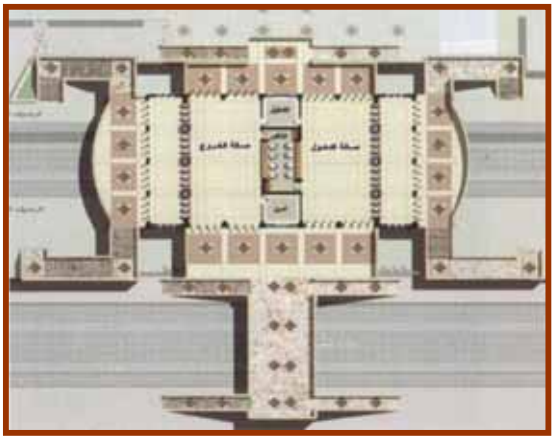
Project : **Reconstruction Of Ezbet El Nakhl Metro Station**
Two on grade passengers' station buildings and extension of the existing foot bridge connecting the two platforms.

TCB Role : Architectural, Structural and electromechanical design, technical specifications and bills of quantities

Project : **Reconstruction Of Kobri El Koba Metro Station**
Reconstruction of one on grade passengers' station building and development of the other and construction of new foot bridge connecting the two platforms.

TCB Role : Geotechnical Studies, Architectural, Structural and lectromechanical design, technical specifications and bills of quantities.

Project : **Reconstruction of El Demerdash Metro Passengers' Station**
Elevated passengers' station building
TCB Role : Site survey, Geotechnical Studies Architectural, Structural and electromechanical design, technical specifications and bills of quantities



Project : **Reconstruction of Mansheyet El Sadr Metro Passengers' Station**
Elevated passengers' station building
TCB Role : Site survey, geotechnical studies, Architectural, structural and electromechanical design, technical specifications and bills of quantities

Railway Stations

Project : **Development of Suhag Railway Passengers' Station (in Upper Egypt)**
Development of the facades, fences and sheds and re-assignment of the areas.

TCB Role : Architectural, Structural and electromechanical design, technical specifications and bills of quantities.

Project : **Development of Al- Aussairat Railway Passengers' Station**
Construction of new station building, Mosque , Station Manger's resident, Foot bridge , fences and sheds and re-assignment of the areas

TCB Role : Architectural, Structural and electromechanical design, technical specifications and bills of quantities

Project : **Reconstruction Turah El Baled**
Elevated passengers' station building

TCB Role : Site survey, Studies and Conceptual design and detailed design shall be completed after obtaining the approval of the concerned local Authorities