ASHRAF KARAKISH

SUMMARY OF RELEVANT QUALIFICATIONS

An experienced Civil Engineer with over 34 years of experience in projects management, planning, design, and construction supervision. Managed major construction projects in Egypt, Libya, and United Arab Emirates.

YEARS OF EXPERIENCE

35

EDUCATION

- Ph.D, Sanitary Engineering, Al-Azhar University, Cairo, Egypt
- M.Sc., Sanitary Engineering, Al-Azhar University, Cairo, Egypt 1992
- B.Sc., Civil Engineering, Ain Shams University, Cairo, Egypt 1986
- Postdoctoral Studies, University of South Carolina, USA 2001

LANGUAGES

- Arabic/ English

CAREER HISTORY

From	To	Employer	Location	Title
Feb 2021	Current	Housing and Building National Research Center	Egypt	Associate Professor
Apr 2013	Feb 2021	Saudi Arabian Parsons	Saudi Arabia	Project Director
Mar 2011	Apr 2013	Chemonics Egypt	Egypt	Program Manager
Dec 2008	Feb 2011	Chemonics Libya	Libya	CM/CS Program Manager
Dec 2006	Oct 2008	Kharafi National Cont.	Abu Dhabi	Construction manager
Sep 1995	Dec 2006	Chemonics Egypt/Libya	Egypt/Libya	Design Engineer / Project Manager
Sep 1993	Sept 1995	ABB Susa	Egypt	Senior Project Engineer

WORK EXPERIENCE

Feb 2021 – Now **Associate Professor**, Sanitary and Environmental Research Institute, Housing and Building National Research Center

Apr 2013 – Feb 2021 **Project Director**, Saudi Arabian Parsons,

Project (1): King Abdul Aziz Road Project Makkah, Kingdom of Saudi Arabia
Client: Um Al Qura for Development & Construction Company
Description: King Abdul Aziz Road (KAAR) project is a unique re-generation scheme aimed at providing hotel, residential accommodation, commercial and retail spaces, car parking, public spaces and public amenities to support religious, social and commercial activities to Hajj and Umrah pilgrims and other visitors and local residents of Makkah Al Mukarramah.
Service: Third Party Design Review Services for Infrastructure D&B Contract. The design reviews are for the project roads, vehicular structures (bridges and underpasses), a 60m wide pedestrian boulevard, a metro tunnel with 2 stations, BRT facilities and 4 No. underground multi-story car parks, all type of utilities, district cooling network and utility tunnels.
Reference: Khalil Amrikani, VP-Senior Program Manager, khalil.amrikani@parsons.com, *+971 50 753 1615*

Project (2): Consultancy Services and Technical/Administrative Support for King Abdullah Ibn Abdulaziz Project for Makkah Development
Client: Development Commission of Makkah Almukarama and Almashaer Almuqaddasa
Description: Providing program management and technical/administrative support to a major project in Makkah named "King Abdullah Ibn Abd Elaziz Project for the Development of Makkah". The project includes highways, ring roads, bridges, urban nodes, light rails and utilities diversions. The total estimated budget of the projects exceeded SAR 60 Billion, whereas our program team consisted of 81 onsite employees in addition to 160 part time designers in Abu Dhabi office. I've supervised and involved in the planning, co-ordination and management of the program different phases.

Reference: Dr. Rasin Mufti, VP-District Manager, rasin.mufti@parsons.com, +971502207358

Mar 2011 – Apr 2013 **Program Manager**, Chemonics Egypt, Cairo Office.

- Project management and control of wastewater expansion program for Kafr El Sheikh Governorate as sub-consultant to Atkins. Program was funded by the European Bank.
- Participating in the company business development activities.
- Managing the development of the company quality management system.

Reference: Dr. Ahmad Gaber, Chairman, agaber@link.net, +201002580080, +201222143337
Dr. Amgad Elansary, Head of Engineering, amgad@link.net, +201003318441, +201223194198

Dec 2008 – Feb 2011 **CM/CS Program Manager**, Chemonics Egypt, Libya Branch

Client: Libyan Housing and Infrastructure Board (HIB)

Client Representative: AECOM

Project: Providing construction management and construction supervision (CM/CS) services for four infrastructure projects and two housing projects of 12,300 housing units in Libyan Arab Jamahiriya

Responsibilities included:

- Managing and running a program of six construction management/ construction supervision projects with a construction value of 1.5 billion USD.
- Coordinating with major stakeholders.
- Building and managing a work team of 120 persons, which included senior staff for project management, engineering management, design/workshop drawings review, construction management, quality management system, planning and control, health, safety and environment, quality control and construction supervision and inspection.
- Building a quality management system (QMS) and project particular management plan (PMP), which received high appreciation from the Client and his representative during regular quality audits.
- Detecting and solving project issues effectively.
- Supervise project team and managing conflicts within different projects and frequently perform team assessment and evaluate them
- Enhancing the relation with the Client (HIB) and his representative (AECOM)

Dec 2006 – Oct 2008 **Construction Manager**, Kharafi National Contractor, Abu Dhabi, UAE.
Project: Treatment and Disposal of Municipal Solid Waste in Abu Dhabi (BOT).

Responsibilities included:

- Managing and reviewing three landfills design

- Ensuring that the project is developed according to the project contract and to the satisfaction of the Client (Abu Dhabi Municipality, ADM).
- Preparing project execution plan (PEP), communication plan, procurement plan, equipment plan, staffing plan in addition to reviewing other plans such as project quality plan (PQP) and project safety plan (PSP).
- Following up the EIA studies, preparation and coordination with the EAD to obtain the environmental construction permit.
- Preparation of the tender package for subcontracted works.
- Following up all supervision and management works on site

The project included the following components:

- Transfer/Sorting Facility
- Sanitary & Inert Landfills in Dhafra
- Green Waste Composting Facility
- Five transfer Stations in the Western Region of Abu Dhabi
- Sanitary Landfill in Ruwais

1995 –2006: **Chemonics Egypt Consultants**

Worked in different areas of environmental engineering and construction over eleven years with Chemonics Egypt. Started as a designer engineer and upgraded up to a project manager and recently monitoring and managing more than one project.

Position: **Project Manager**

Project: *Construction management and construction supervision for the closure of Al Montazah open dump site in Alexandria*. The activities of the final closure of the dump site consisted of solid waste cut, fill and compaction, installation of random fill layer, installation of geocomposite layers for water and gas drainage, sand/bentonite mixing & installation, spreading and compacting and finally covering the landfill with a layer of sod.

Other parties involved: ONYX Alexandria for solid waste management

Position: **Project manager**

Project: *Design of the Closure of Abis and Al Montazah open dump sites in Alexandria*. The project was to design the closure procedure and final cover of two dumpsites with a total area of 118 hectare. The design was carried out according to the EPA regulations. The design work included slopes and cover stabilities, storm water control, infiltration barrier layer design and gas drainage system. Responsibilities included coordination with Client and field investigation consultants.

Position: **Project manager**

Project: Providing the un-served areas in Tripoli City, Libya with wastewater, storm water, roads, electricity and telephone services with a total area of 7000 hectare. Product included the detailed designs, specifications, bill of quantities and tender dossier.

Position**:** Project manager

Project**:** Designing of a storm water main collector (Wadi El Magnin),Tripoli, Libya. The collector is designed to be used for storm water collection in addition to serve as an emergency bypass for the nearby wastewater pumping stations. The collector at the sea shore is three pipes with 2500 mm diameter and ended with a sea outfall;

Position: **Project manager**

Project: *Evaluation of wastewater collection system and master plan updating for the city of Tripoli, Libya.* Evaluation of existing 600 km of sewers,12000 manholes, 32 marine outfalls, 20 pump stations and three wastewater treatment plant. Field verification was carried out for all the system components. A hydraulic model for the collection system was developed by using of Mouse software (from DHI) to verify the capacity of the network. The city existing master plan was upgraded to the year 2025.

Position: Drinking water expert

Project: *Drinking water supply master plan of Damanhour Conty, Behira governorate.* A two-year study was carried out to evaluate the existing water supply system of the county and preparing the general drinking water master plan. The project included the physical evaluation of drinking water treatment plant, pump stations and networks. The system was evaluated hydraulically by using of Water GEM from Haestad. The hydraulic model was calibrated by measuring flow and pressure in selected location in the network.

Position: **Design team leader and coordinator**

Project: *Middle Egypt – design/build construction project*. Prepare the detailed design for a group of projects for the ABB SUSA Contracting Company. All designs were revised and sealed by the American consulting firm "Earth Tech consultants". The project included the following:

- Beni Ibaid village wastewater gravity collection system with total length of about 20 km and 4.0 km force main with 300mm diameter.
- Sultan village force main with 3.5 km length and 300mm diameter.
- Four force mains in Minia city with diameters 800mm, 450mm and 300mm and a total length of 10km.

Other parties involved: ABB SUSA (Contractor), EARTH TECH (Project Engineer)

Position: **Convention and onsite-sanitation expert**

Project: *Environmental Protection of Naga Hammadi Villages Sanitary Drainage/Building Protection Project*. A service delivery project effort implemented in two main components: sanitary drainage (SD) and building protection (BP). It will address the specific problem of reducing adverse effects of rising ground water table as a result of the construction of Naga Hammadi Barrage. The project is implemented in three phases. Develop a database for the affected buildings in nine villages including building condition, water and wastewater services in the buildings and recommend remedial measures. The following phase includes the implementation of the proposed remedial actions in two pilot villages. The last phase comprises the implementation of the remedial actions in the remaining seven villages taking into consideration issues encountered in the pilot villages. Wastewater services are restricted by the owner and the funding agent for the unconventional methods, it was a challenging work to suggest on site sanitation for high population and unplanned villages.

Other parties involved: Kreditanstalt für Wiederaufbau (KfW) (German Construction Bank) (Funding bank)

Position: **Water network analysis engineer**

Project: *Water network study for the Aswan & Mansoura cities*. This project was a part of the Secondary Cities project implemented by Chemonics International. Chemonics Egypt carried out this project as requested by Chemonics International. The objective of the project was to study the existing water supply network and identify the defected parts of the network or areas with low standard service.

Position: Project coordinator

Project: *Development of six villages with emphasis on water and wastewater services* The objective of the project was to assist the International Muslims Youth Society (IMYS), which is one of the biggest NGO in Egypt to prepare technical and financial proposals to get the fund from the Egyptian Swiss Development Fund. The work strategy was co-ordinate between the IMYS as the main NGO and local NGOs in the six villages. The project included the collection of villages data, suggesting of developing project then the preparation of the final report and proposals.

Other parties involved: Egyptian Swiss Development Fund, International Muslims Youth Society

Position: **Technical and scientific analyst**

Project: *Evaluation of sub-surface removal of iron and manganese from groundwater – New innovative method.* The objective of the project was to evaluate and assess an experimental project for Iron and Manganese removal from groundwater. A sub-surface method for the removal was used, which was the first application in Egypt. The Behira Water Company took the lead to test this removal method in Egypt. The technology was suggested by the Amesterdam Water Supply Research and Development and supervised by the Netherlands Management Co-operation Programme. The Experiment was evaluated technically and economically.

Other parties involved: Amesterdam Water Supply Research and Development, Netherlands Management Co-operation Programme (Project supervisor)

Position: **Senior design engineer**

Project*: Old Cairo area project - contract 102 - detailed design and construction management service.* The Old Cairo Area Project aims at protecting the oldest monuments of the city; museum with a priceless collection; and the Islamic, Coptic and Jewish religious denominations (Amr Ebn-El-Aas Mosque, Mar Girgis Church, Hanging Church, Quesert Church, Abu-Serga Church and Ben Ezra Synagogue) from being flooded with groundwater. The goal of the project is to replace old sewers and house connections in Old Cairo (site of the Amr Ebn-El-Aas Mosque, the oldest mosque in the Middle East) to minimise sewage surcharging groundwater.

Other parties involved: C.C. Johnson & Malhotra, P.C. (CCJM) (contractor)

Position: **Senior design engineer**

Project: *Esna wastewater Project - Engineering Services*. The objective of the study is to ensure that the Esna Sanitary Drainage Project will proceed based on a comprehensive feasibility analysis and will be implemented using technically sound design taking into consideration the groundwater problem and applying economic and environmentally safe options. Esna wastewater system was designed by one of NOPWASD's Consultants. The system comprised of gravity sewers, six pumping stations, two force mains and waste stabilisation ponds for

treatment. DANIDA included the project within its support program to Egypt with possible finance from its mixed credit program.

Other parties involved: DANIDA (Danish aid office in Egypt), COWI Consulting Engineers and Planners AS, Denmark (DANIDA consultants)

Position: **Water and wastewater senior engineer**

Project: *Legal and Institutional Regulatory Reform (LIRR) Phase II*. The Ministry of Housing, Utilities, and Urban Communities required assistance in operationalizing the new regulatory agency and Private Sector Participation Unit, as well as clarifying how these two new organizations will interact with other central ministries and local utilities. Specifically, the assistance will support the ministry in staffing, organizing, and administering these new offices, and in implementing a work plan for each that engages local utilities to sponsor the first generation of tariff rate applications and private concession transactions.

Position: **Senior design engineer**

Project: *Feasibility Study for the Upgrading of the Kima Drain and Road in Aswan*. Through a participatory process to mobilize and involve decision-makers and stakeholders, the project aims to:

Assess the overall physical state of the drain, its bridges and roads, Formulate alternative project proposals which aim at contributing to a healthier environment in the drain and its immediate surroundings and Anchor selected projects with relevant stakeholders, and assess their commitment to undertake project implementation

Other parties involved: DANIDA (Danish aid office in Egypt)

Position: **Industrial waste engineer**

Project: Facility for Financing Environmental Protection in the Public Sector Industry. The first phase of the KfW-funded project to implement the Egyptian-German Environmental Facility involved the pre-screening of public sector factories in the chemical, engineering, food and pharmaceutical industries. As the prime contractor for this phase, Chemonics Egypt visited over 150 factories and provided preliminary proposals for wastewater treatment and pollution prevention projects. During the second phase, Chemonics Egypt is assisting Dorsch Consult and other firms in helping eligible factories/companies obtain the financing needed to implement the proposed projects. For projects that are deemed eligible (from a financial, economic and technical standpoint), financing will be available through a combination of grants (up to 50 percent of project cost) and loans from participating Egyptian banks.

Other parties involved: Kreditanstalt für Wiederaufbau (KfW) (German Construction Bank) (Funding bank). Egyptian Environmental Affairs Agency (EEAA) (Governmental authority). Dorsch Consult (German project consultant)

Position: **Design team leader**

Project: *Gravity Sewer Rehabilitation in the City of Suez - Detailed Design Engineering Services.* A $17 million sewer rehabilitation project resulted from the findings of the City of Suez Sewer

System Evaluation (Infiltration/Salinity Survey carried out by Chemonics Egypt for ABB SUSA Inc. / Dillingham JV). The report identified areas within the system that need to be rehabilitated. The rehabilitation works project included the replacement and repair of manholes and sewer pipelines identified in the ISS report.

Other parties involved: ABB SUSA Inc. / Dillingham JV. Black & Veatch /Montgomery Watson

Position: **Senior design engineer**

Project: *Sewer Construction in Imbaba and Bab Zewayla, Cairo Detailed Design and Construction Management Services*. Under the Cairo Wastewater II Project funded by the USAID and the Government of Egypt, main collector sewers, branches and house connections were provided for the un-sewered areas of Imbaba (population 65,000). For the Bab Zewayla project, supervision also included the installation of sewers by micro tunneling and a groundwater control system by installing perforated uPVC pipes.

Other parties involved: C.C. Johnson & Malhotra, P.C. (CCJM) (contractor)

Position: Technical and scientific analyst

Project: *Evaluation of Small Bore Gravity Sewer System in Egypt*. This study entailed an in-depth evaluation of the Egyptian experience with small-bore gravity drain systems for the U.S. Department of Agriculture. In particular, the study focused on the small bore gravity drain pilot project in Nawag Village to determine the relevance of the Egyptian experience with this technology to other developing countries.

Other parties involved: U.S. Department of Agriculture - Foreign Agriculture Service (Funding agency)

Position: **Senior design engineer and GIS specialist**

Project: *Port Said Infiltration/Salinity Survey*. This project was a coordinated effort that determined the amount, location and sources of excessive infiltration into the Port Said sewer system. The project also quantified the salinity of discharge to the wastewater treatment plant, measured the carrying capacity of the sewer system, and identified cost-effective rehabilitation projects.

To obtain this information, Chemonics Egypt mapped and digitized the existing sewer system and hydrogeology, monitored flows at pump stations and 280 manholes, measured salinity at selected sites, assessed sewer cleaning needs and inspected sewers with TV cameras, cleaned sewers, determined sources and amount of excessive infiltration into system, evaluated the sewer system, and proposed cost-effective sewer rehabilitation works.

Other parties involved: Morrison Knudsen Corporation (Project American contractor)

1993 - 1995: ABB Susa/Dillingham Joint Venture
Position: **Senior Project engineer and GIS specialist**

Project: *Suez City Special Services*. This was a three-phase project that surveyed industrial users of the Suez wastewater treatment plant, established an industrial waste monitoring program and determined the infiltration/salinity of the Suez sewerage area. The industrial user survey: identified all potential categorical and significant industrial/commercial users within the wastewater treatment plant catchment by determining their likelihood of discharging any of the 126 priority pollutants as defined by the US Environmental Protection Agency (EPA). The

industrial waste monitoring program: (1) measured industrial wastewater flows to confirm discharges of US EPA priority pollutants, characterized the concentration & volume of each establishment's discharge, and estimated the total volume and concentration of pollutants discharged to the sewer system; (2) developed a plan for ongoing monitoring of discharges from confirmed polluters; and (3) established an information management system for industrial waste monitoring data.:The infiltration/salinity survey: (1) determined the volume, areas and sources of excessive infiltration to the Suez sewer system; (2) quantified the salinity of discharge to the wastewater treatment plant; (3) determined the carrying capacity of the sewer system; and (4) identified cost-effective sewer rehabilitation projects.:

Other parties involved: ABB Susa/Dillingham Joint Venture. USAID (Funding agency)

1993 (three months): Wilbur Smith Associates
Position: **Short-term wastewater treatment plant designer**

Project: *Rehabilitation of six treatment plant*. Six treatment plants were operated of about one year. A group of problems was appeared through the operation. The objective of the project was to in identify the operation problems and suggest the suitable solutions for it. Technologies used in the treatment were, oxidation pond, oxidation ditches and Aqualife units.

1987 –1993 Environmental and Sanitary Engineering Consulting Office (Professor Medhat Saleh)
Position: **Water/wastewater design engineer**

Worked as junior/senior engineer with major design responsibilities to include on site verification of data and detailed calculations for a variety of water and wastewater projects (networks, pumping stations, treatment plants, etc) projects included the following:

- Preparing of workshop drawings for piping systems for 10 wastewater treatment plants
- Pulman hotel in Maadi. Worked as the owner consultant, works include the revision of the plumbing, fire fighting and swimming pools designs and super vision of the construction.
- Preparation of construction documents and final design of water supply and sanitary drainage and surface drainage for major parts of various cities in Egypt. These cities include El-Obour, 6th of October, Ain El-Seera Touristic village, Hurgada, El-Coke and fertilizer factories, Delta Steel Mill Factory and Miratex factory and its housing settlement.
- Water network analysis, computer simulation and contract tender document preparation for Marsa Matrouh City Water Network, Storage Tanks and Pumping stations.
- Preparation and design of tender documents for sewage system in Drunka, Tala, Karnak and Menshat El-Amary villages.
- Upgrading the wastewater treatment plant in Assiut City (Trickling Filters).

Annex 01: Publications:

1. Ashraf. A. K. Karakish, “Egyptian Experience in the Utilisation of Stabilisation Ponds as Low-Cost Wastewater Treatment (WWT) Options”, The International Symposium on Low Cost Wastewater Treatment and Reuse, Cairo, Egypt, February 2001.
2. Ahmed. Abd El-Maguid, Ashraf A. K. Karakish, “Selection of Sanitary Drainage Systems for Egyptian Villages”, the 29th International Symposium on Water Supply and Drainage for Buildings, Ankara, Türkiye, September 2003.
3. M. M. El-Shafei, A. A. K. Karakish, S. T. El Sheltawy, “Properties of Leachate Produced from a Landfill in Cairo”, 18th International Conference on Solid Waste Technology and Management, Philadelphia, PA, USA, March 2003.
4. N. M. El Mansi, Ashraf A. K. Karakish, M. M. El Shafei, M.M.K.Fouad “Uptake of Manganese from Underground water by Rice Husk” Journal for Environmental Science, Cairo University, Volume 4, June 2004.
5. Ashraf A. K. Karakish, Ahmed Abd El Maguid, “Utilizing Agriculture Waste to Enhance the Performance of Nutrient Removal in the Continuous-Flow SBR System”, 20th International Conference on Solid Waste Technology and Management, Philadelphia, PA, USA, March (2005) (Accepted November 2004).
6. Ashraf A. K. Karakish, “Subsurface Removal of Iron and Manganese from Groundwater – Case Study”, Ninth International Water Technology Conference, Sharm El-Sheikh, Egypt, March (2005) (Accepted November 2004).
7. Ashraf A. K. Karakish, M. M. EL Shafei, “Continuous Removal of Iron and Manganese from Water by Using of By-Pass Kiln Dust” International Conference on Future Vision and Challenges for Urban Development, Cairo, Egypt, December 2004.
8. Ashraf A. K. Karakish, M. M. EL Shafei, M. I. El-Sadawi, Ahmed Abd El Maguid “Ammonia, Nitrate and Phosphorus Removal from Wastewater by Rice Husk” Global Symposium on Recycling, Waste Treatment and Clean Technology, Madrid Spain, September (2004)
9. Ashraf A. Karakish, Amine Baraka, Magda Shater and Marwa Mahmoud "Sorption of Iron and Manganese from Groundwater Using Manganese-Oxide-Coated Sand" 5th International Engineering Conference, Mansoura University, Sharm Elsheikh, Egypt, 2007
10. H. Hafez, Ashraf A. Karakish, Radwan El-Shahawy, " Geotechnical Study of Sand-Fade Mixture for Landfill Cover and Liner", Second Ain Shams University International Conference on Environmental Engineering, April 2007.
11. M. El Shafei, Ashraf A. K. Karakish and A. Abd El Maguid, "The Use of Rice Straw for Manganese Adsorption from Ground Water", HBRC Journal Housing and Building National Research Center – Volume 4, No. 3, December 2008.
12. M. El Shafei, Ashraf A. K. Karakish and A. Abd El Maguid, "Half Industrial Model Study for Heavy Metal Removal Using Untreated and Activated Rice Straw", HBRC Journal Housing and Building National Research Center – Volume 5, No. 1, April 2009.
13. Ashraf A. K. Kkarakish, Lameas Ahmed “Biofilm, Growth Rate and Effect of Residual Chlorine Inside Drinking Water Networks”, 7th International Engineering Conference, Mansoura University, Sharm El Sheikh, March 2010.