

## Summary

**41+ years** of total experience in civil engineering area. Currently working as a *CEO & Principal Consultant* of my own firm for 18+ years. And have 17 years of experience with The Municipal Corporation of Rajkot and 6 years with State Government Irrigation Department and with Government Polytechnic Rajkot.

## Education

**Master's in Civil Engineering (Major- Environmental Engineering)**, Sardar Patel University, Vallabh Vidyanagar, India, December 1990

**Bachelor in Civil Engineering**, Saurashtra University, Morbi, India, June 1975

## Professional Experience

**CEO & Principal Consultant**, *Envirocare Engineers, Rajkot, INDIA*

*Jan 1998-Present  
(18 years 8 months)*

### Key Responsibility:

I am ultimate responsible for the work of entire firm providing professional and technical services to the clients across India.

### Key Services:

- Engineering expertise includes water supply & sewerage design for the Cities & Townships including Water Filtration Plants & Sewage Treatment Plants of latest technologies. Recycling of gray & waste water after the proper treatment.
- Experience of Project Planning, Feasibility study, Detail Engineering / Designing and Project Management during construction Phase including management of underground Utilities for industries as well as public utilities of cities.
- Experience in tendering process, commercial terms and conditions of contracts (National & International Bids with FIDIC contract conditions), Bid evaluations, Agreements, Educator, claims & procedures for arbitrations & legal issues.
- Consultancy services rendered to The Municipal corporations, Urban Development Authorities, State Water supply & Sewerage board, leading corporate townships of Reliance industries limited, Adani group of industries, leading Architects, Leading Real Estate Developers, Hotels, Resorts, Club houses, Swimming pools & Public buildings projects of this country.
- Recently, I have changed mode of services which is focused on Special & Expertise Services as contract support to the clients.

### Major Professional Projects Done:

(A) I have been appointed as a Consultant & Adviser time to time by the Rajkot Municipal Corporation for the following Six projects in last 18 years of span. These Projects were Designed, advice for construction management & commissioning which were done in scheduled time. Details are shown below (*From 1998 to 2016*):

1. **Lapasari Reservoir** as water resources project of **42 MCFT** capacity Dam with transmission / transfer of storage pipeline to adjoining city water supply reservoir Aji-I was Designed, Construction advice & commissioning. This was done in the year 1998-2002. This project is supplementing an average of 80MCFT water in every monsoon season to Aji-I reservoir which supplement water supply to municipal corporation for about 10000 house connections every year for the population of 50,000. This project was funded by the International Rotary & Midtown Rotary club of Rajkot. Project cost was **INR 3.50 million**. This project is working for **13 years** with **zero maintenance** cost and saved large quantity of pure drinking water which were earlier going in to waste water on downstream side of the city of the Rajkot.
2. Detail engineering, construction management, procurement of pumping machinery, installation & commissioning etc. was done for the water supply project of **35 MLD** network right from raw water source pumping to WTP, storages, city pump stations & distribution for the Extended City limits of Rajkot in the year 1998 with project cost of **INR 13.0 million** for the benefit of **quarter million** population.
3. Two Rajkot Sewerage Projects were done as Phase-III Part-I in the year 2000 at Project cost of **INR 51.0 million** & Phase-III Part II in the year 2009 at Project cost of **INR 154.60 million** All Detail Engineering, Tendering, special advice during construction & commissioning etc. were done sponsoring project to central govt. grant in aid of Jnnurm. These both projects have covered Rajkot city sewerage network of **40% of city area** (i.e. 45.00Sq.km out of 104.29Sq.km). It has been designed and commissioned and provided benefits to **0.35 million house connection** about **1.0 million population** with sewerage facility including sewage treatment plants of **51 MLD & 56 MLD** respectively having latest technologies used like **Sequential batch reactor** including BNR. It has almost preserved nearby Rivers & ponds sources against water pollution and contribute largely to up gradation of Environment.

4. Two water supply facility projects namely Laxminagar of **250 HA area** having project cost of **INR 32.0 million** & Popatpara of **450 HA area** having Project cost of **INR 33.0 million** each having capacity of **12.50 MLD** were designed with their components as RCC Elevated service reservoirs each of 2.0ML capacity with staging height of 20.0m with pumping stations, UG water reservoir & all DI pipeline of drinking water supply network of km +32 km in lengths for proposed 24x7 WS with metering system considering its implementation in near future for beneficiary of **14000 house connection/residences** for each project. Both the projects have been commissioned successfully.

(B) Water Filtration Plants During span of consultancy of ten years (From 1998 to 2010):

As far concern with the WTPS were done, Detailed Engineering were done using technologies as conventional sedimentation followed by Rapid gravity sand filtration & recycling of back wash water. The largest WTP of **50 MLD with 13 MI** of Treated Water Reservoir was done for Vadodara Municipal Corporation in 1999 with its project cost of **INR 6.45 million**. Over and above this, I have designed & commissioned **15 to 20 WTPS having 1.0mld to 50 MLD capacity** at about total project cost of **INR 15.00 million** for Gujarat Water Supply & Sewerage Board as well as private entrepreneurs & industries. For industrial group, small capacity plants of industrial use purpose like PSFS, Multi grade PSF followed by Activated carbon, DM plants & RO plants were done.

I also worked for one of the municipality of Jamjodhpur town for **5.50 MLD WTP**, PS & Storage for city water supply with unique Economical in small land area with a concept of Non-conventional WTP using Tube settler's basin followed by Rapid sand filter technology in the year 2002. Project cost was 0.5 million INR. This plant is working with very less operative cost with 100% water quality results. The same capacity similar plant was done for the back-wash water Re-use for Rajkot Municipal corporation which is working with excellent results.

(C) Sewage Treatment Plants During span of consultancy of 18 years (From 1998 to 2016):

About **25 STPS** which were done with Detailed Engineering in which, technologies were provided like Aerobic Conventional ASU, Anaerobic UASB, Extended aeration, Facultative Lagoons as well as Recent technologies like **FAB, MBBR, MBR & SBR Technologies including biological nitrogen removal, ultra-filtration & RO tertiary for small to large size WWTPS**.

I have been involved from process design to commissioning & construction management which were done for government as well as private entrepreneurs & industries like RIL having **1.0 MLD to 80 MLD capacity** with about total project costs of **INR 25.00 million**. One of the Large capacity **43 MLD UASB STP** was done for Vadodara Municipal Corporation having project cost of **INR 12.00 million** & as a Technical Adviser, **44.5 MLD Conventional ASU** was done up to commissioning for Rajkot Municipal Corporation having cost of **INR 26.0 million**. Recently, I did the special job of Detail engineering, Estimation, Tendering, Pre-bid & bid evaluation for **80 MLD STP of SBR technology including biological nitrogen removal as per the new guidelines of central pollution control board Government of India**. This project is Specially designed for Power Saving Technology with the use **Turbo Blowers and Automation of plant Operation & maintenance**. Its approved tender cost is **INR 51.0 million** and it is under construction.

(D) Work done as Scrutiny Consultant for 2 years (From 2011 to 2013):

As a Scrutiny consultant, I worked for sewerage Detail Engineering Project Reports of Gujarat state Urban Development Mission for 10 towns & cities bigger like Junagadh & Morbi having 0.5 million population. After the scrutiny of all 10 projects total project costs were **INR 1100million** for the beneficiary **population of 1.7million**.

(E) Worked for Ajnar Area Development Authority & Bhuj Area Development Authority for two years after the Earthquake of Year 2000 in the region of Kuchh /Gujarat state. (From December 2002 - December 2005.)

I was retained as a Consultant/Technical Adviser to provide WS, Sewerage facility to EQ. effected people newly constructed houses at Adipur, Anjar & New Bhuj towns.

(F) Post commissioning & Impact Assessment Studies were done for the Projects of 300MLD Raska Water Supply Scheme of Ahmedabad Municipal Corporation having project cost of INR 600Million & 100MLD Sewage treatment plant with its pumping station at Karanj for the eastern part of Surat Municipal Corporation having project cost of INR 80million. This study has been assigned to me by HUDCO Regional office Ahmedabad in the year 2004. This task was done satisfactorily in six months of time by me and my team as per the guidelines and norms of HUDCO - Delhi head office & JBIC-OCEF Japan. Project was financed by **International Agency JBIC-OCEF Japan**.

(G) Worked for Reliance Industries limited for total of 4 years as a retainer consultant / Technical Support Engineer (From September 2006 to September 2008 & From December 2013 to December 2015.) Details are as under.

- 1) Specially worked as fulltime **retainer consultant/Lead for 2 years (2006-08)** for **Reliance Industries Limited**, task of works to check up and approval of detailed design & working drawings of all infrastructures for township phase-I Extension & Phase-II new

township like water supply, sewerage, Storm water drainage, Building plumbing system, Re-cycling of treated waste water (Zero discharge principal) for township horticulture, with WTPS, STPS ( **1 to 18 MLD capacities**) for township phase-I & Phase -II for 10,000 residences as well as labour colonies namely LC-5,6 & 7 each populated approx. 10,000 souls. Project cost was **INR 30.0 million** approximately.

- 2) Worked **Technical Support Engineer** on contract for Two years' period (Dec-13 to Dec-15 fulltime 03 days /week) to UG Sub-Department of civil Engineering Jamnagar Engineering Complex of site support offices at Reliance Industries Limited Jamnagar India. This project is named as **J- refinery Expansion Project & township Expansion Phase-III**. Major responsibility was to provide All Detailed Design & drawings preparations for departmental works and Review of Drawings & designs of Vendors as **lead Engineer** for all infrastructures (water supply, sewerage, SWD, Roads, WTPS, STPS, UG for all utility, SWM for the project of biggest Labour colony complex for 60,000 souls in about 700Ha. Simultaneously, Review of Design & Drawings of consultants hired for Township Expansion Phase-III. Self-designing of distribution network, intermediate storages, pumping units etc. for recycled water to whole of horticulture within the RIL boundaries. Designed projects cost would be INR 50.0 million approximately.

(H) Worked as a Consultant and prepared detail Engineering Project Report for ADANI Group of Industries for their MUNDRA Port Township Kuchh -Saurashtra (Year 2011) the extension of two additional sector of Township to provide facility of Water supply, sewerage & Storm water drainage having project worth of **INR 5.0million**.

(I) MEP (Plumbing) Design with use of codes & Standards, Green building design strategies, construction & commissioning services were provided to various five housing projects ( each site of 350 to 750 flats of middle income group having 450sq.ft to 700sq.ft built up area ) of Ahmedabad based builder M/s Foliage real estate developers Pvt. Ltd. as well as for A clubhouse/community center building of Samudra Township of Adani group at Mundra Kachh (year 2010- 2012). Re-cycling of Gray water system and implementation of dual plumbing system and DEWATS were introduced to these projects at total project costs approximately **INR 25.00million**.

**Work Experience with the Municipal Corporation of Rajkot & Other Govt. Organizations:**

**From June1975 to Dec 1997  
(Total 23 Years)**

**Special City Engineer Sewerage Rajkot Municipal Corporation**

**Oct-1994 to Dec1997**

**Consultant to Municipalities for Morvi & Gondal Towns**

**Sept 1992 to Sept 1994**

**Dy. Executive Engineer Civil Rajkot Municipal corporation**

**Jan 1981 to Aug1992**

**Assistant Engineer (Civil) State Irrigation Dept.**

**Jan1978 to Jan 1981**

**Assistant Lecturer Government Polytechnic Rajkot, Rajkot, India**

**July 1975 to Jan 1978**

Before organizing this consultancy, firm and start of my career after my civil engineering degree in June 1975, I have worked as Assistant lecturer for three years with Govt. Poly technic and three years as Assistant Engineer with state govt. water resources department. Where main duties were Teaching to the Diploma in civil Engineering students and with state water resources department, I did work for preparation of Detail engineering project reports & Tendering for Medium Irrigation Dams & Canals comprises with Hydrology, Flood design, design of spillways & NOF Masonry dam and Earthed dam design. I particularly did the design work for three schemes namely Demi-II, Aji-III & Und -I irrigation dams. Having storages of **1000 to 2500 MCFT. Having cost of INR 80.0 Million**

Thereafter, I worked as Dy. Executive Engineer civil for more than **12 years** & Special City Engineer Sr. Class-I cadre for **three and half years as HOD of Sewerage Department with occasionally In charge head of all Engineering Departments of the corporation**. During my stay with municipal corporation, I succeeded in commissioning of sewerage system which was a challenging task for me as this scheme was laid idle since long back about a period of one decade. I successfully commissioned and established its operation and maintenance for 300km sewerage network, 07 pumping stations having total capacity of **90 MLD with stage-I 44.5 MLD STP**, sewer cleaning machineries and privatized whole sewerage system with different contracts with a team of 30 Jr. & senior Engineers +250 mechanics, operators, electricians, technicians & labors. This Phase-I sewerage project was completed with **cost of INR 3.00 million**.

Emergency Water supply transmission pipeline project of 50 MLD was done as a Lead of team of Engineers which has 42Km in length of 900mm dia. MS + 14.0 km Pre-stressed pipeline with one intermediate pumping station in recorded time of 180 days from largest Reservoir namely BHADAR of this Saurashtra region during severe water scarcity in the Saurashtra Region in the year 1987-88 at project

cost of INR 2.40million.

In between jobs of Dy. Executive Engineer Civil & Special City Engineer I worked **as a consultant** to Two Municipalities namely **Gondal & Morvi** Town. Where I designed Water supply facility with **2.0MLD** Water Filtration Plants for each municipality with Pumping stations storages ESR-GSR & Water supply distribution network for about **0.1million population**.

### **Special Aptitude:**

Excellent collection of Technical Journals & literatures like WEF USA, AWWA, EPA-USA, Environment Agency-UK, DEFRA-UK, European commission, Indian journals like IWWA, IAEM-NEERI, Institution of Engineers India etc. Deep studies and solution finder on water issues like saving of portable water, water supply quantity per capita to be lower down and control over wasteful use of water, water harvesting, preservation of natural water bodies, DEWATS Technology & recycling of treated wastewater in large interest of public.

Day to day Use of various software's for Water Supply, Sewerage, SWD with latest versions of Auto-cad and micro-stations ( Bentley) as well as preparation of Excel Spread Sheets for customized use in designing the hydraulics of sewerage & SWD.

During my above activities I have been actively involved for, Trainings to be provided to junior to senior personnel of state Municipalities, state Board Engineers at Gujarat Jal Seva Institute Gandhinagar under various water & sanitation programme sponsored by CPHEEO, UNISEFF & WHO. Special Guest Lectures /Honorary Faculty member in the subject of as water & wastewater treatments to the students of Masters Degree in Environmental Engineering at L.D. Engineering College & CEPT University Ahmedabad India. As a Trainer for **Infrastructure Skill Development Academy ( A Govt. of India Training Centre Delhi )** to Senior Professionals of central, MES, State Govt. & Water boards.

### **Institution Membership**

1. Life fellow of Indian water works association.
2. Fellow of Institution of Engineers (Calcutta).
3. Life member of Indian Association of Environmental Management (NEERI)Nagpur.
4. Member of International Water Association London.
5. Fellow of Institution of Valuers .& Reg. Govt. I T Department Reg. Approved Valuer.

### **Important Trainings Obtained during Service with Municipal Corporation**

- Training on Sewage Treatment Plants Designs for ten days (Sponsored by CPHEED GOI. & WHO at AIHH & PH Calcutta ) in 1992
- Training on Solid waste Management at WEDC (Water Engineering & Development Center )at **Loughborough University UK & In India** for two months sponsored by Govt. of India & ODA UK. In October -December 1995.

**J. B. KAGATHARA**