

Detailed Resume

Mohammed Sarosh Zaman

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Civil Structural Engineer with 15 years of experience seeks a challenging assignment to utilize acquired skills & knowledge and deliver outstanding results aligned to corporate goals and objectives.

Core competencies include...

- Structural Engineering
- Telecom Tower Design
- Steel Granary Silos/Water Tanks
- Design Review
- Civil Engineering
- Pre-Engineered Industrial Steel Buildings
- Estimation & Costing
- Design Project Report
- Foundation Design
- Structural Engineering Software

Executive Summary

- ✓ Civil Engineer with 15+ years of rich diverse experience in civil & structural design and construction management in India and the Middle East.
- ✓ Extensive experience covering design of telecommunication infrastructure – roof top and ground based towers with foundations – and pre-engineered industrial steel buildings meeting international standards in the Middle East and India.
- ✓ Capable of designing & conducting design reviews of telecom structures, pre-engineered buildings with foundations, foundations & support structures of steel silos & water tanks, RCC buildings including towers, irrigation & water supply pump stations and RCC bridges.
- ✓ Proven track record of independently managing design of RCC & steel structures and producing design project reports including design sketches, fabrication/construction drawings, foundation designs and bills of materials (BOM)/bills of quantity (BOQ).
- ✓ Comprehensive technical expertise on civil & structural engineering, construction methods, submittals & documentation and codes & standards for providing optimum & cost effective solutions.
- ✓ Competent in using a wide range of software – Excel, Mathcad, STAAD.Pro, GUYMAST, PCA-COL, Precision Plus, MBS, ETABS, MXROAD, AutoCAD & PDMS.
- ✓ Deft in collaborating with all internal departments and external stakeholders including clients, consultants, vendors and contractors in achieving all predefined goals and targets
- ✓ Dedicated, achievement driven professional with excellent communication, coordination, problem solving and structural engineering skills.

Professional Experience

Himachal Futuristic Communications Ltd | Gurgaon India | November 2013 – March 2016

HFCL delivers innovative & customised products and solutions to the telecommunications infrastructure sector

<http://www.hfcl.com/>

Assistant Manager

Reported to: Senior Manager

Project

- **Project Vijay** – Project for **roll-out of 4G telecommunication services across India** under the brand Reliance Jio Client: Reliance Industries Ltd

Responsibilities

- Checked foundation drawings for rooftop lattice towers in Delhi NCR region submitted by consultants based on structural drawings of towers provided by Reliance Jio.
- Conducted building analysis to check adequacy for supporting rooftop lattice towers under the worst loading conditions.
- Monitored quality of micropiling works across sites through theoretical micropile capacity determination using regression analysis of bond strength and comparison with SPT using micropile pullout test results
- Conducted & prepared reports of pile load tests & low strain pile integrity tests.
- Prepared pre-validation forms for soil investigation reports after studying them.
- Validated **bills of quantities (BOQ) and bar bending schedules (BBS)** for towers & tower foundations submitted by consultants.
- Analyzed **geometrical design of foundations** for ground based lattice towers to assess their compatibility with site conditions.

Highlights

- Improved **quality control process for design of foundations for roof top towers & building adequacy checks**. Reviewed designs of various vendors, prepared a checklist, organized a meeting with all vendors and clarified all queries & objections. Prepared & submitted a design review report to senior officers & consultants listing shortcomings of various vendors with action plans for rectification.
- Designed **roof top tower foundations & conducted building adequacy checks based on Reliance Jio supplied tower design drawings using own laptop** since STAAD was not available on the office desktop.
- Prepared **pre-validation forms for 79 soil investigation reports in one month**.
- Created a **log containing the final foundation type of all 850-900 ground based monopole sites in Delhi NCR region** after approval by IIT Bombay.
- Documented **safety analysis of micropiles at 94 sites**
- Knowledge of Core Extraction Test, Rebound Hammer Test, RCC Jacketing, Strengthening of Pile Foundation
- Knowledge of Theoretical Micropile Capacity Determination based on Retro Analysis of Bond Strength vs SPT using Micropile Pull out Test results.
- Knowledge of Multipile Foundation Design
- Knowledge of Wireless Infrastructure Industry

Rostfrei Steels Pvt Ltd | New Delhi India | May 2013 – June 2013

Rostfrei Steels is a market leader in grain storage & handling systems and liquid storage tanks <http://www.rostfreisteels.in/>

Manager – Design

Reported to: Finance Manager

Responsibilities

- Designed **silos support structures & foundations for grain storage silos** supplied to Indian & overseas clients as per order specifications.
- Defined **silos geometry & silos elements** like corrugated wall sheets, stiffeners, splices & wind rings, coordinated with draftsmen in preparing silo model, checked silo elements for **strength and recommended modifications** in element thickness, length, numbers or material specification, welding specifications/number of connecting bolts.
- Developed quantity estimates based on final drawing prepared by draftsmen, arrived at the self-weight of the silo and **designed support structure & foundation of the silo** conforming to the soil investigation report of the site.
- Designed & prepared the **design project report (DPR) for a 62 m x 25 m pre-engineered steel building** using STAAD and manually designed the building foundation. The PEB was for housing a fabrication plant & office of the company.

Hicon Engineers & Consultants Pvt Ltd | Patna India | January 2012 – March 2013

Consultant Structural Engineer

Reported to: General Manager

Project

- **Jharkhand State Rural Roads Project under Pradhan Mantri Grameen Sadak Yojana** Owner: Jharkhand State Rural Roads Development Agency (JSRRDA) Client: Jharkhand Infrastructure Development Corporation (JINFRA) Scope of Work: **Detailed design, preparation of tender documents and assistance in the bidding process for RCC bridges** identified by the Government of Jharkhand – JINFRA subcontracted design project report preparation of individual bridges to Hicon and Hicon engaged third parties for preparing RCC design of bridges and geometrical design of rural roads

Responsibilities

- Verified RCC quantities in abstracts of quantities submitted by vendors by reviewing their design of RCC bridge elements – deck slabs, girders, bearings, piers & pier caps, raft & pile foundations, abutments and retaining walls.
- Checked abstract of costs and abstract of quantities given in the DPR after studying the whole DPR consisting of river section & plans, soil profile & hydraulics, all design drawings, RCC designs & detailing
- Checked abstract of costs with rate analysis using standard data books & schedule of rates documents.

Nalanda Tubewell Boring Works Pvt Ltd | Patna India | April 2012 – September 2012

Civil & Structural Design Consultant

Reported to: Director

Project

- **Construction of 31 Tubewell Pumping Stations for Water Supply** Client: Bihar Rajya Jal Parishad

Responsibilities

- Developed **designs of water supply pump houses** – 4.6 m x 4.6 m x 5.5 m height – with foundations, boundary walls and 4 m wide rigid pavements and prepared DPR for the project.
- Prepared quantity estimates, BOQs and bar bending schedules (BBS) as per design
- Visited existing pump houses and gathered required design parameters including pump sizing and electrical loads.
- Developed foundation design for tendering purpose based on prevalent soil type – Black Cotton Soil – of the region in the absence of soil investigation reports.

Al Ryum Contracting & General Transport Co LLC | Abu Dhabi UAE | April 2010 – September 2011

The company executes contracts in the fields of infrastructure works, civil construction, electromechanical, water & sewage networks and irrigation & landscape development projects <http://www.alryum.com/>

Engineer – Civil

Reported to: Project Manager

Projects

- **Al Raha Beach Resort Development** – Infrastructure & Utilities: Construction of **Irrigation Network at Eastern Precinct C-2078**
- **Construction & Development Works – Irrigation Reservoirs & Pumping Stations** at Al Wafiya, Dharat Al Tayeb and Al Wathba Farms C-410

- **Irrigation & Landscape Works at Yas Island Interchange** on Abu Dhabi-Dubai Road C-4100
- **Subsoil Drainage** at Ghuntoot Polo Club

Responsibilities

- Calculated and determined design requirements for **shoring, dewatering system, scaffolding & waterproofing**.
- Prepared **quantity estimates** for construction of irrigation networks, pumping stations and irrigation reservoir.
- Developed **detailed bar bending schedules** for irrigation reservoir, pump station, chambers & junctions and arrangement for scaffolding materials.
- Prepared **measurement sheets & billing information** for generation of monthly payment certificates.
- Prepared **material submittals for civil scope of hard & soft landscaping** as per the consultant's technical specifications.
- Conducted **Total Station survey** and transferred all coordinates obtained to AutoCAD drawings and generated a **topographical map** of the region. The map was used in landscaping and assisted in estimation of cut & fill earth quantities in the project.
- Prepared a **log of the status of all bills of all vendors** of the entire project for submission to the higher management.

Al Bawardi Group | Abu Dhabi UAE | April 2009 – April 2010

Site Manager

Reported to: Contracts Manager

Responsibilities

- Project: Habshan Liquid Mud Plant Client: ADCO Contractor: Al Bawardi
 - Prepared **structural engineering report of foundation & boundary wall** based on plant layout prepared from ADCO scope of work (SOW) documents and answered client's queries related to design
 - Prepared **design report for a 10 m x 30 m pre-engineered steel building including BOQ** based on the design using STAAD.
- Project: Cathodic protection of well casings Client: ADCO Contractor: Al Bawardi
 - Participated in **installation of solar panels** for charging batteries providing potential difference between the well casing and sacrificial anode as ADCO certified job performer
- Project: Al Bawardi Tower, Abu Dhabi – 60 m tall RCC tower Value: AED 63.1 million
 - Studied the geotechnical report of the building site, reviewed **design of raft & pile foundation** of the building from base reactions at loading coordinates and verified parameters used in foundation design and choice of **factor of safety**.
 - Monitored all site activities related to **fixing of reinforcement steel & concrete pouring, MEP works and quality control of materials** for compliance with technical specifications of the contract.
 - Liaised with **contractor's site team** – MEP, Civil, Electrical, Planning & Quality Engineers – and subcontractors ensuring **smooth and flawless execution** of all scheduled jobs.
 - Participated as Owner's Representative in **weekly meetings** with the contractor's project manager, financier's representative, consultant's engineer and subcontractors' representatives and reported on project progress to the Owner's project manager.
 - Verified contractor's **monthly progress reports** which formed the basis for contractor's monthly payment invoices.
 - Worked with the owner's & contractor's planning engineers in determining & monitoring activities on the **critical path**, identification of **time & cost saving opportunities** and **sequencing of activities** to complete the project on time.
 - Evaluated **variations** caused due to omissions & additions to BOQ, foundation type variations, column layout change, variations to interior finishes, lift lobby, fire fighting system and ground floor layout.

Estimated and prepared **detailed cost & time implication reports for a total of 12 variations** referring to applicable FIDIC clauses

- Prepared **quantity estimates** based on review of technical documents like mix design reports, geotechnical reports, architectural, civil & MEP technical specifications & BOQs, tender documents and FIDIC clauses.

Highlights

- Developed **design of a pre-engineered building with all design sketches, shop drawings, BOQ & foundation design** using STAAD for the first time and prepared **DPR without external help** in a span of 2 months
- Designed **the foundation of the liquid mud plant** for tendering requirements based on scope work documents **assuming soil conditions of UAE** in the absence of soil investigation report.
- For the first time in the career **participated from start to finish in the construction of a 60 m tall RCC tower.**

WSP Consultants India Pvt Ltd | Delhi India | April 2008 – September 2008

Engineer – Civil & Structural

Reported to: GM – Structural Engineering

Responsibilities

- Developed design & detailing of **flat/edge supported slabs, ribbed slabs, stair cases and retaining walls** and **RCC beam-column joints** manually.
- Designed **raft & pile foundation** using base reactions at the loading coordinates on the raft.
- Modelled & designed **RCC towers** using ETABS software
- Optimized **configuration of columns & bracing elements** in the building frame.

Interarch Building Products Pvt Ltd | Noida India | September 2006 – February 2008

Interarch is a leading turnkey pre-engineered steel construction solution provider in India

<http://www.interarchbuildings.com/>

Senior Design Engineer

Reported to: Engineering Supervisor

Responsibilities

- Participated in the **estimation & design of pre-engineered industrial steel buildings** from the tendering stage to development of shop & construction drawings.
- Estimated & prepared costing sheets using Precision Plus software for preparing quotations for submission against client enquiries.
- Configured & optimized design of the main frame of the PEB as per customer specifications & requirements.
- Developed PEB designs using MBS & STAAD. Used STAAD for design of local structures/portal frames, conducted manual calculations for items like staircases & retaining walls.
- Verified & followed up for approval of general arrangement and anchor bolt layout drawings and coordinated with CAD operators for developing and checking shop drawings & erection drawings for built-up, hot rolled & cold formed members of the building.

Seder Telecom | Riyadh KSA | May 2004 – July 2006

Seder Telecom is a leading company executing telecom infrastructure projects in KSA

http://www.sedergroup.com/group_telecom.php

Structural Design Engineer

Reported to: Engineering Manager

Projects

- **GSM Projects:** GSM E6 PO1 & PO2 and GSM E7 PO 1 & PO2 across KSA Client: Saudi Telecom Company (STC)
- **IDEN, Junction 2003 projects,** Generic-SDR-COW-15-T-TD-0001(Cell on Wheels) Client: Saudi Telecom Company (STC)

Responsibilities

- Developed **designs on cell on wheels (COW)** – truck-mounted guyed lattice tower & its trailer bed.
- Conducted tower analysis for strengthening by retrofitting to support additional loads
- Designed of **ground based lattice towers** using GUYMAST for analysis & design and Excel/Mathcad for strength & serviceability calculations. Conducted calculations for **local structures like antenna mounts** using STAAD.Pro
- Designed **raft/raft & pile foundations** from base reactions as per geotechnical reports and designed **retaining walls** using Mathcad
- Responded to **objections/comments of STC** related to design & execution at site as per FDED and resolved **as-built issues** after construction in coordination with site engineers
- Executed design/analysis of **guyed & self-supported monopoles** using STAAD.Pro
- Analyzed various **steel & RCC local structures through manual calculations.**
- Analysed & designed **guyed & self-supported lattice towers** using GUYMAST and used Excel/Mathcad for strength & serviceability calculations.
- Designed **torsion resistors for controlling excessive twist affecting antenna performance** in a guyed tower.
- Prepared **quantity estimates** of materials for construction of **telescopic towers.**
- Evaluated **adequacy of buildings for roof top towers** using STAAD.Pro and revised designs & drawings based of comments by STC.

Highlights

- Generated design calculations, prepared report and obtained **approval of STC for cell on wheels (COW)** within a month of joining the company.
- Designed, supervised fabrication and **installed a torsion resistor without misfit for the first time** to control excessive twist in a guyed lattice tower which affected antenna performance.

Madaf Telecom | Riyadh KSA | March 2002 – May 2004

Madaf custom designs & installs telecommunication towers using state-of-the-art technology

<http://www.madaf.com/telecomSec.html>

Junior Structural Engineer

Reported to: Engineering Manager

Projects

- **GSM Projects:** GSM E4, GSM E5, GSM E5 PRU, GSM E6 PO1 & PO2, GSM E7 PO1 & PO 2, Roads & Villages Project across KSA Client: Saudi Telecom Company (STC)

Responsibilities

- Designed **ground based non generic lattice towers** using GUYMAST for tower analysis & design and Excel/Mathcad for strength & serviceability calculations.
- Analyzed **steel and RCC local structures** using manual calculations.
- Designed **raft/raft & pile foundations** for ground based lattice towers.
- **Designed ground based non generic monopole** using STAAD.Pro, their foundations using manual methods and **retaining walls** using Mathcad.
- Conducted analysis of towers for **strengthening by retrofitting** to support additional loads.
- Evaluated **suitability of buildings for construction of tower on the roof** using the owner's as-built drawings for analysis and conducting foundation analysis as per requirement using applicable ACI/UBC codes.
- Coordinated with site engineers in responding to **objections/comments of STC** on site design & execution and **troubleshooting issues at as-built stage** after construction.
- Surveyed **proposed & existing rooftop and greenfield sites** for towers as required using theodolite.

Reliance Engineering Associates | Delhi India | November 2001 – February 2002

Through Dat Engineering Enterprises

Civil Engineer

Reported to: Divisional Engineer

Responsibilities

- Supervised laying of **coaxial telephone cables using trenchless tunnelling technology** for Reliance Communications with Ditch Witch & Vermeer boring machines ensuring quality of jobs.
- Developed quantity estimates for civil works for exchange buildings.

ENVO Protect | Delhi India | August 2000 – July 2001

Junior Civil Engineer

Reported to: Managing Director

Responsibilities

- Supervised installation of **devices to control industrial noise pollution, air pollution & water pollution** as per design at customer premises. Customers included flour mills, automobile service centres, showrooms & canteens.
- Interacted with client and surveyed sites of assigned projects, coordinated analysis of effluent samples in the laboratory, calculated dosage of coagulating agent and ensured availability of adequate inventories.
- Managed and completed all works at site for installing all devices as per contract terms, designs & specification, completing projects on time & within budget.
- Designed a website for the company.

Education

- **B.Tech Civil Engineering**, Jamia Millia Islamia, New Delhi India, 1994 – 1999, FCPI: 73.5%

Certifications

- **Certification in AVEVA Plant Design & Management System (PDMS)**, Smart Brains Engineers & Technologists Pvt Ltd, Noida India, December 2013
- **Certificate in International Economy & Finance**, UTS Pune India – Distance Education, April 2013

Training

- Seminars on Health, Safety & Environment (HSE)
- Seminars on Anti-Tobacco & Anti-Alcohol
- Workshop on Providing First Aid Treatment

Personal Information

- Date of Birth: 17 January 1976
- Languages: Hindi, English, Urdu
- Nationality & Passport: Indian
- Preferred Job Location: Delhi/NCR