**OBJECTIVE & SUMMARY**

Seeking a Senior Geotechnical Engineer position in a growth oriented professional environment to provide engineering services for design and construction of vast variety of structures and facilities in fields of commercial & residential construction, energy generation & transmission, oil & gas, telecommunication and transportation based upon profound engineering knowledge and more than 11 years of experiences in fields of geotechnical and civil engineering.

**PROFESSIONAL EXPERIENCE**

**Senior Engineer** (7/2019 – Present)

NES LLC, Houston, TX

* Co-founded NES which provides 2D & 3D Subsurface Mapping in KMZ and DWG display formats with utilizing triple frequencies GPR (Ground Penetration Radar) and EM (Electromagnetic) locate equipment for finding underground structures, pavement evaluation, karst evaluation, etc.
* Performed business development in forms of company brochures, Lunch & Learns, attending in seminars and free consultations and site visits to enlarge and establish the footprint of the company.
* Performed and supervised filed tests and provided reports and drawings to the clients.

**Department Manager/Senior Project Manager – Geotechnical Service Line**(10/2017-7/2019)

Terracon Consultants, Inc. (http://www.terracon.com/), League City, Texas

* Prepared proposals and conducted geotechnical studies for a vast variety of projects in fields of energy generation and transmission, oil and gas, telecommunication, transportation, and commercial construction, etc.
* Conducted off-shore projects from dredging to construction of bulckhead sheet piles, boathouses and docks in Gulf of Mexico, Buffalo Bayou and Galveston Bay and prepared a database from soil conditions in previous projects to help future clients.
* Provided recommendations for utilizing Rammed-Aggregate-Piers (a.k.a. RAP or GeoPier) to densify subgrade of single tanks or tank-farms in multiple projects in Pecos-TX, Orla-Texas, and Loving-NM.
* Provided recommendations for utilizing geosynthetics, chemical stabilization, or dewatering, excavation and replacement to improve soft subgrades condition underlying roadways and foundations.
* Introduced novel construction methods or elements to the clients including utilizing drilled displacement piles in lieu of ACIP piles, Geopiers in lieu of excavation and replacement of loose sands, utilizing underground detention systems instead of above grade detention ponds, etc. to introduce the most cost-effective construction techniques in the market.
* Joined as a problem-solver in several projects to assist engineering teams to overcome the geotechnical engineering and construction challenges faced in the lifetime of their projects.
* Oversaw the chargeability, safety policies and financial status of projects within the department and make certain the proper policies and methods are in place to improve the department performance in each of the aforementioned areas.
* Supervised and instructed multiple Project Managers and Field Engineers within the office and firm in the technical, safety, client relationship, and finical aspects of the projects.
* Initiated relationship with new clients which some joined Terracon National Account program and assisted efforts to maintain relationships through providing high quality works and delivering on-time services.
* Presented the company capacities and capabilities to potential clients through Lunch & Learn programs and interacted with current clients to introduce Terracon novel services such as Geo-Report and REGC.
* Developed a business intelligence database from previous clients of Terracon-League City Office to categorize potential clients from their previous relationship with Terracon to intelligently conduct business development.

**Project Manager/Engineer – Geotechnical Service Line**(8/2017-10/2017)

Terracon Consultants, Inc. (http://www.terracon.com), League City, TX

**Project Geotechnical Engineer**(8/2015-8/2017)

Terracon Consultants, Inc. (http://www.terracon.com), Midland, TX (covering most projects located in West TX and East NM)

* Prepared proposals and conducted geotechnical studies for a vast variety of projects in fields of energy generation and transmission, oil and gas, telecommunication, transportation, and commercial construction, etc.
* Developed multiple spreadsheets in estimating of soil parameters for foundation design, slope stability analyses, settlement analyses and pavement design.
* Conducted multiple Geotechnical Engineering Investigation for TxDOT projects and provide recommendations for pavement and bridge construction.
* Prepared Report of Expected Geotechnical Condition (REGC) for solar farm and wind farm projects with data mining of Terracon database and publicly available data such as surface geology, bedrock topography, landslides, etc.
* Estimated settlements for shallow foundations and deep foundations over diverse types of subgrades including loose granular soils or soft/highly plastic fine soils.
* Coordinated with structural engineers to propose the most cost-effective foundation system and site preparation methods.
* In-house and on-site trained staff geologists, technicians and drillers in both technical and safety matters.
* Oversaw field investigations with different drilling techniques on a vast variety of subsurface strata in TX and NM.
* Conducted field program such as: pile load testing, thermal and electrical resistivity testing, percolation test, etc.

**CMT Project Manager/ Assistant Department Manager**(7/2014-8/2015)

Geotech Engineering and Testing. (http://www.geotecheng.com/), Houston, TX (a pioneer in Houston area since 1985)

* Oversaw field investigations & reviewed field and laboratory results for residential, commercial & transportation projects.
* Attended in meetings with all project stakeholders to coordinate with them and also provide recommendations for their technical questions and concerns from awarding a project to final steps and preparing County’s final report-package.
* Provided recommendations for remediation of sites underlaid with moisture-sensitive soils and oversaw its implementation.
* Trained and supervised project managers, technicians, drillers and administrative staffs as Assistant Department Manager.
* Supervised implementation of A2LA requirements in field and CMT/GEO laboratory programs.
* Developed a program (in primary stage) with VB to make unified spreadsheet for dispatching, reporting and invoicing.

**Project Manager/ Vice Office Manager**(3/2011-11/2013)

Alborzkoumeh Construction Co. (<http://www.alborzkoumeh.com>), Tehran, Iran

* Designed and supervised construction of 6-story concrete residential buildings braced with concrete shear walls in accordance with ACI 318 and IBC codes.
* Designed and supervised fabrication of steel pipe racks using for adjustment and installation of precast concrete segments.
* Supervised installation and posttensioning of precast segmental bridge deck installed with balanced cantilever method.
* Designed and oversaw construction of group auger piles and pile-caps as a deep-foundation system of a segmental bridge.
* Designed micropiles as earth-support elements for projects with site constraints and also as a remediation technique.
* Performed slop stability evaluation with Slope/W package on transverse sections of a highway construction project.
* Designed MSE walls reinforced with galvanized strips to act as ramps of a concrete segmental bridge.
* Directed & supervised an office with eight employees including engineers and administrative staffs in an engineering firm.
* Attended in meetings with all participants of projects to respond their technical questions and control construction progress.

**Associate Project Manager** (10/2008-3/2011)

Perlite Construction Co. (<http://www.perlite-co.com>), Tehran, Iran (the 2nd ranked EPC Company in Iran)

* Supervised fabrication, and erection of 5-story steel framed building and inspected connections welding with non- destructive welding examinations.
* Designed drilled piles and pile-caps as a deep foundation system for tunnel ventilation facility & control building.
* Designed and oversaw construction of reinforced concrete retaining walls with tieback anchors to underlay super structures.
* Designing of soil nailing systems to stabilize deep foundation excavations and protect nearby existing structures.
* Designed Reinforced Soil Slopes (RSS) reinforced with geosynthetics for stabilizing earth slopes in transportation projects.

**Research Assistant/Teacher Assistant** (09/2006-07/2008)

Dynamic Soil Testing Laboratory, University of Tehran (http://www.ut.ac.ir), Tehran, Iran (the 1st ranked Iranian University)

* Collaborated in developing a cyclic triaxial apparatus & performed liquefaction study on Caspian Sea coast materials.
* Trained graduate students as a Teacher Assistant to perform lab tests with advanced soil dynamics laboratory apparatus.
* Performed monotonic and cyclic traditional tests on remolded or undisturbed samples to evaluate liquefaction potential of subsurface materials for a Chemical Refinery project located on north coast of Persian Gulf.
* Prepared reports including lab results and geotechnical recommendations for transportation projects of Tehran municipality.

**LICENSURE**

Professional Engineer (PE), Texas Board of Professional Engineers (TBPE) since 2015; P.E. board number: 122220

(I am in process of changing my official name and the name appears on TBPE is my previous name as Alireza Ahmadi)

**EDUCATION**

Master of Science in Geotechnical Engineering (2005-2008), University of Tehran, Tehran, Iran (top class rank)

26 credit hours including: Soil Dynamic, Ground Improvement, Advanced Foundation Eng., Unsaturated Soil Mechanics.

*Thesis: Study on effect of silt content and anisotropic consolidation on liquefaction potential of Firoozkouh sands.*

Highlighted Publications:

* *"Effect of Silt Content on Anisotropic Behavior of Sand in cyclic loading". 4th International Conference on Earthquake Engineering, Greece (2007)*
* *"Effect of Anisotropic Consolidation on Resistance to Liquefaction of Pure Sand" 4th International Symposium on Civil Engineering, Tehran, Iran (2008)*
* *"Factors Affecting on Liquefaction and Cyclic Mobility of Sand-Silt Mixtures", 61st Canadian Geotechnical Conference and 9th Joint CGS/IAH-CNC Specialty Conference (2008)-24 Edmonton, Alberta, Canada.*
* *“Efficiency of Micro-fine Cement Grouting in Liquefiable Sand", MERCEA’08, Seismic Engineering International Conference, Messina and Reggio Calabria, Italy (2008)*
* *"Evaluation of State Lines In Sand-Silt Mixtures By Means Of Cyclic Triaxial Tests", The Scientific and research Journal of University of Sharif, 14th S.Pb. (2009)*
* *"Effect of Silt Percentage on Liquefaction Potential and Anisotropic Behavior of Saturated Sand-Silt Mixtures ", 17th International Conference on Soil Mechanics and Geotechnical Engineering, Bibliotheca Alexandrina, Alexandrina, Egypt, 5-9 October (2009)*
* *"Effect of Fine Content and Anisotropic Consolidation on Dilation-Contraction Behavior of Sand ", The Journal of Scientia Iranica Pb.14 (2010)*
* Bachelor of Science in Civil Engineering (2001-2005), University of Mazandaran, Babol, Iran 144 credit hours including: Structural Design, Earthquake Eng., Soil Mechanic, Foundation Eng., Hydraulic, Hydrology.

**SOFTWARE PROFICIENCY**

|  |  |  |  |
| --- | --- | --- | --- |
| * UniSettle | * SAFE | * Shoring Suite | * Microsoft Excel/Word |
| * Settle3D | * A-PILE | * P-CASE | * Microsoft Project |
| * PLAXIS | * L-PILE | * SAP 2000 | * MS power Point |
| * SLOPE/W | * gINT | * AutoCAD (2D&3D) | * MS Visio |

**PROJECTS**

Participated in more than 200 projects in industrial, commercial, and residential sectors with various scope of works from design and consultation to construction. Some of the major participated projects are listed below:

* Covestro – Shoreline Protection (Baytown, TX)

Providing engineering services for design of a new set of bulkhead sheet piles along Cedar Bayou shoreline.

* Lubrizol - Control Rooms (Deer Park, TX)

Two, 2-story control rooms each 3,000 sf in footprint within the Deer Park Plant.

* DOW Chemical (Texas City, TX)

2-stories tilt-up building with a footprint area of 24,000 sf.

* Ellington Airfield (Houston, TX)

Providing recommendations to repair the distressed areas within the heliports and taxiways.

* Crystal Lagoon – Lago Mar (Texas City, TX)

Providing geotechnical engineering services for 11.6 acres lagoon for Lago Mar development and ancillary facilities such as hotels residence clubs, etc.

* Hurricane Harvey Disaster Recovery (Houston, TX)

Performing site investigation on 55 sites damaged by hurricane Harvey for Harris County Flood Control District.

* TEEX Facility Improvement (Galveston, TX): Perform off-shore and land drilling to provide geotechnical engineering design recommendations for new sets of bulkhead sheet piles, boat house and ramps.
* UTMB (League City, TX)

Providing geotechnical recommendations for 12-story hospital building, helipad and the ancillary structures.

* Morada Del Sol Solar Farm

A solar farm site approximately 4,000 acres in size developed with 710 acres PV panel arrays and 210 MWac capacity.

* Tomball Tollway Contract 802 mainline section 2 (Tomball, TX)

Construction and materials testing services for the new segments of Tomball Tollway roadway and several bridges.

* Crude Oil Storage Tank Zena Offload Site (Pecos, TX)

Construction and materials testing services for the new segments of Tomball Tollway roadway and several bridges.

* SJCD North Campus Cosmetology/Culinary Building (Houston, TX)

A new 2-story building, approximately 40,000 sf in footprint area

* Abilene Shopping Center (Abilene, TX)

A shopping plaza approximately 17.3 acres in size and contains multiple stores and restaurants, detention basin, etc.

* Roosevelt Milk Processing Plant (Littlefield, Texas)

A warehouse-type structure approximately 200,000 sf in size with 5-story dryer tower and ancillary facilities.

* Triple Crown Field Tanks (Orla, Texas)

A tank-farm with several tanks with capacities vary from 1000-BBL to 5,000-BBL.

* Pecos Railway Facility (Pecos, TX)

This project includes more than 2 miles railroad spurs, pipe racks, storage tanks, and ancillary buildings.

* Littlefield Wastewater Treatment Facility (Littlefield, TX)

This project is for a new facility consists of settling basins, aeration tank, clarifiers, pump station, etc.

* Chevron substations (Multiple Locations, West Texas)

Including design of foundation for flare, knockout drum, storage tanks, pump station, pipe racks, etc.

* Verizon Wireless guide wire, lattice and monopole telecommunication towers in more than 20 locations.
* CVS Pharmacy Stores, in Midland, Odessa and Lubbock with building, parking area and underground detention area.
* More than 20 residential subdivision with an average 120 building lots in north and northwest of Houston.
* Multiple new schools, facilities, or expansions for Santa Fe ISD, Pearland ISD, Pasadena ISD, Alvin, ISD, etc.
* Multiple municipal projects for City of Galveston, League City, Texas City, City of Pasadena, Pearland, etc.
* Tohid Tunnel, third longest urban tunnel in Middle East, twin tunnel with 1.8 miles long and 3 lanes in each direction.
* Gorgan Segmental Concrete Bridge almost 300 concrete segments weighting among 20 to 40 tones with MSE walls in both ramps.

**PROFESSIONAL MEMBERSHIP**

American Society of Civil Engineers (ASCE),TEX-ASCE, ASCE-Houston, Deep Foundations Institute (DFI), Engineers without Borders, USA

**REFERENCES**

**Ms. Noosha Smith, P.E.**

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