

## KAREN M. MILLER, P.E., P.G.

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### PROFESSIONAL HISTORY

GREEN Environmental Consulting, Inc.	Project Manager	2004-present
Bullock, Bennett & Associates	Senior Engineer	2007-2014
Lower Colorado River Authority	Senior Engineer	2000-2004
URS Corporation/Radian Corporation	Senior Engineer	1990-2000
Radian Corporation	Staff Engineer	1987-1990
Rice University	Research Assistant	1984-1987
Engineering Assistant	Haynie and Kallman	1984

### EDUCATION

Rice University, M.S. Environmental Science and Engineering, 1989  
Rice University, B.S. Civil Engineering, 1985

### TECHNICAL SPECIALITIES

Regulatory Compliance, Project Management, Environmental Permitting, Environmental Auditing, Management Systems, Water Quality

#### **Regulatory Compliance, Environmental Permitting**

Calculated greenhouse gas emissions for facilities in South Texas and in the Caribbean.

Managed schedule, budget, and resources for environmental components of electrical transmission line and substation construction and maintenance projects. Developed ISO 140001-type management system for company operations. Responsible for identification, technical guidance, and engineering controls for any environmental regulatory issues and permits including but not limited to: state and local surface and groundwater, wetlands and waters of the U.S., threatened and endangered species, cultural resources, and storm water pollution prevention.

Prepared environmental permit applications; negotiated with regulatory agencies; performed geologic assessments according to Texas Commission on Environmental Quality (TCEQ) standards; perform environmental site assessments (ESAs) to ASTM E 1527 standards; develop environmental protection policies and procedures for operations staff; track national, state and local environmental regulatory changes and provide summaries of impacts to operations managers; and supervise five employees to manage the environmental components for more than \$300 million in capital improvements on an annual basis.

Coordinated threatened and endangered species issues with construction and maintenance groups. Coordinated with Executive Management, Legal, Engineering, Construction, Real Estate, Project Management, landowners, and customers to implement environmental requirements. Solved complex environmental and operational issues. Worked with other business units on Houston Toad Habitat Conservation Plan. Initiated process for organization-wide HCP for endangered songbirds.

Reviewed contracts, developed contractual language, designed methods for evaluating contractors (especially environmental performance), and evaluated and selected contractors.

Developed database tools to track 50 compliance points for more than 300 projects. Database used as part of ISO 140001 compliance monitoring.

### **RI/FS and SITE INVESTIGATION**

Designed numerous soil and groundwater sampling programs, developed work plans, and performed sampling activities at a variety of government and industrial facilities. Developed numerous RCRA Facility Investigation (RFI) programs for industrial clients. Programs included soil and groundwater sampling up to 50 feet of depth, interpretation of boring logs, and use of statistical analyses to manage data.

Directed the modification of a design and completion of construction specifications for the closure of a surface impoundment upon which an active facility will be operating after closure. The design incorporated existing site conditions, including soil and groundwater, and consisted of concrete, HDPE, and clay and covered several acres.

Designed sampling work plans for the soil and groundwater contamination located at the Industrial Transformers Superfund Site. Collected surficial and deep soil and groundwater samples. Reviewed drilling logs. Used data to devise and evaluate treatment alternatives (RI/FS) to remediate the PCB-contaminated surface soils and TCE-contaminated groundwater. Formulated conceptual designs. Applied 3-D, variable-spaced grid MODFLOW model to the site conditions. Calibrated the model and determined the ability of the proposed pump-and-treat system to remediate the site with minimal subsidence. Developed bid specifications. Performed QA/QC on construction techniques. Evaluated ongoing treatment data and revised design and operation as needed.

### **Auditing**

Performed more than 2000 Phase I and Phase II Environmental Site Assessments in accordance with the ASTM standard, as well as tailoring the audits to the customers' needs. Audits have included aircraft engine repair facilities, lubrication plants, numerous oilfields, and plastic extrusion plants, among others.

Conducted risk assessment audits of facilities all over the North American continent for compliance with Clean Water Act, Clean Air Act, RCRA, OSHA, MSHA, and CERCLA, in addition to state and local regulations. The reviews included assessments of the adequacy of the groundwater remediation systems. Performed hazard ranking (EPA) and financial analysis models as part of the audits. Incorporated the findings into audit reports to quantify risks to the clients associated with the facility. Reviewed SPCC, Contingency, Hazardous Waste Operations, Closure, Waste Analysis, and Business Plans for the facilities. Also reviewed closure cost estimates, financial information, insurance information, training and medical records, inspection results, and recordkeeping. Developed best management practices program to audit international facilities.

Developed audit programs and completed safety and environmental audits of numerous facilities throughout North America. Developed database to produce reports used to prioritize compliance initiatives.

### **Water Quality**

Calculated air emissions from facility wastewater treatment systems for various chemical manufacturers using EPA's WATER9 program.

Prepared SPCC plans for a wide variety of facilities. Assisted with creating tank inspection programs. Interpreted new regulatory requirements. Recommended operations and equipment upgrades to improve compliance with the rules.

Prepared numerous individual and general stormwater permit applications. Strategized selection of outfalls for representative sampling. Specified BMPs. Developed SWP3s. Collected samples. Petitioned for representative sampling to regulatory agency. Documented sampling results and prepared benchmark reports and DMRs.

Prepared and submitted amendments to individual wastewater permits. Assisted with developing sampling schedules and creating reports required by the permits.

Prepared Edwards Aquifer Water Pollution Abatement Plans and Contributing Zone plans for a variety of facilities. Designed and specified Best Management Practices.

### **PROFESSIONAL LICENSES**

Registered Professional Engineer, TX, 1993

Licensed Professional Geoscientist (Geophysics), TX, 2003

### **AFFILIATIONS**

Girl Scouts of Central Texas, Midtown Service Unit, Director

Leader, Troops 2178 and 1067

Parents and Friends of LASA, Board Member

LBJ/LASA High Schools Girls' Soccer Booster Club, Board Member

Boy Scouts of America, Capitol Area Council, Advisor, Venture Crew 1

### **PUBLICATIONS**

Available upon request