Monica M. Sartain, PE, MBA, CHMM

Assistant Professor

Lipscomb University

EDUCATION:

B.S., Civil Engineering, Environmental Option
Virginia Tech, May 2001

Master of Business Administration
Trevecca Nazarene University, December 2020

CURRENT EMPLOYMENT:

Power Consulting Associates, Inc.
September 2015 – Present - Chief Operating Officer

REGISTRATION:

Professional Engineer – Tennessee (00111687), Indiana (11300557), North Carolina (038951), and South Carolina (29723)
Certified Hazardous Materials Manager

ASSOCIATIONS:

American Society of Civil Engineers (ASCE)

- Member Communities Committee (2021 – present)
- Other Member Communities Chair (2021 – present)
- Leader Training Committee (2015 – 2021)
- Key Contact Committee Member, 2011, Chair, 2012 - 2013
- Committee on the Civil Engineering Technologist, 2014-2015,
- Region 4 Governor-At-Large, 2009 - 2015
- Infrastructure Report Card Committee Chair, 2008 - present
- Nashville Branch President, 2012 – 2013, Board Member, 2013 – Present

Society of American Military Engineers
President, Ft. Campbell SAME Post, 2015
Scholarship Committee Co-Chair, Nashville Post - Present

Nashville State Community College
CIT/ACT Advisory Council Member, 2010 – present

AWARDS:

Young Engineer of the Year (Private Sector) – Ms. Sartain was the 2013 Young Engineer of the Year (Private Sector) ASCE Eastern Regional Younger Member Council. The Eastern Region YM Council is comprised of Younger Members from four Regions and includes over 20 states.

Young Engineer of the Year – Ms. Sartain was the 2013 Young Engineer of the Year for the Nashville Chapter of the Tennessee Society of Professional Engineers.

Young Engineer of the Year – Ms. Sartain was the 2013 Young Engineer Award Recipient from the Tennessee Section of ASCE.

Nashville Emerging Leader Award Winner – Ms. Sartain was the 2013 Nashville Emerging Leader for Architecture, Engineering & Construction presented by the Nashville Chamber of Commerce.

2011 Daniel V. Terrell Award Winner – The Terrell Award is a paper competition for ASCE Younger Members, Ms. Sartain's paper topic was Engineering Ethics and the Report Card.

Received "Top Talent" designation (~1% of site personnel) for work performed as an engineer at the Department of Energy's Savannah River Site.

PROFESSIONAL SUMMARY: Ms. Sartain is a licensed professional engineer with over twenty (22) years of experience providing engineering, management, and operational services. Her technical experience includes environmental compliance and environmental design for government, public, and private industries and construction management on commercial, heavy industrial, and transportation projects. Her Management experience includes direct supervision of up to 20 employees with an additional 80+ employees reporting up to subordinates including technical and administrative positions. Ms. Sartain has provided executive decisions making on company conversion from privately owned to an ESOP, accounting system change over, and management of an ESOP including multiple smaller projects within these initiatives. In her current position In her past work as COO, Ms. Sartain also managed all company operations including technical projects, and administrative functions. She had direct management of the company's largest contract while continuing to provide engineering services on an as needed basis. Ms. Sartain was named to the Company's Board of Directors in 2017, and served as the Board Secretary until 2021.

Prior to joining PCA, Ms. Sartain had a highly successful engagement as the Branch Manager for Patriot Engineering & Environmental, Inc.'s opening its Nashville office. During her time at Patriot, Ms. Sartain's branch was successful in winning work with local and national clients. Some of the largest projects included work at the Nashville Music City Center, a 1.2 million square foot convention center that opened in the Spring of 2013; the Center Hill Dam, a rehabilitation project for one of the area's largest dams; and the Blanchfield Army Community Hospital at Ft. Campbell. In addition to large projects, she continued work with existing long-term Client partners.

Ms. Sartain has the unique opportunity to serve as Chair of the American Society of Civil Engineers Tennessee Section's Infrastructure Report Card Committee since initial development of the 2009 Infrastructure Report Card for Tennessee, and again for the update released in September of 2016. The Report Card is a state-wide, collaborative effort to evaluate the infrastructure needs within the state. It is a comprehensive assessment of the condition of the state's infrastructure by engineers. Sartain's committee includes dedicated volunteers from across the state from both the public and private sector along with educators from the state's universities. Following release of the initial Report Card in 2009 and the 2016 update, Ms. Sartain has presented the report card findings at numerous meetings of her peers, elected officials, and the public. Sartain has also been involved in grass-roots lobbying of elected officials in Washington, D.C. for infrastructure issues.

PATRIOT ENGINEERING & ENVIRONMENTAL, INC. – 9/11 – 4/15 (40+ HRS/WK)

Branch Manager (Nashville, Tennessee) – In the fall of 2011, Monica became the first female Branch Manager for Patriot Engineering & Environmental, Inc. (Patriot) when she opened the Nashville Branch office for Patriot. Patriot is a diverse geotechnical engineering, environmental engineering, and materials testing firm founded in 1995 with offices located in Indiana, Ohio, Illinois, Kentucky, and Tennessee. Including being the only female Branch Manager the company has ever had; she is also one of the youngest Branch Managers. Upon opening the Nashville office, Ms. Sartain's Branch has been successful in winning work with local and national clients. Some of the largest projects managed out of the Nashville office include work at the Nashville Music City Center, a 1.2 million square foot convention center opened in the Spring of 2013; the Center Hill Dam, a rehabilitation project for one of the area's largest dams; and the Blanchfield Army Community Hospital at Ft. Campbell. In addition to large projects, Monica has also secured smaller repeat projects with area Clients including the Corrections Corporation of America and the City of Franklin. She grew the office from one employee to ten, including full & part time employees. Ms. Sartain's responsibilities range from administrative to business development, to project management, to project execution.

BARGE WAGGONER SUMNER AND CANNON, INC. – 12/06 – 9/11 (40+ HRS/WK)

Restoration of a Mining Site (Copperhill, Tennessee) – Ms. Sartain is an integral member of the BWSC project team involved in the reclamation and restoration of a historic mining site in Tennessee under the State of Tennessee's Voluntary Cleanup Oversight and Assistance Program (VOAP). This on-going project involves close interaction with this industrial client as well as state and federal regulators. Ms. Sartain's responsibilities have included:

- **Feasibility Study** – Conducted Feasibility Study for the Davis Mill Conveyance in accordance with EPA Guidance in response to an Administrative Settlement Agreement and Order on Consent.

- **Rosgen Stream Design** – Designed a restored stream segment for an approximately 1,000-foot section of a third-order stream, including stream habitat, in a highly denuded historic mining site. The design was based on the Rosgen Method for Natural Channel Design using the RiverMorph Program. A field survey of a reference reach was conducted and analyzed prior to input into the RiverMorph program. RiverMorph results were confirmed and used to design the restored stream segment. The site survey and RiverMorph results classified the restored stream segment as a C5 using the Rosgen Classification of Natural Rivers. Stream structures including cross vanes and J-Hook/ root wad combos were used in the stream design to create fish habitat and direct stream flow toward the center of the stream. Construction of the Rosgen designed stream segment will help achieve long-term performance goal of biological integrity for project.

- **Design of a Pump Station** - Designed a 700 square foot pumping station capable of pumping base (200 gpm) and storm (775 gpm) flows to an innovative lime treatment facility prior to discharge to the Ocoee River. The pumping station consists of a pump room containing one base flow pump, two storm flow pumps, and a sump pump, and a control room. Assisted with approvals of shop drawing and maintained a submittal log.

- **PondPack Hydrologic Modeling** – Developed a PondPack hydrologic model for a 1,500-acre watershed consisting of 10 sub basins, four reservoirs, and 6 reaches of stream. Storms modeled were a 5-year/24-hour storm, a 10-year/24-hour storm, a 25-year/24-hour storm, a 50-year/24-hour storm, a 100-year/24-hour storm and a ½ PMP storm event. The model was used to predict storm runoff and design remedial alternatives to address contamination of surface water. Model results were also used to design multiple diversion pipelines and channels for clean and impacted water and to provide guidance for rework within a retention pond including calculation of required retention volume, sizing of emergency spillway and sizing of an outlet pipe. Developed additional PondPack for smaller portions of larger Watersheds for use in design of pipes and diversion channels.

- **Rosgen Stream Design** – Designed a restored stream segment for an approximately 1,000-foot section of a third-order stream, including stream habitat, in a highly denuded historic mining site. The design was based on the Rosgen Method for Natural Channel Design using the RiverMorph Program. A field survey of a reference reach was conducted and analyzed prior to input into the RiverMorph program. RiverMorph results were confirmed and used to design the restored stream segment. The site survey and RiverMorph results classified the restored stream segment as a C5 using the Rosgen Classification of Natural Rivers. Stream structures including cross vanes and J-Hook/ root wad combos were used in the stream design to create fish habitat and direct stream flow toward the center of the stream. Construction of the Rosgen designed stream segment will help achieve long-term performance goal of biological integrity for project.

- **Biological Goals Document** – Coordinated preparation of GIS-based maps for integration into the document setting biological goals for areas within the North Potato Creek Watershed.

- **Design of a Pump Station** - Designed a 700 square foot pumping station capable of pumping base (200 gpm) and storm (775 gpm) flows to an innovative lime treatment facility prior to discharge to the Ocoee River. The pumping station consists of a pump room containing one base flow pump, two storm flow pumps, and a sump pump, and a control room. Assisted with approvals of shop drawing and maintained a submittal log.

- **As-Built Drawings and Final Reports** - Coordinated completion of As-Built Drawings and Final Reports for work performed in five areas within the North Potato Creek Watershed. Activities included report writing, extensive client coordination, and disposition of comments, and review of project drawings.

- **Report of Storm Water Monitoring in the West Bank Area** – Prepared a report on sampling efforts in the Isabella West Bank Area. Included analysis of analytical results for sampling during storm events and base flow conditions and continuously monitored field data to establish baseline pre-remediation conditions in the streams and identify or confirm sources of contamination.

- **Underground Injection Permit** – Assisted with preparation of application for authorization to operate an underground injection well to dispose of contaminated water.

DuPont Landfills Johnsonville, TN – Ms. Sartain performed hydrologic modeling at two landfills to determine size for storm water management systems including a retention pond and culverts.

Spill Prevention Control and Countermeasure (SPCC) Plan for Corrections Corporation of

America facilities – Ms. Sartain managed the preparation of SPCC plans for over 25 correctional facilities in eight states. SPCC Plan preparation included the review of federal regulations and facility procedures, inspections, training programs, and records.

Storm Water Long Term Maintenance Plan (SWLTMP) for the 88th Regional Support Command, multiple states – Ms. Sartain managed the preparation of SWLTMP for Army Reserve Centers in multiple states through the Midwest. Work included site visits with emphasis on storm water ponds, piping, and catch basins; and facility reviews of records, procedures, and inspections. Plan preparation also included review of federal, state, and local municipality storm water regulations, and coordination with local officials.

Storm Water Pollution Prevention Plan (SWPPP) for Hartsville Trousdale County Landfill, TN – Ms. Sartain prepared annual storm water monitoring reports and updates to the facility SWPPP to address environmental concerns discovered during monitoring events.

Phase 1 Environmental Site Assessments – Proposed, managed, and performed due-diligence ASTM and AAI regulated Phase I ESAs including the current ASTM 1527-E-05. Conducted site reconnaissance, file reviews of tax cards and tax maps, deed reviews, UST reviews, research of soils maps, wetland maps, assessed EDR reports, and wrote reports and updates for various projects in Middle Tennessee for government, public, and private entities.

Nu-kote International Inc., Franklin, TN – Assisted in a geophysical investigation at a chlorinated solvent site under the Tennessee Voluntary Cleanup Oversight and Assistance Program (VOAP).

EARTH TECH – ENVIRONMENTAL SCIENTIST – 10/04 – 12/05 (40+ HRS/WK)

Temporary Emergency Housing Inspector for the Federal Emergency Management Agency (FEMA). Worked on a partnership responsible for the placement of over 50 families into temporary housing units. Served as a Liaison between FEMA and local county/city officials.

Safety Inspector for Infineon Technologies. Responsible for start-up safety inspections on multi-million-dollar equipment for a new state of the art semiconductor production facility. Provided feedback for development of Job Hazard Analysis database system.

Wetland Delineation and Permitting – Assisted in conducting USCOE wetland delineations and participated in permitting application processes for projects in Richmond, VA.

Spill Prevention, Control, and Countermeasure (SPCC) Plans - Performed site visits and wrote SPCC plans for various power stations and media outlets located throughout the eastern U.S.

Oil Discharge Contingency Plans (ODCP) - Performed site visits and wrote SPCC plans for various power stations and media outlets located throughout the eastern U.S.

Storm Water Pollution Prevention Plans (SWPPP) - Performed site visits and wrote SPCC plans for various power stations and media outlets located throughout the eastern U.S.

Hazardous Waste Management - Coordinated characterization, packaging, shipping, and disposal of waste paints from a municipal facility to an off-site TSD. Also, coordinated the collection, characterization, and disposal of diesel-impacted waste including automobile gas tanks, above ground storage tanks, and oily water.

Wastewater Sampling – Collected industrial wastewater samples for analysis and comparison to local pre-treatment requirements.

BRITISH NUCLEAR FUELS LIMITED - DEPARTMENT OF ENERGY'S SAVANNAH RIVER SITE, SOLID WASTE DIVISION – 6/01 – 7/04 (40+ HRS/WK)

Hazardous and Radioactive Waste Management - System Engineer for Transuranic waste facilities responsible for characterization confirmation through gas generation analysis and radiography prior to shipment to the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico. System Engineer for Transuranic waste facility responsible for loading of TRUPACTs for waste shipments to WIPP. System engineer responsibilities included safety evaluations, inventory control and planning, and design changes to processes and equipment. Participated on two emergency response teams assigned to develop and implement recovery actions from process upsets. Coordinated and participated on team of engineers and environmental compliance personnel researching and evaluating historic data to determine applicability of RCRA hazardous waste codes to legacy Transuranic waste dating back to the 1970s. Co-authored gas generation issue position paper for Transuranic waste shipments to WIPP. Responsible for review and approval of waste characterization packages from on-site generators to ensure compliance with waste acceptance criteria for multiple waste streams. Coordinated revisions and updates of waste acceptance criteria for on-site waste facilities including ensuring compliance with RCRA permits and other federal and state requirements. Coordinated turnover of two waste storage facilities for RCRA closure. Assisted site generators with shipments of Low Level, Mixed Low Level, and Hazardous wastes in compliance with waste acceptance criteria. Developed and instructed components of the Generator Certification Official training required for on-site shipping certification. Volunteered for temporary assignment at the Waste Isolation Pilot Plant as a Quality Assurance Official.

Audits – Participated on multi-disciplinary team involved in compliance audits at various facilities located throughout the Department of Energy's Savannah River Site. Audits focused on all aspects of facility operations including facility performance, emergency response procedures and drills, radiological compliance, safety compliance, and environmental compliance areas. Sartain's audit focus was on environmental compliance with federal, state, and site-specific regulations including but not limited to, material and waste storage, receipt and shipment of materials and waste products, and record keeping. Completed individual audits of environmental compliance on waste generators and their respective generating facilities. Served as main contact during audits performed on facilities within assigned areas of responsibility including facilities responsible for chemical, radiography, and gas analysis of wastes, loading facilities under DOT regulations, and various storage pads.

CITY OF ROANOKE WATER POLLUTION CONTROL PLANT – PRETREATMENT PROGRAM INTERN - 5/00 – 8/00 (40+ HRS/WK)

Industry Pretreatment Program Audits – Completed pretreatment program audits on industrial facilities located throughout the Roanoke Valley. Audits included evaluations of all wastewater paths to the Water Pollution Control Plant, records, and sampling programs.

Development of Pretreatment standards - Utilized EPA's Prelim program to establish local limits for industry discharges. Collected samples for local limits and whole effluent toxicity tests. Summarized sample data from industry discharges.

LOUIS BERGER - INSPECTOR TRAINEE / JUNIOR ENGINEER **–** 5**/**99 – 5/00 (40+ HRS/WK)

I-81 and Rte 460 Interchange - Performed weekly inspections of erosion and siltation control measures. Maintained daily project diary of activities. Completed monthly progress reports for VDOT. Assisted with the set-up of the project site's computer system. Conducted project management software training for colleagues.

MCDONOUGH BOLYARD PECK - - INSPECTOR TRAINEE / JUNIOR ENGINEER **–** 1/99 – 5/99 (40+ HRS/WK)

Smart Bridge Project/Bridge over Wilson Creek - Maintained daily project diary of activities. Maintained issue log for project. Assisted in survey activities. Recorded weekly progress through project photo log. Assisted with concrete testing per VDOT standards.

J.A. JONES - METRIC CONSTRUCTORS - JUNIOR ENGINEER – 5/98 – 8/98 (40+ HRS/WK)

Charlotte - Mecklenburg Utility District Waste Water Treatment Plant Upgrade Project - Performed daily work inspections. Wrote subcontracts and subcontract change orders. Coordinated project schedule with subcontractors. Checked structural steel design measurements. Assisted with survey activities.

J.A. JONES - TOMPKINS BUILDERS - JUNIOR ENGINEER – 8/97 – 12/97 (40+ HRS/WK)

USDA Office Complex - Prepared As-built drawings and final punchlist for entire project. Performed daily work inspections. Assisted with survey activities. Reviewed drawings for change orders. Reviewed estimates for work orders.

RESEARCH EXPERIENCE:

Virginia Tech, Civil & Environmental Engineering Program - Undergraduate Research Scholarship - Characterized effluent quality of an aerobically treated denitrified aquaculture waste stream. Primary focus on removal rates and residuals of nitrogen species and carbon compounds.

TRAINING AND CONTINUING EDUCATION:

Dale Carnegie Course – Completed the 12-week Dale Carnegie Training Course ***Effective Communications & Human Relations/Skills For Success***. During the course Ms. Sartain received two Breakthrough Awards as voted by her peers.

Project Management Institute - Completed Initial Project Management Training on path to become a certified Project Management Professional

McCoy's RCRA Seminar – (24 hours) Advanced training on hazardous waste management including identification, characterization, storage, treatment, and disposal. Savannah River Site, Aiken, SC, June 2002

Clemson University Basic Radiochemistry – (16 hours) Engineer training through Clemson University designed to provide introductory training to engineers working with radioactive materials. Savannah River Site, Aiken, SC, August 2003

Hazardous Waste Operations and Emergency Response Technician Training – (40 hours) Savannah River Site, 2001 & Earth Tech 2004; Updated (8 hours) through Barge, Waggoner, Sumner and Cannon, Inc., 2007 – 2011, Patriot Engineer & Environmental, Inc., 2012 – present

University of Alabama - Huntsville – Engineering Management Courses 2003 & 2004