

Bob Muir, PhD, PE – Curriculum Vitae



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Profile

Bob Muir is a licensed Professional Engineer with over 33 years of progressive experience in engineering and construction and 15 years in full-time academia. His construction management experience includes several facets of heavy civil and industrial construction, with the perspective of representing both the owner and constructor. He has received Awards for Excellence on four bridge and highway projects. Muir served as National Director and President of Region 6, American Society of Highway Engineers (ASHE) and President of the First State Section of ASHE. The First State Section named him *Man of the Year* in 2002. He received the *Joseph S. Mozino Blue & Gold Award* from the Mary S. Irick Drexel Society for service in 2011. He received the *2013 Twenty-Year Professional Attainment Award* from the Mary S. Irick Drexel Society. This award recognizes individuals who have attained positions of significance at key milestones in their chosen fields having been recognized by their peers, their community, and the University. The First State Section of ASHE inducted him into the Delaware Highway Hall of Fame in May 2014, recognizing his significant contributions to the State's highway industry. He most recently received the 2018 and 2019 Building Construction Exemplary Faculty Awards from the Myers-Lawson School of Construction.

Dr. Muir is currently employed by HDR, Inc. serving as the Resident Engineer on the *Replacement of the Churchland Bridge* in Portsmouth, VA. He previously served as Professor of Practice and CEM (Construction Engineering & Management) Program Chair in the Myers-Lawson School of Construction (MLSoC) at Virginia Tech. Prior to that, he served as Program Director and Assistant Clinical Professor teaching undergraduate and graduate courses and providing leadership in the Drexel University Construction Management Program. He made significant contributions to the MLSoC including developing new courses, attaining ABET reaccreditation, and serving as faculty advisor and coach. Major accomplishments at Drexel include creation of the Master of Science in Construction Management (MSCM) degree program and establishing of the Drexel University Construction Management Advisory Council (CMAC) serving as the founding Executive Director. Dr. Muir was also a principal with the consulting firm, Construction Analysts, LLC offering expert analysis and testimony, forensic investigation, project risk assessment, training and development and other related services. He is currently serving part-time as an Instructor in the School of Construction Management Technology, Purdue Polytechnic Institute, Purdue University. Primary duties include developing and delivering the online MSCM graduate course CM53000 *Construction Operations and Strategic Management*.

Dr. Muir has an earned Ph.D. in Civil Engineering, winning the *Honor of an Outstanding Contribution of a Young Researcher* from the International Project Management Association (IPMA) for his *Highway Project Performance Study*, a component of his doctoral thesis titled *Application of Lean Principles to Highway Projects: Analysis of Barriers to Timely Delivery of Service*. Research areas of interest include Integrated Project Delivery (IPD), Lean design and construction, DFMA and industrialized construction, project complexity, leadership and organizational dynamics, sustainable infrastructure, and enhancing construction safety, quality, and performance. Professional competencies include project management; construction planning, scheduling, and execution; strategic planning, value engineering, project risk assessment, training and development, teaching construction engineering, science and management courses, business development and marketing construction and engineering services.

Education

- **Ph.D. Civil Engineering**, Drexel University, Philadelphia, PA, Dissertation: *Application of Lean Principles to Highway Projects: Analysis of Barriers to Timely Delivery of Service*
- **M.S.C.E.**, Construction Engineering and Management, Virginia Tech, Blacksburg, VA, Project and Report: *Training: Making it Stick*
- **B.S.C.M.**, Drexel University, Philadelphia, PA, 1981-1993 (part-time study), Magna Cum Laude

Licenses, Certifications, & Training

- Professional Engineers (PE) License, State of Delaware, No. 9654
- Fall Protection Certification
- Primavera P6

Professional Societies

- Member, American Society of Highway Engineers (ASHE)
- Educator, American Institute of Steel Construction (AISC)
- E-Member, American Concrete Institute (ACI)
- Member, Lean Construction Institute (LCI)

Honors and Awards

- 2019 Building Construction Exemplary Faculty Award, Myers-Lawson School of Construction, Virginia Tech
- 2018 Building Construction Exemplary Faculty Award, Myers-Lawson School of Construction, Virginia Tech
- Delaware Highway Hall of Fame, ASHE First State Section, inducted May 15, 2014
- 2013 Twenty-Year Professional Attainment Award, Mary S. Irick Drexel Society, May 2013
- Honor of an Outstanding Contribution of a Young Researcher, International Project Management Association (IPMA), October 2012, Crete, Greece
- Joseph S. Mozino Blue & Gold Award, Mary S. Irick Drexel Society, May 2011
- ASHE First State Section Man of the Year, 2002
- Magna Cum Laude, Drexel University, June 1993
- George W. Childs Drexel Scholarship for Academic Achievement, Drexel University, May 1993
- DeIDOT 2003 Outstanding Bridge Project – I-95 over Brandywine River, Construction Management
- 2001 Construction Excellence Award, State of Delaware and Delaware Contractors Association – Churchmans Rd.– R7 Interchange
- DeIDOT 1997 Outstanding Highway Project – SR 273, Amtrak to Ogletown Interchange, Consultant Inspection
- DeIDOT 1992 Outstanding Highway Project – Route 7, Phase I

Professional Experience

Auburn University

Auburn, AL

August 2023 – Present

Senior Lecturer, McWhorter School of Building Science; College of Architecture, Design, and Construction (CADC).

HDR, Inc.

Virginia Beach, VA

July 2020 – July 2023

Resident Engineer representing the City of Portsmouth, VA for the Replacement of the Churchland Bridge over the Western Branch of the Elizabeth River. The scope includes demolition of the existing NBR U.S. Route 17/High Street Bridge and replacing it with a 2,000 ft., 24-span prestressed concrete deck-girder bridge. The superstructure includes posttensioned spans over the active channel, a 36 ft. roadway and a 14 ft. multiuse sidewalk and bikeway. The substructure includes pile-supported piers and pile bents constructed in tidal water. The project also includes rehabilitation of the parallel SBR U.S. Route 17/High Street Bridge. The scope predominantly consists of substructure repairs including patching concrete components, epoxy crack injection, installing pile jackets, replacing bearings and deck joints, repairing/replacing deteriorated structural steel framing elements, and removing rust and repainting of steel structure.

Member, HDR Constructability Technology Center identifying, collecting, and disseminating best practices

Purdue University

West Lafayette, IN

January 2021 – May 2023 (part-time)

Instructor in the School of Construction Management Technology, Purdue Polytechnic Institute at Purdue University.

Duties include online teaching and development of graduate courses in the Master of Science in Construction Management (MSCM) Program. Course designed, developed, and delivered includes CM53000 *Construction Operations & Strategic Management*.

Virginia Polytechnic Institute & State University

Blacksburg, VA

August 2020 – December 2020 (part-time)

Adjunct Professor, Myers-Lawson School of Construction, College of Engineering/College of Architecture and Urban Studies.

August 2015 – August 2020

Professor of Practice and CEM Program Chair Myers-Lawson School of Construction, College of Engineering/College of Architecture and Urban Studies.

Duties included teaching and developing Construction Engineering and Management (CEM), Civil Engineering (CEE), and Building Construction (BC) undergraduate courses and various service activities. Duties also included leading and coordination of CEM Program, mentoring junior faculty, coaching student competition teams, mentoring and providing career guidance to undergraduate and graduate students, faculty advisor to various construction student organizations, fraternity faculty fellow, industry liaison, and many other service and outreach activities.

Teaching

Courses Taught

- BC 2044 *Buildings & Materials*
- CEM 3064 *Intro to Lean Construction*
- BC 3134/CEM 3134 *Temporary Structures*
- CEE 4014/BC 4024 *Estimating, Production, and Cost Engineering*
- CEE 4074 *Construction Means & Methods*
- CEE 4974 Various Independent Studies
- BC 5904 Project and Report

Courses Developed

- CEM 3024 *Construction Estimating & Scheduling*
- CEM 3064 *Intro to Lean Construction*
- CEM 4024 *Construction Law & Contract Administration*
- CEM 4445 & 4446 *CEM Capstone I & II*

Service Activities

Service duties include:

- Chair, Myers-Lawson School of Construction (MLSoC) Curriculum Committee
 - Obtained ABET reaccreditation for the CEM Program. Prepared self-studies for the ABET Engineering Accreditation Commission (EAC) and the ABET Applied and Natural Sciences Accreditation Commission (ANSAC). Hosted visits from both commissions.
- Member, MLSoC Leadership Team
- Member, College of Engineering Curriculum Committee
- Member, College of Engineering Assessment Committee
- Member, Graduate Construction Curriculum Development Committee
- Faculty Advisor, Constructors Consortium (student umbrella organization)
- Coach, VT Teams competing in the ASC (Associated Schools of Construction) Student Competitions, Region 2 (Peachtree City, GA) and Regions 6 & 7 Open Divisions (Reno, Nevada). Coaching teams across many divisions including Heavy Construction, Commercial Building Construction, Concrete Solutions, Design-Build, Construction Finance and Risk Management, Project (Risk) Management, Sustainable Building, and Integrated Project Delivery (IPD)
- Faculty Advisor, *Battle of the Playhouses* competition for Habitat for Humanity
- Faculty Fellow, Sigma Phi Epsilon, VA Kappa
- Vecellio Construction Engineering & Management Program (VCEMP) and MLSoC Graduate Student Committees
- Advising students in career and professional development
- Regular and active participation in and support of several MLSoC activities and events including IAB meetings, career fairs, Hard Hatting Ceremony, Commencement Marshall, annual banquet, and many others
- Faculty Advisor, Service-learning trip to Belize

Drexel University
Philadelphia, PA

July 2012 – August 2015

Program Director, Construction Management Program, College of Engineering

Duties included providing guidance, leadership, and administration of the Construction Management (CMGT) Program comprised of undergraduate study on-campus, off-campus, and Drexel at Burlington County College (BCC), and online graduate study. Specific duties as Program Director include:

- Work with faculty to establish and achieve strategic goals and objectives of the Program and College
- Ensure academic quality of the Program
- Authority and responsibility for teaching assignments for full-time faculty
- Recruitment, hiring, and promotion of qualified adjunct faculty
- Encourage increased efforts in research and scholarship among full-time faculty
- Support new initiatives including credit, non-credit, and customized training programs
- Lead assessment and evaluation
- Maintain Program accreditation including progress reports
- Work with Strategic Marketing and Enrollment Management personnel to achieve enrollment targets
- Oversee academic administrative activities
 - Ensure instructional support of faculty and students
 - Managing operational budgets, hiring staff, and directing performance management of faculty and staff
- Building and enhancing the Drexel CMGT community through:
 - Social and networking activities
 - Cultivating external relationships with industry and professional groups
 - Strengthening internal relationships across the University
 - Maintaining and enhancing alumni relations
 - Enhancing the Drexel network with other Associated Schools of Construction (ASC) and American Council for Construction Education (ACCE) institutions
- Chair of CMGT Graduate Admissions Committee

September 2005 – August 2015

Assistant Professor, Construction Management Program, College of Engineering (formerly housed in Goodwin College of Professional Studies)

Duties include designing, developing, and teaching face-to-face undergraduate courses and online graduate courses, performing a multitude of service functions, civic engagement, and research.

Teaching

Courses taught include:

- CMGT 161, 162, and 163 *Building Materials and Construction Methods I, II, & III*
- CMGT 240 *Economic Planning for Construction* (1)
- CMGT 251 *Construction Surveying* (1)
- CMGT 263 *Understanding Construction Drawings*
- CMGT 361 *Contracts and Specifications I*
- CMGT 380 *Construction Project Systems* (1)
- CMGT 450 (formerly CMGT 264) *Construction Management of Field Operations* (2)
- CMGT 451 *Heavy Construction Principles & Practices* (1)

- CMGT 461 and 462 *Construction Management I & II* (2)
- CMGT 463 *Value Engineering* (2)
- CMGT 467 *Techniques of Project Control* (2)
- CMGT 469 *Construction Seminar: Contemporary Issues* (hybrid delivery) (1)
- CMGT 499 *Construction Management Independent Study Project* (capstone course) (1)
- CMGT 530 *Equipment Applications & Economics* (graduate course - online delivery) (1)
- CMGT 538 *Strategic Management in Construction* (graduate course - online delivery) (1)

Notes:

- (1) Designed, developed, and delivered course
- (2) Revamped, reconfigured, and delivered course

Curricula Development and Program Enhancement

- Sole responsibility for creating and designing the Construction Management Graduate Program leading to an MSCM or Graduate Certificate in one of three concentrations including Construction Project Management, Sustainability, or Real Estate. The fully online graduate program was approved by the Faculty Senate and Provost's Office and successfully launched in September 2009.
- Contributed toward transforming the undergraduate program from a part-time program of inconsistent quality into a robust full-time cooperative education format. This included upgrading the curriculum into one that is reflective of current and future industry demands consistent with model CM programs that exhibit the academic rigor expected within the University. Existing courses were revamped or eliminated, and new courses created. Existing texts and other course materials were evaluated for quality and relevance. Quality enhancement of the program was boosted through assessment of existing course content and adjunct faculty performance. This resulted in the necessary winnowing of underperforming adjuncts, hiring of strong replacements, and standardizing of individual course sections.
- Assisted in the process of attaining ACCE Program accreditation. Contributions included participating in the self-study and preparation of materials for ACCE visitation and hosting the visiting team.
- Assisted in development of undergraduate and graduate capstone courses.
- Facilitated the initiation and design of a new course introducing Building Information Modeling (BIM): *CMGT 380 BIM in Construction*

Service Activities

- Formed the Drexel University Construction Management Advisory Council (CMAC) patterned after existing industry advisory boards at model institutions. Served as Executive Director from Fall 2005 through Spring 2011. During that time, the organization grew from 5 to 25 industry firms referred to as *Partners for the Future*. The CMAC has become an influential and supportive force for the CMGT Program and most importantly, the students. Duties and accomplishments include:
 - Constructed by-laws and established operating procedures
 - Established a financial account
 - Recruiting industry partners
 - Serving on various CMAC subcommittees
 - Initiated the Annual Awards Reception. Five (5) outstanding individuals have received Lifetime Achievement Awards in recognition of their significant contributions to the construction industry and to the CMGT Program

- Hosted several instructional and networking events for students with industry partners
- Coached teams from Drexel CMGT that have competed in the ASC Region 1 Student Competitions annually since 2009. The duties include regular weekly class meetings during the week and leading workshops on Saturdays in the Fall. The duties further include taking the team on field trips relevant to the competition, securing industry experts to serve as guest lecturers, arranging transportation and accommodations, and coordinating various other logistics. Coached teams in Heavy Construction and Commercial Building Construction divisions.
- Served on seven (7) Faculty Search Committees within Goodwin College and on the Search Committee for the Dean of Goodwin College
- Spearheaded creation of a video promoting the CMGT Program. Duties included writing an outlined script, and coordinating video interviews of CMAC industry professionals, faculty, alumni, and students.
- Provided career counseling to numerous undergraduate and graduate students as well as CMGT alumni. Assisted several of those served in securing full-time or co-op employment
- Outreach promoting the CMGT Program through presentations, hosting meetings/events to various student groups and professional societies and trade associations. Some of these include the Construction Management Association of America (CMAC), Associated Builders and Contractors (ABC), General Building Contractors Association (GBCA), National Association of Women in Construction (NAWIC), American Society of Highway Engineers (ASHE), Builders League of South Jersey, Building Industry Association of Philadelphia, and many other groups.
- Served as technical/faculty advisor for several Sr. Design teams from the Department of Civil, Architectural, and Environmental (CAEE) Engineering. Regularly serve as a panelist judging Senior Design team presentations in the Fall, Winter, and Spring. Also served as Faculty Advisor for several CAEE students for their Senior Seminar papers and presentations.
- Served as a judge for the *Transformable Structure Design-Build* project; a joint venture between Drexel Architecture and the Department of Civil, Architectural, and Environmental Engineering.
- Civic engagement activities including promotion and support of Tomorrow's Promise, liaison between University City District (UCD) and Tomorrow's Promise, Inc. (TPI), and as-built survey of the Young Great Society House. Also served as liaison to Rebuilding Together Philadelphia (RTP), assembling and leading CMGT student teams for Mantua Block Builds in October 2013 and May 2014. These activities support the University's commitment to civic engagement and provide service-learning opportunities for CMGT students
- Member of the Engineering Management Program Alignment and Review (PAR) Committee
- Served as a Director on the Board of the ACE (Architecture, Construction, and Engineering) Mentoring Program of Eastern PA. Also:
 - served as member of the ACE University Committee representing Drexel
 - hosted ACE Mentoring Orientation sessions
 - hosted ACE Mentor Summer Intern Session
 - annual participation in the ACE Mentoring Program College Fair
- Annually host/participate in *Inspire a Child to Dream Day*
- Annually participate/host *Introduce a Girl to Engineering Day*
- Regular and active participation in and support of several University activities including Blue and Gold Days, Reader at Commencement, Honors Convocation, undergraduate and graduate Open House and Accepted Students events, Academic Unit Leaders Workshops, and many other similar activities.
- Member of the Community College of Philadelphia (CCP) Construction Management Advisory Committee

- Annually serve as a judge for the Associated Builders and Contractors (ABC) of Eastern PA Project Excellence Competition
- Member, Lean Construction Institute (LCI) and Lean Construction Academic Forum. Also served as a Core Group Affiliate: LCI Mid-Atlantic Community of Practice
- Annual planning, coordinating and facilitating American Infrastructure (AI) Distinguished Lecture and Career Day
- Liaison to GlassCon Global Consortium. Drexel University CMGT/College of Engineering served as the host academic institution for the International Architectural Glass Conference in Philadelphia, PA, July 2014

Research and Publications

- PhD dissertation titled “*Application of Lean Principles to Highway Projects: Analysis of Barriers to Timely Delivery of Service*”. Dissertation defense: May 2012. Awarded the Honor of an Outstanding Research Contribution from a Young Researcher from the International Project Management Association (IPMA) for the dissertation component titled “*Highway Project Performance (HPP) Study*”. The HPP Study represented the major effort of the PhD dissertation.
 - Presented the award-winning paper at the IMPA International Conference in October, 2012
 - Presented the Findings of the HPP Study to the American Society of Highway Engineers (ASHE) – First State Section, Delaware Department of Transportation (DelDOT), University of Delaware Student Chapter of ASHE, and New Jersey TransAction Conference, Atlantic City, NJ
- *Development and Testing of an Innovative Architectural Programming Simulation as a Precursor to Target Value Design*, Fatemeh Solhjoui Khah, Zofia K. Rybkowski, A. Ray Pentecost, James P. Smith, and Robert Muir, 27th Annual Conference of the International Group for Lean Construction (IGLC), Dublin, Ireland, 2019.
- *Fostering Creativity and Innovation in Construction Management Begins with Educators*, Muir, R., ENR, October 22, 2012
- *Application of Lean Thinking to Highway Project Delivery*, Muir, R. and Martin, J., 31st Annual Conference of the American Society of Engineering Management (ASEM) October 13-16, 2010, Rogers, AK.
- *Managing Catastrophic Risk to Istanbul’s Housing Infrastructure*, Muir, R., Sunger, N., Wittke, R., and Gurian, P.L., 5th International Conference on Bridge Maintenance, Safety, & Management (IABMAS), Philadelphia, PA, July 11-15, 2010
- *Mastering Construction Management: Drexel Launches Masters in Construction Management*, Muir, R., Construction Today magazine, Winter 2010
- *Construction Management Education at Drexel University*, Muir, R., BIA Voice, Vol. 7, No. 3, Building Industry Association of Philadelphia, Fall 2010
- *Training for Organizational Development*, Muir, R. and Songer, A., Construction Today magazine, Spring 2008
- *Design-Build in Highway Construction: A Contrast in Implementation and Outcome*, Muir, R. and Songer, A., Journal of Construction Procurement, Vol. 14. No. 2, 88-97, November 2008
- *Professional Construction Management Education*, Muir, R., Construction Today magazine, Fall 2007
- Reviewer for the Journal of Lean Construction (LCJ), Lean Construction Institute (LCI)

Non-credit Instruction

- *Introduction to Lean Design & Construction*, 1-hour seminar for ASCET – American Society of

Engineering Technicians, Orlando, FL, November 2016

- *Root Cause Analysis*, 1-hour seminar for ASCET – American Society of Engineering Technicians, Orlando, FL, November 2016
- *Introduction to Strategic Planning*, 2-hour training seminar for the Virginia Tech Chapter of Sigma Phi Epsilon, August 2016
- Facilitated *SWOT Analysis Workshop*, 3-hour session for the Virginia Tech Chapter of Sigma Phi Epsilon, October 2016
- *Ethics for Engineers & Constructors*, 3-hour training session for professional engineers, ASHE – First State Section and the Delaware Contractors Association (DCA), Stanton, DE, January 2015
- *Value Engineering*, 2-hour training session, ASHE – First State Section and the Delaware Contractors Association (DCA), Stanton, DE, January 2015
- *Training: Making it Stick*, American Society of Certified Engineering Technicians – 1-hour seminar, ASCET Annual Conference & Exposition, Myrtle Beach, SC, November 6, 2014
- NICET Levels I & II Exam Preparation, day-long training workshops, Bordentown and Carteret, NJ, 2013-14
- Facilitated ASHE National Board of Directors SWOT Analysis Workshop, January 2014
- Training sessions (3 – 3-hour sessions) conducted for ASHE on *Earned Value Analysis, Project Risk Management, and Life Cycle Cost Analysis*, Stanton, DE, September 2013
- Teaching *Construction Engineering* (2 - 3-hr modules) in the Professional Engineer (PE) Exam Review course (non-credit) 2-3 times annually from 2008 to Spring 2015
- *Introduction to CPM Network Scheduling*, two (2), day-long, training seminars for the US Army Corps of Engineers, Philadelphia, PA and Fort Dix, NJ, September 2012
- *CPM Planning and Scheduling*, 3-hour training session presented to Goodwin College IT Group, Drexel University, May 2012.
- *Lean Construction Principles & Practices*, ABC of Delaware, New Castle, DE. 4-hour training seminar, June 2010
- *Improving Productivity & Performance*, ABC of Delaware, Newark, DE. One-day training seminar, March 2008.
- Developed and delivered asynchronous online training module titled *Effective Project Communication: Managing Scope, Schedule and Fee* for Pennoni Associates, Spring 2008
- *Organization Development and Leadership Workshop*, ABC of Delaware, New Castle, DE. One-day training seminar, November 2008
- *Organization Development and Leadership Workshop*, Associated Builders and Contractors (ABC), Eastern Pennsylvania, East Norriton, PA. One-day training seminar, October 2007

Construction Analysts, LLC

Hamilton, NJ

September 2007 – December 2015 (part-time)

Principal/Partner in part-time consulting practice providing expert analysis and testimony, training and development, management consulting, and other services related to construction management.

University of Delaware

Newark, DE

January 1999 – May 2009 (part-time)

Part-time external faculty teaching construction engineering and project management courses in the Department of Civil and Environmental Engineering (CEE). Courses were generally restricted to undergraduate senior and graduate civil engineering students. Courses developed and delivered face-to-face include:

- CIEG 486 *Construction Methods & Management*
- CIEG 467 *Project Planning & Management*
- Served as a member of the CEE External Advisory Council, September 2005 – August 2008
- Developed a proposed concentration in Construction Engineering & Management (CEM)

Virginia Polytechnic Institute and State University

Blacksburg, VA

August 2004 – August 2005

Graduate Research Assistant in the Vecellio Construction Engineering and Management Program (VCEMP), Charles E. Via, Jr. Department of Civil and Environmental Engineering, investigating performance improvement through training and development, innovative project delivery methods, information technology in construction, and other topics. Project & Report titled: *Training: Making it Stick* utilized by VCEMP and BC industry affiliates including VDOT

Greggo & Ferrara, Inc.

New Castle, DE

July 1997 – August 2004

- **Project Manager** in charge of I-95 Brandywine Bridge/I-95 Overpass Bridges in Wilmington, DE. Management of incentive-based project to rehabilitate I-95 over Brandywine River Bridge and eight overpass bridges over Interstate 95, which earned the full incentive award.
- **Project Manager** directing Delaware Memorial Bridge Approach Reconstruction. Delivered five of five milestones on time earning the full bonus value on this incentive-based contract in New Castle, DE.
- **Project Manager** in charge of the Churchmans Rd. – SR 7 Interchange, New Castle County, DE. Completed this project on time, under budget, and with no claims. The project featured new bridge and interchange ramp construction while maintaining a high volume of traffic. Construction work also included rehabilitation of I-95 Bridges over SR 7, earthwork, drainage, and intensive utility work.
- **Project Manager** in charge of the Reconstruction of two bridges and construction of a drilled-shaft post-and-plank retaining wall along SR 82 (Creek Road), Yorklyn-Ashland, DE
- Other bridge, highway, and site construction/development projects

Rust E&I/OPA Engineers/Pavlo Engineering Co.

New York, NY • Chester, PA • Bridgeport, NJ • Wilmington, DE

September 1983 – July 1997

- **Resident Engineer** in charge of constructing the Delaware SR 273, Amtrak to Ogletown Interchange near Newark, DE. The award-winning controlled access facility included 2 miles of new slipformed concrete roadway, five bridges, earthwork, utility relocation, stormwater management, and wetland mitigation sites. Project management duties included supervising quality control program, coordination, CPM schedule

analysis, claims avoidance, and community relations. Administrative duties included hiring personnel, training and mentoring staff, and client contact.

- **Resident Engineer** on the Delaware Route 7, Phase I (now SR 1) project in Christiana, DE, responsible for construction of a limited access highway that links SR 1 with I-95. Construction included building nine (9) new bridges through environmentally sensitive wetlands and parklands and approximately one million cubic yards of earthwork. Project management included supervising quality control, schedule analysis, resolution of design issues, claims avoidance, and community relations. Duties included training and developing staff.
- Reconstruction of Concord Pike (US Route 202) in Wilmington, DE. Project included total reconstruction and widening of four miles of a major artery through a densely populated area while maintaining traffic. The work also included intensive utility relocations. Served as **Resident Engineer** on Phases II & III and as **Field Engineer** on Phase I. Duties included quality control, coordination, schedule analysis, claims avoidance, very proactive community relations program, supervision, and staff development.
- **Field Engineer** performing construction inspection and documentation of the Elsmere Viaduct, Wilmington, DE
- Condition inspection of several bridges in New York, New Jersey, Connecticut, and West Virginia. Notable structures included:
 - Castleton-on-Hudson Bridge, New York State Thruway, Albany, NY over the Hudson River
 - Outerbridge Crossing, Perth Amboy, NJ – Staten Island, NY spanning the Arthur Kill
 - Parkersburg-Belpre Bridge, Parkersburg, WV – Belpre, OH crossing the Ohio River
- Design projects including:
 - Facilitating value engineering efforts and performing constructability studies
 - Coordinating Preliminary Study of Route 52 Relocation, Somers Point – Ocean City, NJ
 - Maynard Street Bridge over the Susquehanna River, Williamsport, PA
 - Memorial Avenue Bridge over Lycoming Creek, Williamsport, PA
 - Load rating analysis of eight truss bridges in York and Lancaster Counties, PA
- Survey work including preliminary engineering and control surveys for new bridges and highways in West Virginia, New Jersey, New York, and Massachusetts.
- Management and staff development of regional office serving Pennsylvania, New Jersey, and Delaware. Duties included strategic planning and execution, recruiting, hiring, training, and development of field personnel to staff projects.
- Marketing/Business Development including:
 - Preparing technical and price proposals, along with preparing and delivering oral presentations to clients in Delaware, New Jersey, Pennsylvania, New York, West Virginia, and Connecticut.
 - Development and implementation of marketing strategies.

Phoenix Steel Corporation

Claymont, DE • Phoenixville, PA

August 1978 - September 1983

- **Field/Project Engineer** assigned to major capital improvement program. Total project involvement included preliminary studies, survey and layout, civil/structural/mechanical design, estimating, appropriation requests, preparing specifications, contractor coordination, scheduling, inspection, and final approval. Construction work elements included earthwork, drainage, utilities, office buildings, industrial building structures, plant bridges and railroads, and mechanical equipment and systems.

Ludwig Honold Mfg. Co.

Folcroft, PA • Edgemoor, DE

June 1974 - March 1977

- **Draftsman** preparing detail, assembly, and erection drawings for prefabricated structural and mechanical components.