

FORCON INTERNATIONAL

JOSEPH F. BOWARD, P.E., F.NSPE

SUMMARY

Mr. Boward primarily specializes in geotechnical engineering and selected components of structural, environmental, hydraulic/hydrology, and forensic engineering. As a civil engineer, Mr. Boward is concerned with the application of civil engineering technology to aspects of the earth, including the interaction of engineering works with soils and bedrock. Thus, he is routinely involved with detailed engineering investigations/evaluations of: structure foundations, especially with respect to bearing capacity and settlement considerations; retaining walls, primarily entailing designs or distress and stability evaluations that typically require lateral earth and hydrostatic load considerations; embankments and slopes, generally with respect to their stability and construction requirements; landslide/rock-fall causation and mitigation/remediation; rock mechanics considerations; soil and rock material characteristics as gleaned from classification, and physical/chemical testing, including the determination of geomaterial strength, compressibility, deformation, and behavior; structural distress, including causation determinations; karstic (limestone-solutioning-prone) sites; geohydrology, especially with respect to groundwater effects on structures, slopes/hillsides, and construction; geotechnical aspects related to strip- and deep-mining considerations, as well as mine subsidence concerns; blasting analysis, especially with respect to ground particle acceleration/deformation and influence on structures and subsurface formations; subgrade heaving issues, typically related to expansive pyritic/marcasitic materials or slag, often leading to superjacent structural distresses; and structure interactions with soils and rocks, which affect the type of foundations recommended for structure support. Such recommendations also include the evaluation of soil and rock parameters - including structural foundation bearing capacity, anticipated settlement, frictional forces, shear and compressive strength of strata, and lateral (passive/active) pressures - required for structural/foundation design. This knowledge is applicable to a broad cross-section of civil engineering works of which Mr. Boward has provided his expertise, including: commercial and/or industrial facility developments; residential structures; institutional facility developments; highways/pavements; retaining walls; tunnels; infrastructure elements; structure foundations; dams and levees; grading/earthmoving; mine or karstic subsidence damage assessment and mitigation; as well as many others. Mr. Boward is also qualified to present testimony on these and related areas of expertise in legal proceedings, which he has numerous times for more than 30 years.

EDUCATION

Bachelor of Science in Civil Engineering, Purdue University, (with an emphasis in Geotechnical, Structural and Environmental Engineering)

Master of Science in Civil Engineering, University of Pittsburgh, (with an emphasis in Geotechnical Engineering and Hydraulic Engineering (water/stormwater flow/transport/ control, etc.)

REGISTRATIONS

Registered Professional Engineer in the following States:

- Maryland # 30789
- Ohio # PE.62090
- Pennsylvania # PE038463E
- West Virginia # 013077

PROFESSIONAL ASSOCIATIONS

National Society of Professional Engineers (NSPE)
Pennsylvania Society of Professional Engineers (PSPE)
Pennsylvania Professional Engineers in Private Practice (PA/PEPP)
American Society of Civil Engineers (ASCE)
American Concrete Institute (ACI)
American Society of Highway Engineers (ASHE)
Chi Epsilon National Civil Engineering Honor Society

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PROFESSIONAL MEMBERSHIPS:

Present:

- Immediate Past President, PSPE (PA State Level)
- Instructor, PSPE Professional Engineering Licensing Exam Refresher Course
- Nominating Committee Chairman, PSPE (PA State Level)
- Member, PSPE Awards Committee
- Moderator, Pittsburgh Chapter, PSPE, MATHCOUNTS Program Competition
- Member, PSPE, Pittsburgh Chapter, Awards Committee

Past:

- President, PSPE (State Level)
- President-Elect, PSPE (PA State Level)
- Vice President, PSPE Executive Board Southwest Region (PA State Level)
- Secretary, PSPE State Executive Board
- Board Member and Nomination Chair, PEF Board
- Member, Board of Directors, ASCE Geo-Institute, Pittsburgh Chapter
- Chairman, PSPE State Awards Committee
- Immediate Past Chairman, PA/PEPP
- Immediate Past President, Pittsburgh Chapter, PSPE
- President, Pittsburgh Chapter, PSPE
- Vice President at three tiers of Pittsburgh Chapter, PSPE
- Director, Pittsburgh Chapter, PSPE
- Chairman, PA/PEPP Executive Committee
- Vice Chairman, PA/PEPP Executive Committee
- Member, National PEPP Awards Committee
- Secretary, PA/PEPP Executive Committee
- SW Region Vice Chairman, PA/PEPP Executive Committee
- PSPE Representative on Construction Legislative Council (CLC) Board
- Chairman, Pittsburgh Chapter, PSPE, MATHCOUNTS Program
- Chairman, Pittsburgh Chapter, PSPE, Awards, Long Range Planning, Nominations, and Scholarship Committees
- Chairman, PA/PEPP, Professional Development Award, Membership, and Newsletter Committees
- Member, Pittsburgh Chapter, PSPE, Nominations, Newsletter, Chapter Office, Awards, and Tellers Committees, and Editorial
- Pittsburgh Chapter, PSPE Auxiliary Liaison

CAREER HISTORY

FORCON International – Independent Engineering Contractor

Providing Forensic Investigation and Expert Witness Services as it relates to his areas of expertise.

Garvin Boward Beitko Engineering, Inc. – Partner/Principal Engineer

Providing consulting engineering services.

Michael Baker Jr., Inc. - Senior Engineer

Engineering Mechanics, Inc., - Project Engineer

HIGHLIGHTED PROJECT SAMPLES

Description

Flight 93 Memorial Park, including Learning Center, Visitors Center, Flight Path Overlook Structure, Pedestrian Bridge, Memorial Walls, and Tower of Voices.
Pittsburgh Science Center

Location

Somerset County, PA
Pittsburgh, PA

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PPG Place Buildings	Pittsburgh, PA
Carnegie Mellon University Physical Plant	Pittsburgh, PA
Pittsburgh Subway	Pittsburgh, PA
Kingsford Charcoal Plant ¾-mile-long Levee System	Parsons, WV
Erie South Walmart Facility	Erie, PA
Suncrest Plaza Sheet-Pile Retaining Structure,	Morgantown, WV
Ross Hill Road Landslide Remediation with Retaining Wall,	Patterson Township, PA
St. Clair Hospital Temporary Shoring Retaining Structure, Bower Hill Road	Pittsburgh, PA
Soil Nail Retaining Wall Remediation of Landslide at Boggs School Road	Moon Township, PA
Soil Nail Retaining Wall Remediation of Failing Aged Wall at Sycamore Street	Glen-Osborne Borough, PA
Cochrans Mill Road Stabilization Project	Jefferson Hills Borough, PA
Robert Morris University Business Center	Moon Township, PA
Robert Morris University Residence Hall	Moon Township, PA
Robert Morris University School of Nursing Project	Moon Township, PA
University of Pittsburgh Darragh Street Residential Housing Project	Pittsburgh, PA
Carnegie Mellon University National Robotics Engineering Center	Pittsburgh, PA
Evans City Reservoir Dam	Evans City, PA
Remediation of Landslide with Soil Nail Retaining Wall, Cathell Road	Baldwin Borough, PA
Allegheny Country Club Soldier Beam and Lagging Retaining Wall	Sewickley Borough, PA
CVS Store Soldier Beam and Lagging Retaining Wall, Centre Avenue	Pittsburgh, PA
Landslide Remediation with Soldier Beam and Lagging Retaining Wall for	Pittsburgh, PA
Pittsburgh Sewer and Water Authority	
Bethel Park School District Landslide Remediation with Slope Reconstruction	Bethel Park, PA
Ross Park Mall	Ross Township, PA
Terence Drive Retaining Wall	Pleasant Hills Borough, PA
Moon Township Water Tank	Moon Township, PA
911th Air Base Civil Engineering Building Project	Moon Township, PA
Robinson Township Water Tank	Moon Township, PA
Water Intake Structure in the Ohio River	Center Township, PA
Water Intake Structure in the Ohio River	Moon Township, PA

PUBLICATIONS

J. F. Boward and L.E. Vallejo, "Clay Liner Crack Propagation," Engineered Contaminated Soils and Interaction of Soil Geomembranes, Proceedings of ASCE National Convention in Washington, DC, November 10-14, 1996, Geotechnical Special Publication No. 59, American Society of Civil Engineers, New York, 1996.

R. G. Garvin and J. F. Boward, "Using Slurry Walls to Protect an Historic Building: A Case Study," Slurry Walls: Design, Construction, and Quality Control, ASTM STP 1129, American Society for Testing and Materials, Philadelphia, PA, 1992.

J. F. Boward, "A Laboratory Study of Crack Propagation in Fissured Anisotropic Clay and at the Fissured Interface of Dissimilar Soils," Thesis for University of Pittsburgh Master of Science in Civil Engineering, Pittsburgh, PA, 1990.

AWARDS AND RECOGNITION

Young Engineer of the Year, 1992, Pittsburgh Chapter, PSPE
Certificate of Achievement, County of Allegheny, for service as PSPE MATHCOUNTS Coordinator, 1992
L. W. Hornfeck Award, for meritorious service, Pittsburgh Chapter, PSPE, 1995
Dedicated Service Award, Pittsburgh Chapter, PSPE, 2005
Distinguished Service Award, PA/PEPP, 2006
Engineer of the Year Award, PSPE, 2008
President's Dedicated Service Award, PSPE, 2008
Elevated to Fellow Status (F.NSPE) by National Society of Professional Engineers, 2011
L. W. Hornfeck Award, for meritorious service, Pittsburgh Chapter, PSPE, 2017