

WILLIAM M. CARNES, P.E.
President, Principal Engineer
Hillis-Carnes Engineering Associates, Inc.
10975 Guiford Road
Annapolis Junction, Maryland 20701

Education

B.S. Civil Engineering, University of Maryland,
College Park, MD 1974

M.S. Geotechnical Engineering, George
Washington University, Washington, D.C.
1980

Employment

1975-1977 American Structures, Inc.
Baltimore, Maryland

*Construction Engineer for Tunneling
Contractor*

1977-1979 RTKL Architects
Baltimore, Maryland

*Structural Engineer for national Architectural
Firm*

1979-1989 KCI Technologies
Sparks, Maryland

*Geotechnical and Materials Testing Engineer
for large Civil Engineering Firm*

Registrations

- Professional Engineer (Delaware)
No.9213
- Professional Engineer (Maryland)
No.12012
- Professional Engineer (North Carolina)
No. 28725
- Professional Engineer (Virginia)
No.17379
- Professional Engineer (New Jersey)
No. 24GE03260800
- Professional Engineer (West Virginia)
No.11615
- Professional Engineer (Pennsylvania)
No. PE-042778-R
- Professional Engineer (District of
Columbia) No. PE904958

Professional Affiliations

American Society of Civil Engineers
American Concrete Institute
Design Build Institute of America

Professional Summary

Geotechnical Engineering: Planned, coordinated, and managed geotechnical investigations for hundreds of projects in the Mid-Atlantic States and New England. Supervised and trained staff of geotechnical engineers. Prepared proposals for geotechnical investigation. Set up site reconnaissance programs, directed and inspected drill crews. Performed analysis of foundation, earth support, and slope stability systems using both classical and state-of-the-art methods. Familiar with the Pressuremeter, Plate Dilatometer, Cone Penetrometer, as well as the more common Standard Penetration test. Have run all standard laboratory tests including consolidation and permeability. Experienced in shallow spread footings, deep foundations, pavement and subgrade improvement, Slope stability analysis. Seismic Site Classification using geophysical testing and analysis. Projects include 1350 New York Ave, Washington, D.C. (an 18 story highrise, on a mat foundation including underpinning) Pennington Ave Bridge (a creek crossing with approaches on 50 ft. of organic fill using mud displacement method). Owings Mills Town Center, Johns Hopkins University Brody Learning Center.

Value Engineering: Redesigned a 25,000 sq. ft. retaining wall system for B.J.'s outlet in White Marsh, MD saving project \$250,000. Recommended and redesigned foundation of parking garage, John's Hopkins from from drilled piers to spread footings saving \$480,000. Redesigned foundation for 10 story Owings Mills Executive Building from drilled piers to spread footings realizing a savings of over \$200,000. Redesigned a pavement section for Sears Distribution Complex saving \$150,000 by using a soil cement system over a conventional multi-layer system. Eliminated undercut of existing fill at big box shopping center in Arbutus by using Deep Dynamic Consolidation saving \$1.2 million. Redesigned foundation system of drilled piers to shallow spread footings for parking garage in Owings Mills saving \$800,000. Redesigned parking garage in Owings Mills for higher bearing capacity saving \$150,000.

Cost Analysis: Performed quantity analysis, provided schedule on Primavera Project Management and prepared bid for \$1.4 million superfund cleanup of chemical process building in Pottstown, PA. Did job costing for two chromium contamination treatment plants in Baltimore, MD. Provided engineer's estimate for renovation of 45,000 square foot office complex for Exxon Distribution Complex in Richmond, VA. Took off plans and prepared bid for storage tank upgrades for Dulles Airport. Tracked schedule and costs of \$540,000 upgrade of Locomotive fueling system in Richmond, VA for CSX transportation.

Materials and Structural Engineering: Performed structural analysis and design for flexible and rigid retaining walls. Designed a sheeting and shoring system of the 40ft. deep excavation for the Sheraton Hotel, Crystal City, Va. Designed a hard rock tunnel liner for a sanitary interceptor beneath Interstate I-70, Frederick, Md. Designed and supervised the construction of Restoration of Tunnel Access; Calvert Cliffs Nuclear Power Plant. Investigated pavement failures for shopping centers, churches, and running tracks. Evaluated structural failures of masonry, reinforced concrete, and structural steel buildings. Typical projects are Roof collapse; Silver Hill concrete, Silver Hill, Md, Roof Collapse; Shopping Center, Mechanicsburg, PA. Roof Failure; Owings Mills Office Park., retaining wall failure; Rhode Island Ave. Shopping Center, running track maintenance; Anne Arundel County Public Schools, parking lot failure; K-Mart, North Point Blvd. foundation distress of a structure founded on expandable blast furnace slag; Dietrich Steel, Sparrows Point, Md. Prepared Demolition Contract for Westside Superblock for Baltimore City Department of General Services.

Field Quality Control: Supervised quality control of the construction of controlled-compacted fill, concrete, steel reinforcing, structural steel, masonry and pavement. Projects include Baltimore Ravens Stadium, Pittsburgh Steelers Stadium, Comcast (University of Maryland Basketball) Stadium, Washington, D.C. Convention Center. Annapolis Junction Business Park, 1350 New York Ave, Fort Meade Research and

Development Building, Artery Headquarters, Bank of Baltimore, K-Mart Fullerton, K-Mart Liberty Road, Chaplegate, Montgomery Meadows, Montgomery Mall, Annapolis Mall, Owings Mill New Town, Greater Laurel Professional Park. Laurel Raceway, Owings Mills Town Center, Owings Mills Metro Center.

General: Built and Direct \$27 million engineering firm with 300 employees in 12 offices in 4 states. Direct initiatives in design/build and specialty contracting including environmental remediation, soil improvement and foundation restoration. Hire and review Branch Office managers. Develop incentive programs. Market firm services. Establish company wide technical and sales seminars. Develop new services such as geophysical investigations, utility design, foundation underpinning, foundation design and construction, value engineering review of contract documents.

Expert Witness: Served as expert witness on cases since 1985 involving construction. Among the cases which went to depositions or court:

Montgomery County Maryland: Witness for contractor (defendant) against subcontractor over workmanship of concrete flatwork.

Frederick County, Maryland: Witness for Homebuilder (defendant) against homeowner over groundwater issues.

Baltimore City, MD: Witness for developer (defendant) against contractor regarding amount of compensation after termination of contract.

Baltimore County, MD: Witness for business owner (plaintiff) against adjacent development regarding groundwater issues.

Prince Georges County, MD: Witness for developer (plaintiff) against testing agency for deficient work in testing utility backfill which lead to pavement failures.

Baltimore County, Maryland: Witness for homeowner (plaintiff) against contractor, engineer and supplier for deficient work with a retaining wall.

Washington, DC: Witness for developer (defendant) against adjacent property owner for alleged damage to retaining wall

Anne Arundel County, MD: Witness for homeowner (plaintiff) against homebuilder regarding construction defect with basement constructed below groundwater level.