Jake Carlyle | Forensic Structural Engineer, **PE**

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Professional Summary:

Mr. Carlyle is a licensed professional engineer with 10 years of experience in the civil, structural, and forensic engineering fields. His project experience as a forensic engineer includes structural assessments due to flood/storm surge, hurricanes, tornados, tree & vehicle impacts, fires, and construction & explosion vibration. Mr. Carlyle also has extensive experience performing construction failure investigations, foundation & retaining wall inspections, water intrusion investigations, roof assessments associated with wind & hail damage, and building envelope failure investigations. As a marine structural engineer, Mr. Carlyle analyzed historic waterfront structures, performed load ratings, designed pier & bulkhead repairs and retrofits, designed industrial/material handling infrastructure, and provided construction support for a variety of public & private port and harbor facilities. He is well versed working with insurers, building owners, developers, architects, contractors, commercial divers, federal/state/local authorities, and permitting officials throughout the east coast and gulf coast.

Mr. Carlyle has a working knowledge of the International Building Code (IBC) and the associated construction material design standards, including (but not limited to) the American Concrete Institute (ACI), American Institute of Steel Construction (AISC), National Concrete Masonry Association (NCMA), American Wood Council (AWC), and the Engineered Wood Association (APA). Mr. Carlyle also has a working knowledge of the coastal and maritime industry design and construction standards established by the U.S. Army Corps of Engineers (USACE), the Federal Emergency Management Agency (FEMA), Permanent International Association of Navigation Congresses (PIANC), the Oil Companies International Marine Forum (OCIMF), among others.

Licenses and Certifications:

Professional Engineer, Maryland, License # 50642
Professional Engineer, Florida, License # 92530
Professional Engineer, Delaware, License # 25687
Professional Engineer, Virginia, License # 402064607
Professional Engineer, Pennsylvania, License # 092993
Professional Engineer, District of Columbia, License # 40000050
Professional Engineer, West Virginia, License # 25110
Professional Engineer, South Carolina, License # 39836
Professional Engineer, North Carolina, License # 53518
Professional Engineer, Georgia, License # 048361
Professional Engineer, Texas, License # 144277
Professional Engineer, New York, License # 107315
Professional Engineer, New Jersey, License # 24GE05886100
Professional Engineer, Louisiana, License # PE.0046871
Professional Engineer, Alabama, License # PE51398
Professional Engineer, Mississippi, License # 33048

Project Experience:

Maryland Port Administration (MPA), Baltimore, MD
Agency Wide Building Condition Assessments
Conducted a visual survey of 31 buildings of various types of construction. Coordinated a team of subconsultants from other disciplines (mechanical, electrical, architectural, etc.) and produced a summary report with facility ratings that was presented to the MPA.

CSX Transportation, Tampa Bay, FL
Phosphate Terminal Inspection and Retrofit
Conducted a dive inspection of concrete Tee beams and sheet pile cell marine structures. Designed a new vessel fendering system and developed a phased maintenance and repair cost estimate for the waterfront structures.

TE Connectivity, Baltimore, MD
High Bay Storage Building End Wall Replacement
Inspected a collapsed end wall of a pre-engineered metal building (PEMB) and determined the cause of the collapse. Expedited the design of a replacement wall and production of bid documents to less than 2 weeks to protect the UV-sensitive telecommunication cables stored in the building.

Continental Building Products (CBP), Madison, In
Barge Loading Station
Designed a steel conveyor tower to support conveyor trusses for a flue gas desulfurization (FGD) barge loading operation on the Ohio River. Retrofitted existing steel conveyor trusses and deck barge frames with built-up steel sections to accommodate changed loading conditions.

Stoney's Solomons Pier Restaurant, Solomons, MD
Dive Inspection and Repair
Investigated a timber pier-supported restaurant and determined the cause of floor settlement. Developed a procedure to jack the building up several inches without causing collateral damage. Designed repairs and produced permit drawings to repair/replace damaged timber members.

Under Armor Global Headquarters (UA), Baltimore, MD
Waterfront Structures Dive Inspection
Directed an underwater inspection of a low-level timber relieving platform supporting a public promenade and UA corporate offices. Designed and supervised construction of emergency repairs for several sink holes found below the public waterfront promenade.

Trade Point Atlantic (TPA), Baltimore, MD
Offshore Wind Fabrication Facility
Evaluated an existing concrete drydock facility to be retrofitted for an offshore wind turbine load-out terminal. Designed a heavy-lift concrete crane pad and roll-on/roll-off platform to handle the turbine components.

Chesapeake Energy Services, Lusby, MD
Pier Condition Assessment
Performed a dive inspection and load rating of a prestressed concrete pier. Determined the residual live load capacity based on the deterioration findings.

Continental Building Products (CBP), Buchanan, NY
Warehouse Roof Repair
Performed an inspection of a pre-engineered metal building (PEMB) to determine the cause of damaged steel columns. Analyzed the PEMB with code-prescribed design loads, reviewed the construction documents, and determined the cause of damage was a construction error. Produced a summary report including several roof jacking and repair alternatives and provided repair construction support.

Professional Experience:

EFI Global, Inc., Structural Forensic Engineer, 2021 – Present
Whitney Bailey Cox & Magnani, Marine Structural Engineer, 2015 – 2021

Specialized Education:

Advanced Roofing Certification Program, Vale Training, 2022

Education:

Master of Science, Structural Engineering, Johns Hopkins University, Baltimore, MD, 2020
Bachelor of Science, Civil Engineering, University of Maryland, College Park, MD, 2015

Affiliations:

American Society of Civil Engineers (ASCE)