



David Porter, PE

Senior Engineer

Education

BS, Civil Engineering University of North Carolina at Charlotte, 1995

Year Joined AMPHION

2009

Years of Experience

Since 1995

Professional Registrations

Professional Engineer – North Carolina, Florida, Georgia, South Carolina, Kentucky, Texas, Arkansas, Colorado, Kansas, Louisiana, Oklahoma, Tennessee, Virginia, Washington

Additional Certifications

NDT Level II:
Digital Ultrasonic Thickness
Magnetic Particle

Mr. David Porter has been a Senior Engineer with Amphion Analytical Engineering, PA since 2009. He has experience in facility evaluations, structural design, project administration, inspection, and failure analysis since 1995.

Mr. Porter provides moisture intrusion evaluations, condition surveys, and replacement designs for wood, steel, and concrete structures. He has extensive experience with various building facades, including brick, stucco, and glass curtain walls, and Exterior Insulation and Finish Systems (EIFS). Mr. Porter is also experienced in Moisture testing and replacement design of traditional built-up, metal, single-ply, and plaza deck roof systems.

Mr. Porter is a licensed, professional engineer in North Carolina, Florida, South Carolina, Tennessee, Kansas, Georgia, Virginia, New Hampshire, Louisiana, Arkansas, Oklahoma, Colorado, Washington, Kentucky, and Massachusetts.

Structural Design

CORE OF ENGINEERS, SECTOR GATE DESIGN

Served as the Project Design Lead for a 75-inch steel sector gate.

TACTICAL TRAINING FACILITIES

Structural design of concrete foundations for two prefabricated metal buildings. One of the prefabricated metal buildings was a 10,000-square foot dining hall and the other was a 13,000-square foot personal training compound.

PARKING DECK AND MALL OPERATIONS CENTER

Structural design for a steel frame, 55,000-square foot mail processing center with 3 levels of parking for 650 cars above with capacity for a future a 30-car level expansion.



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BRANCH BANK FACILITY

Structural design for a steel frame and wood frame including foundations, 2,600-square foot single story branch bank facility.

MILL RENOVATION

Performed structural evaluation of existing wood framing to determine load capacity of floor areas.

Façade

FAÇADE RENOVATION OF HISTORICAL HOTEL

Design and Construction Administrator for the façade renovation of a historical hotel. Design included window restoration, brick repairs and restoration, and cleaning of the façade. Worked directly with local historical restoration committee to verify that design was performed in accordance with local and federal requirements.

CONDITION SURVEYS AND MOISTURE INTRUSION EVALUATIONS

Performed condition surveys and moisture intrusion evaluations of existing EIFS façades for more than 40 facilities located across the United States. Also, performed replacement and repair design associated with the façade of several properties.

SCHOOL REROOFING

Performed evaluation, reroofing design, and construction administration for more than 40 school buildings.

CONFIDENTIAL HOTEL

Design and construction Administrator of Façade renovation of historical hotel. Design included window restoration, brick repairs and restoration, and cleaning of façade. Worked directly with local historical restoration committee to verify that design was performed in accordance with local and federal requirements.

CONFIDENTIAL HOTEL

Performed condition surveys and moisture intrusion evaluations of existing EIFS façades for more than 40 facilities located across the United States. Also performed replacement and repair design associated with the façade of several properties.

Post-Hurricane Rehabilitation

Following the hurricanes during the summer of 2004, performed various structural evaluations and designs associated with repairing damage to the hotel. Detailed design drawings were issued for each task. In addition, worked closely with contractors during the installation of the various items to oversee installation and construction. Specific services included the following:

- Roof Replacement Design.
- Structural Design.
- Façade Repair and Replacement Design.
- Documented damage to existing curtain wall and roof systems.
- Performed wind load calculations and building code research.
- Evaluated existing structures to determine the structural capacity of the building relating to the installation of the new assemblies.
- Provided consulting services during the planning and construction phase of the repairs.

Façade Repair

Performed evaluation of damage associated with existing EIFS and window assembly. Provided report outlining findings with corresponding repair options and associated cost estimates for repair. Produced repair drawings and specifications for repair of the damaged EIFS and window assemblies. Assisted with contractor selection process for the EIFS and window repairs and performed construction administration services during the repair process.

Roofing Evaluation and Re-engineering

Performed evaluation of moisture intrusion concerns associated with roof top pool deck waterproofing assembly. Provided report outlining findings with corresponding repair options and associated cost estimates for repair. Produced repair drawings and specifications for replacement of the pool deck waterproofing assembly window.

Curtain Wall Services

Performed visual evaluation of existing exterior curtain wall assembly. Provided report outlining observations and provided recommendations for repair and replacement of deteriorated assemblies.

Hotel Beam Deflection

Evaluation replacement design and construction administration of new window curtain wall design.

Hotel Façade Repair and Replacement

Performed façade and guest room window replacement design for hotel. Scope of services provided included architectural renderings with associated cost estimates, design drawings and specifications, contractor pricing evaluation, and construction administration services.

Hotel Guest Suites

Performed inspection of EIFS assembly that became detached from substrate. Provided report outlining observations and provided general repair options for loose and detached EIFS locations. Provided quality assurance inspection services during the repair of the loose and detached EIFS locations.

Façade Redesign, Interior Lobby Redesign, Environmental Compliance Consulting

Performed evaluation of exterior moisture intrusion concerns associated with existing EIFS concerns. Provided report outlining findings with corresponding repair options and associated cost estimates for repair.

Produced repair drawings and specifications for replacement of existing EIFS. Assisted with bidding and contractor selections process for the EIFS replacement and performed construction administration services during the replacement of the EIFS.

Provided interior design consulting services associated with remodeling of the main hotel lounge area and lobby. Our solution provided low cost ideas to help improve the overall environment of the space. Provided environmental compliance services related to existing underground storage tanks at the facility. These services allowed hotel management to bring tanks into compliance with regulatory agencies.

Confidential Hotel

Performed condition survey of existing stucco façade for hotel and adjacent buildings. Issued report outlining observations with corresponding recommendations for repair of damaged items.

Program Management

Performed quality assurance inspections and project administration services during the replacement of the exterior sealant joints associated with the existing curtain wall assembly.

Structural Analysis and Waterproofing

Performed investigation of deteriorated structural elements associated with moisture intrusion concerns. Provided report outlining observations with corresponding repair drawings for the deteriorated structural elements and drawings for correction of the moisture intrusion concerns.

Performed inspection of exterior brick wall to determine if adjacent construction activities will inflict damage to wall. Inspection included review of proposed construction activities adjacent to wall.

Provided report outlining observations and recommendations for the adjacent construction activities to assure that the existing brick wall will not be damaged during the proposed construction activities.

Complete Mixed-Use Complex Redevelopment Redesign

Performed re-design of a three-block site, in downtown Charlotte. The project will accommodate varied activities during and after business hours. The existing hotel and meeting rooms will be redone and enhanced. New retail, restaurants, and residential condos will be added at McDowell and Stonewall Streets, and a Plaza Esplanade will be added. A new office building, sports entertainment area, and evening entertainment venue are proposed for Phase II.

The complex aims to create a pedestrian-friendly hub for multiple activities with buildings that function as a backdrop to the public spaces and help define boundaries. Along McDowell Street's complex of retail, restaurants, hotel, and offices will be two openings to attract pedestrian traffic to the open spaces

designed for both planned and unplanned activities. Vehicular routes will be controlled and separated as much as possible from the pedestrian paths.

In addition to the renovation and re-cladding of the Adams Mark Hotel and the Cameron Brown office, the following were designed:

- Retail/restaurant: 200,000 sf
- Residential: 80-85 units
- New office tower: 1,000,000 sf
- Entertainment area: 100,000 sf
- Parking: 2,300 spaces
- Lot size: 15 acres

Confidential Hotel

Performed inspection of spalled concrete locations on the elevated exterior walkways of the hotel. Provided report outlining our findings with drawings outlining the location and extent of the spalling and provided general repair options for the repair of the spalled locations.

Roofing

School Reroofing

Performed evaluation, reroofing design and construction administration for more than 40 school buildings.

School Reroofing

Performed evaluation, re-roofing design, and construction administration for more than 20 school buildings.

Shopping Mall

Performed evaluation, reroofing design and construction administration for 1 million square-foot mall roof replacement project.