



Matthew M. Copeland, PE, RRC

Senior Principal, President

Mr. Copeland is the founder of Copeland Building Envelope Consulting. He is a building scientist and engineer and has consulted on a wide variety of building envelope issues for over 20 years. With experience in design, forensic investigation, litigation support, due diligence and building enclosure commissioning Mr. Copeland is proficient at diagnosing and designing repairs for envelope problems in all construction types.

Education

Master of Science, Materials Science and Engineering

Worcester Polytechnic Institute

Bachelor of Science, Civil Engineering

Northeastern University

Licensure and Credentials

Professional Engineer (PE)

Massachusetts: 48652

Minnesota: 63405

Georgia: PE052265

Connecticut: PEN.0036832

Maine: PE17128

New York: 110740-01

New Hampshire: 16688

Rhode Island: 14240

Vermont: 18.0134871

Florida: 98417

North Carolina: 060022

Ohio: PE.89680

Texas: 130299

NCEES Record

Mr. Copeland holds a National Council of Examiners for Engineering and Surveying (NCEES) Record.

Registered Roof Consultant (RRC)

RRC #0969 issued by the International Institute of Building Enclosure Consultants

Professional Affiliations and Awards

Affiliations

American Society of Civil Engineers (ASCE): 11459360
International Concrete Repair Institute (ICRI): n/a
International Facility Management Association (IFMA): 1215675
International Institute of Building Enclosure Consultants (IIBEC): 37296
National Roofing Contractor's Association (NRCA): 985992

Awards

Worcester Business Journal: [40 under Forty for 2018](#)

Project Highlights

- **Science Center, Harvard University**, Cambridge, MA: investigation and design of plaza waterproofing repairs for ornately-landscaped recreational plaza over sensitive below-grade occupied space
- **WuXi Biologics**, Worcester, MA: design assist, peer review, and on-site construction observations related to ground-up construction of new \$60m 100,000+ square foot biotech facility at Worcester's Reactory biomanufacturing campus
- **Collegiate Sports Stadium**, NH: investigation, construction administration, and expert consulting services related to water intrusion at collegiate sports stadium
- **High Rise Public Housing**, Boston area, MA: investigation and expert consulting services related to catastrophic roofing blow-off at ocean-front high rise residential building
- **Massachusetts State House**, Boston, MA*: investigation of roof and skylight leakage at historic building with multiple roofing systems, design of roof and skylight replacement including building integrated photovoltaic systems
- **New York State Capitol**, Albany, NY*: roof and masonry reconstruction design for historic landmark with multiple roofing systems including terra cotta, slate, copper, membrane roofing, and skylights

Selected Project Experience

Investigation, Design and Peer Review

- **St. Julie Hall, Emmanuel College**, Boston, MA: investigation of widespread water infiltration into roofing systems at 18 story apartment-style student residence building
- **Rollins Chapel, Dartmouth College**, Hanover, NH: engineering consulting services to the Architect-of-Record for the design of a building envelope improvement project at this historic 1885 neo-Romanesque building designed by John Lyman Faxon
- **Stearns Hall, Cargill Hall, 140 The Fenway, Northeastern University**, Boston, MA: engineering consulting services related to roof repairs and replacement at multiple urban university campus buildings

- **Bauer Laboratory, Harvard University**, Cambridge, MA: engineering design and construction administration services to support a roof and curtain wall restoration project at the home of Harvard's Life Sciences department; constructed in 2003 and a winner of the Build Massachusetts Honor Award, the building boasts a complex curtain wall facade encompassing a 3-story atrium
- **Tantasqua Regional High School**, Fiskdale, MA: investigation into water leakage at multiple building envelope assemblies in approximately 20-year old public school building
- **Science Center, Harvard University**, Cambridge, MA: investigation and design of plaza waterproofing repairs for ornately-landscaped recreational plaza over sensitive below-grade occupied space
- **WuXi Biologics**, Worcester, MA: design assist, peer review, and on-site construction observations related to ground-up construction of new \$60m 100,000+ square foot biotech facility at Worcester's Reactory biomanufacturing campus
- **Southern New Hampshire University**, Manchester, NH: various building envelope condition assessments, failure investigations, and repair designs at residential and athletics facilities
- **Harvard T.H. Chan School of Public Health FXB Building**, Boston, MA: engineering consulting services related to roof replacement at urban high rise
- **Fresh Pond Greenway Condominiums**, Cambridge, MA: design and construction administration services for building envelope repairs including cladding, roofing, window and door flashing, and below-grade waterproofing at 4-story building
- **FedEx**, Binghamton, NY: peer review of architect's drawings to provide commentary related to building envelope system/component durability and reliability
- **The Brentwood Court Condominium**, Medford, MA: masonry wall repair consulting on multiple units
- **Robinson Hall, Harvard University**, Cambridge, MA: peer review of roof repairs
- **One Russell St.**, Cambridge, MA: peer review and design of window replacement at 5-story residential building
- **107 Walker St., Harvard University** Cambridge, MA: peer review of roof repairs
- **Pierce Hall, Harvard University**, Cambridge, MA: window restoration design
- **Below-Grade Waterproofing, Doha, Qatar**: peer review related to water intrusion at below-grade parking garage
- **15-17 James Street Condominium Association**, Brookline, MA: investigation and design of whole-building masonry restoration including brick, cast stone, and fiberglass reinforced polymer (FRP) materials
- **Gateway Condominiums**, Beverly, MA: design and construction administration for balcony column and waterproofing repairs at 84 balconies
- **Whitestone Condominiums**, Groveland, MA: design and construction administration services for roofing and deck replacement; specialized vented roof to address ice dam leakage
- **Hollyheath Court Condominiums**, Chestnut Hill, MA: design services to replace cladding, windows and roofing at 18-unit condominium building
- **Hunnewell Visitor Center**, The Arnold Arboretum of Harvard University, Jamaica Plain, MA: building envelope condition assessment of historic 1892 building

- **Meier Hall, Salem State University**, Salem, MA: investigation into roof leaks during construction of roof replacement project
- **Houghton Library, Harvard University**, Cambridge, MA: exterior masonry condition assessment
- **Fast Food Chain**, Miami, FL: waterproofing peer review
- **Arborwood**, Burlington, MA: investigation and repair design to address roof leaks
- **Clark Laboratory**, Woods Hole Oceanographic Institution, Woods Hole, MA: peer review of roof replacement design
- **Smith Laboratory**, Woods Hole Oceanographic Institution, Woods Hole, MA: window replacement design
- **Bigelow Laboratory**, Woods Hole Oceanographic Institution, Woods Hole, MA: window replacement design
- **Benjamin's Landing**, Franklin, MA: peer review of building envelope repair design
- **Dunham Castle**, Beverly, MA: peer review of building envelope repair design
- **Distribution Center**, PA: investigation of concrete slab moisture problems at 1 million sq. ft. retail distribution center
- **2 Clarendon St.**, Boston, MA: window investigation
- **Private Residence**, MA: investigation and repair design to resolve water leakage at contemporary architect-designed single-family residence
- **Biolabs**, Harvard University, Cambridge, MA*: peer review and construction phase services for roof replacement
- **University Center, Lehigh University**, Bethlehem, PA*: building envelope consulting for renovation of 1868 historic campus center
- **New House, MIT**, Cambridge, MA*: building envelope consulting for the renovation of a 1970s Josep Lluis Sert dormitory
- **Garfield House, Williams College**, Williamstown, MA*: building envelope consulting for new dormitory targeting passive house performance
- **Bose Corporate Headquarters**, Framingham, MA*: curtain wall and roofing leak investigation
- **1 McKinley Square**, Boston, MA*: building envelope condition assessment and Boston facade ordinance assessment
- **10 Vernon Street**, Brookline, MA*: plaza waterproofing replacement
- **Village Falls**, Newton, MA*: plaza waterproofing investigation
- **Town of Shrewsbury Municipal Buildings**, Shrewsbury, MA*: building envelope condition/capital needs assessment of 11 town-owned buildings (750,000 sq. ft.) including the town hall, police and fire stations, senior center, and K-12 schools
- **Mills Pond**, Bloomfield, CT*: peer review for building envelope replacement including roofing, cladding, windows, and doors at 134 homes
- **171 Newbury Street**, Boston, MA*: building envelope condition assessment
- **Confidential Pharmaceutical Campus**, NJ*: fast track waterproofing remediation for below grade parking structure with pedestrian plaza above, including hot rubberized asphalt and self-adhering membranes
- **William James Hall**, Harvard University, Cambridge, MA*: building enclosure investigation
- **Eastern Maine Medical Center**, Bangor, ME*: design peer review for new construction hospital facility

- **699 Boylston Street**, Boston, MA*: design consulting for facade restoration including new curtain wall and composite metal panel wall and roof systems
- **Tozzer Library, Harvard University**, Cambridge, MA*: design peer review and building envelope commissioning for gut renovation and expansion of existing library building
- **The First Church of Christ, Scientist Publishing House Building**, Boston, MA*: evaluation of deterioration at masonry garden wall and design of masonry repairs, design replacement PVC membrane roof
- **Tewksbury Hospital Saunders Building**, Tewksbury, MA*: investigation of limestone and brick facade deterioration, design of facade stabilization repairs
- **The First Church of Christ, Scientist Mother Church**, Boston, MA*: investigation of roof leaks and masonry deterioration, design of roof and facade restoration including replacement of existing terracotta dome roof with custom terra cotta rain screen system, copper and membrane roofing, limestone and granite masonry repairs
- **Caring Health Center**, Springfield, MA*: evaluation of brick and limestone masonry walls at a three-building complex, including peer review of repair design
- **Birch Gardens Wall at Mount Auburn Cemetery**, Cambridge, MA*: investigation of staining on granite masonry monument wall, design of repair options including custom mortar mixes intended to reduce efflorescence, evaluation of repair mockup
- **DoubleTree Guest Suites**, Boston, MA*: evaluation of deterioration at split-face CMU walls of parking garage
- **The Wadsworth Atheneum**, Hartford, CT*: investigation of leakage and design of below-grade waterproofing for basement art storage areas
- **339 Commonwealth Avenue**, Boston, MA*: investigation of deteriorating brownstone and brick masonry facade, design of masonry repairs
- **Weeks Footbridge**, Boston, MA*: investigation of deteriorating masonry including limestone balustrade railings, design of masonry repairs
- **The First Church of Christ, Scientist Sunday School Building**, Boston, MA*: repairs and replacement of existing EPDM membrane roofs
- **The First Church of Christ, Scientist Mother Church**, Boston, MA*: development of a long term plan for future repair and rehabilitation projects, including creation of custom database of previous investigation and repair work at the campus
- **SUNY Plaza Building**, Albany, NY*: investigation of facade deterioration, including decorative cast stone and terra cotta elements, design of comprehensive facade repairs
- **The First Church of Christ, Scientist Reflecting Pool**, Boston, MA*: investigation of leakage and concrete condition at reflecting pool over subsurface parking structure
- **Massachusetts State House**, Boston, MA*: investigation of roof and skylight leakage at historic building with multiple roofing systems, design of roof and skylight replacement including building integrated photovoltaic systems
- **Executive Mansion**, Albany, NY*: replacement of cast stone entry steps and stone foundation wall repairs, including patching, pointing, and cleaning
- **The First Church of Christ, Scientist, Boston**, MA*: investigation of concrete facade deterioration at multiple buildings, falling hazard mitigation
- **Waltham Watch Factory**, Waltham, MA*: water testing at windows in historic factory building

- **Gibson Aiken Center**, Brattleboro, VT*: investigation of deteriorated cast stone and brick masonry facade, design of cast stone cornice and brick masonry facade repairs including replacement cast stone, brick pointing, spall repairs, and copper flashing
- **Private Residence**, Boston, MA*: investigation of leakage through wood windows and stone mansard roof at a five story townhouse
- **Logan Cargo Park**, Boston, MA*: water testing of windows and metal wall panel system in office building
- **300 Summer Street**, Boston, MA*: investigation of wall and window leakage at a seven story factory building converted to loft style residences
- **Hartford Times Building**, Hartford, CT*: water testing investigation of leakage through stone plaza
- **New York State Capitol**, Albany, NY*: roof and masonry reconstruction design for historic landmark with multiple roofing systems including terra cotta, slate, copper, membrane roofing, and skylights
- **SUNY System Administration Building**, Albany, NY*: design of replacement slate, copper, and membrane roofing systems, cast iron ornamentation repairs, and masonry facade repairs
- **Marcy Pedestrian Bridge**, Marcy, NY*: investigation into collapse of steel tub girder pedestrian bridge
- **Municipal Pool Facilities**, Boston, MA*: rapid condition assessment investigation of multiple municipal pool buildings
- **The Archdiocese of Boston**, Boston, MA*: rapid condition assessment investigation of multiple institutional buildings

Construction Phase Services

- **WuXi Biologics**, Worcester, MA: design assist, peer review, and on-site construction observations related to ground-up construction of new \$60m 100,000+ square foot biotech facility at Worcester's Reactory biomanufacturing campus
- **Harvard T.H. Chan School of Public Health FXB Building**, Boston, MA: engineering consulting services related to roof replacement at urban high rise
- **Fresh Pond Greenway Condominiums**, Cambridge, MA: design and construction administration services for building envelope repairs including cladding, roofing, window and door flashing, and below-grade waterproofing at 4-story building
- **15-17 James Street Condominium Association**, Brookline, MA: investigation and design of whole-building masonry restoration including brick, cast stone, and fiberglass reinforced polymer (FRP) materials
- **Gateway Condominiums**, Beverly, MA: design and construction administration for balcony column and waterproofing repairs at 84 balconies
- **Whitestone Condominiums**, Groveland, MA: design and construction administration services for roofing and deck replacement; specialized vented roof to address ice dam leakage
- **Hollyheath Court Condominiums**, Chestnut Hill, MA: cladding, window and roofing replacement at 18-unit condominium building
- **Smith Building**, Woods Hole Oceanographic Institution, Woods Hole, MA: window replacement

- **Arborwood**, Burlington, MA: roofing repairs
- **Dunham Castle**, Beverly, MA: building envelope replacement including roofing, cladding, and windows
- **Benjamin's Landing**, Franklin, MA: building envelope replacement including roofing, windows, cladding, and recreational decks
- **Private Residence**, MA: cladding replacement
- **The Merc at Main & Moody**, Waltham, MA*: mixed use new construction
- **10 Vernon Street**, Brookline, MA*: plaza waterproofing replacement
- **Mills Pond Condominiums**, Bloomfield, CT*: building envelope replacement including roofing, cladding, windows, and doors at 134 homes
- **Confidential Pharmaceutical Campus***: fast track waterproofing remediation for below grade parking structure with pedestrian plaza above, including hot rubberized asphalt and self-adhering membranes
- **699 Boylston Street**, Boston, MA*: facade restoration including new curtain wall and composite metal panel wall and roof systems
- **Tozzer Library**, Harvard University, Cambridge, MA*: building envelope commissioning for gut renovation and expansion
- **The Villages at Woodholme**, Pikesville, MD*: wall leakage repairs
- **Recreational Facility**, MI*: air sealing and mechanical system repairs
- **The First Church of Christ**, Scientist Publishing House Building, Boston, MA*: PVC membrane roof replacement
- **Tewksbury Hospital Saunders Building**, Tewksbury, MA*: limestone facade stabilization and repairs
- **The Wadsworth Atheneum**, Hartford, CT*: installation of below grade waterproofing system
- **The First Church of Christ, Scientist Sunday School Building**, Boston, MA*: repair and replacement of existing EPDM membrane roofs
- **339 Commonwealth Avenue**, Boston, MA*: repair of deteriorated brownstone and brick masonry facade including stone patching and cast stone replacement stones
- **Massachusetts State House**, Boston, MA*: roof replacement and exterior repairs, including copper, PVC, and modified bitumen roof systems, aluminum windows and skylights, building integrated photovoltaic systems, architectural woodwork, copper cladding, and pedestal paver systems
- **The First Church of Christ, Scientist Mother Church**, Boston, MA*: repairs to terra cotta dome, copper roof systems, and masonry facade
- **Gibson Aiken Center**, Brattleboro, VT*: cast stone cornice and brick masonry facade repairs
- **SUNY System Administration Building**, Albany, NY*: roof reconstruction, cast iron ornamentation repairs, and masonry facade repairs
- **300 Summer Street**, Boston, MA*: window and roof replacement and masonry wall repairs in occupied residential building
- **New York State Capitol**, Albany, NY*: roof replacement

Dispute Resolution

- **High Rise Public Housing**, Boston area, MA: investigation and expert consulting services related to catastrophic roofing blow-off at ocean-front high rise residential building
- **Special Needs Community Home**, Boston area, MA: investigation, expert consulting, and repair design services related to basement water intrusion
- **Multi-use Building**, Plymouth, MA: investigation and expert consulting services related to building enclosure issues including water infiltration
- **Hotel**, Burlington, MA: expert consulting services related to widespread fiber cement cladding failure
- **Collegiate Sports Stadium**, NH: investigation, construction administration, and expert consulting services related to water intrusion at collegiate sports stadium
- **Condominium**, Boston, MA: expert consulting related to widespread building envelope defects at multi-story residential condominium including water infiltration and defective exterior wall cladding installation
- **Condominium**, Melrose, MA: forensic investigation, expert consulting, and repair design services related water infiltration at 4-story condominium building
- **Private Residence**, Seabrook, NH: expert consulting services related to water intrusion at ocean-facing residential windows and doors
- **Condominium**, Boston, MA: investigation, construction observation, and expert consulting services related to allegations of widespread building envelope failures at 4-story condominium building in South Boston
- **Large Residential Development**, Quincy, MA: expert consulting services related to allegations of water intrusion at multi-story, multi-building luxury residential development
- **Condominium**, Boston, MA: litigation support services related to building envelope restoration of historic Back Bay brownstone
- **Private Residence**, Gloucester, MA: litigation support services related to alleged door leakage at waterfront residence
- **Condominium**, Boston, MA: investigation and consulting to help resolve water leakage at multi-story window wall in urban townhouse condominium
- **Multi-use Building**, Boston, MA*: litigation support services related to alleged window defects
- **Condominium**, Cambridge, MA*: litigation support services related to claim against roofing contractor
- **Various Private Residences**, Eastern U.S.*: litigation support services including investigation of asphalt roofing shingle deterioration for class action litigation, including site inspections and laboratory analysis of shingle samples
- **Public School Buildings**, OH*: litigation support services including investigation of roof leakage at steep sloped asphalt shingle roofs
- **Government Building**, Washington, D.C.*: litigation support services related to plaza paving construction
- **Recreational Facility**, MI*: investigation and repair design for occupied multi-use recreational building, including natatorium, experiencing air leakage and condensation issues

*previous firm

Speaking

Building Science for Architects: Understanding & Designing for Moisture Movement

AIA Conference on Architecture & Design, June 2025, Boston, MA

Building Envelope Self-Help

Capital District Engineers Week, February 2023, virtual

Thinking Like an Envelope Consultant

BSA MetroWest Network, April 2020, virtual

What's an Envelope Consultant?

BSA Small Practices Network, November 2010, Boston, MA

Controlling Heat, Air, Moisture

Wagdy Anis Symposium at ABX, November 2019, Boston, MA

The Air Barrier Circus

RCI New England, May 2018, Boston, MA

33rd RCI International Convention and Trade Show, March 2018, Houston, TX

Life of a Building Envelope Consultant

Worcester Polytechnic Institute, April 2017, Worcester, MA

Building Enclosure Commissioning

Urban Green Council Salon: Designed, Sealed, Delivered, June 2014, New York, NY

Effective Use of Roof Coatings

International Roofing Expo, February 2013, San Antonio, TX

27th RCI International Convention and Trade Show, March 2012, Dallas, TX

Integrating Photovoltaics in an Historic Building Envelope - Massachusetts State House

Build Boston, November 2010, Boston, MA

Writing

Print

The Air Barrier Circus

Copeland, M., *Proceedings from the 33rd RCI International Convention and Trade Show*, Houston, TX, March 2018, p. 13-20

Metal Wall Panels on the Roof: How to achieve durability and reliability using sheet metal

Tomlinson, S., Copeland, M., *The Construction Specifier*, September 2014, p. 58-64

Effective Use of Roof Coatings

Copeland, M., Doelp, G., Scheiner, P., *Proceedings from the 27th RCI International Convention and Trade Show*, Dallas, TX, March 2012, p. 147-154

Online

Copeland Building Envelope Consulting Blog

various topics, June 2018 - current

LinkedIn Articles

various topics, January 2017 - current