



**Allana  
Buick  
Bers**

# **Seminars and Training Programs**

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## Allana Buick & Bers

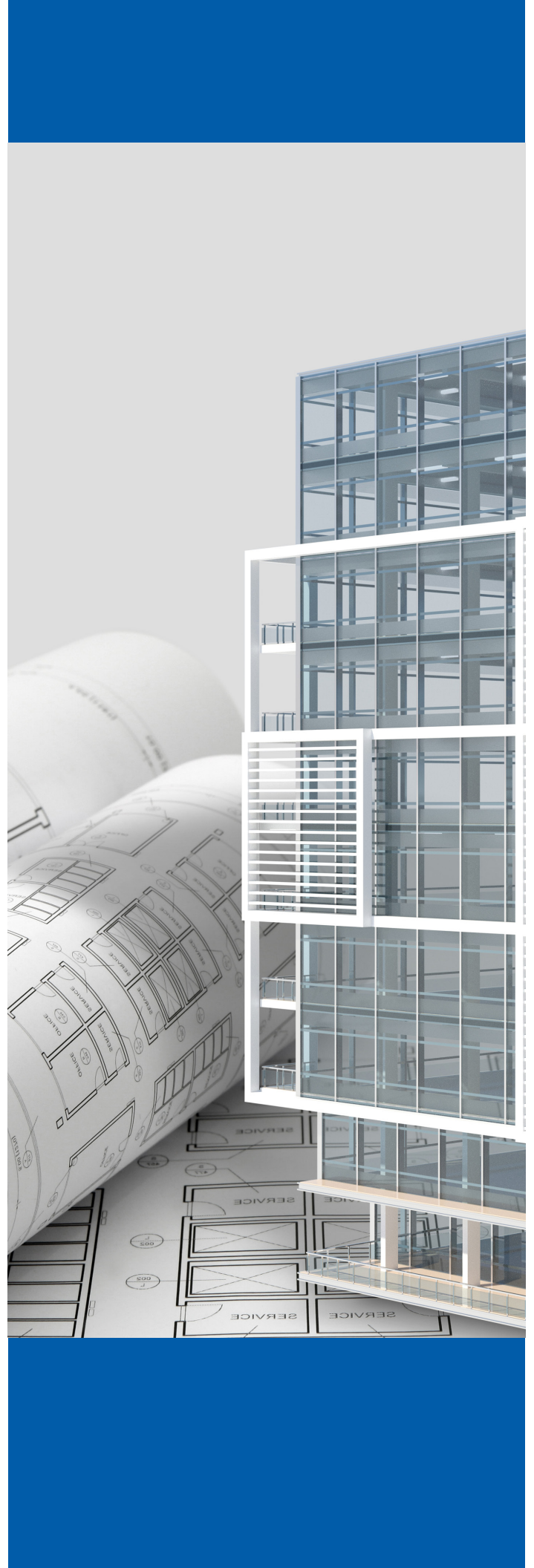
Allana Buick & Bers, Inc. (ABB) is a highly specialized Architectural Engineering, Construction Management, and Forensic Consulting firm. We specialize in building enclosure, roofing, waterproofing, curtain wall / glazing, HVAC, fire protection and plumbing trades.

For over 36 years, ABB has collaborated with developers to make buildings perform better, last longer, require less maintenance, and reduce energy loss. Our award-winning team seamlessly adapts to any design approach to suit our clients' short-term or long-term hold strategies.

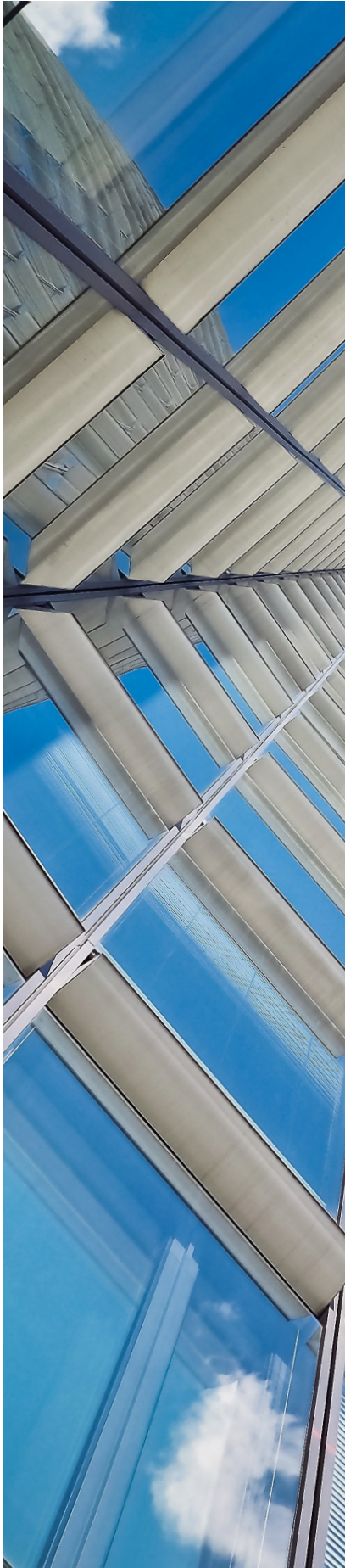
## Our Seminars

ABB is dedicated to providing comprehensive, innovative consulting services with award-winning expertise in building envelope design, architectural engineering, mechanical optimization, and construction management. ABB is client-focused, providing expert advice using advanced technologies for enduring solutions.

ABB offers seminars and training classes in a variety of formats, from 60-minute 'lunch and learns' to half-day seminars. All ABB courses earn AIA continuing education Learning Units (LUs). This brochure provides a summary of our most popular classes.







# ABB COURSES

**INVESTIGATION SOLUTIONS / TESTING SOLUTIONS / DESIGN SOLUTIONS / MECHANICAL SOLUTIONS / CONSTRUCTION MANAGEMENT / LITIGATION SUPPORT SOLUTIONS / FIRE PROTECTION**

## **Advanced Hygrothermal Analysis**

- Understand a traditional approach to assembling building materials, determining condensation point from psychometric chart, and calculating the thermal drop across the materials.
- Understand how the Fraunhofer WUFI hygrothermal analysis software tool is utilized in accordance with the ASHRAE Standard 160 analysis.
- Understand material properties, exterior environment, and interior environment approach in Advanced Hygrothermal Analysis.
- Understand the circumstances under which the ASHRAE Standard is used.

## **Air and Water Testing of Building Envelope Assemblies**

- Review multiple standards for water and air barrier testing.
- Review what should be done when testing provides inadequate results.
- Learn what building envelope tests are code-required, manufacturer-required, or simply a good idea.
- Review test methods for horizontal waterproofing assemblies, sealant and coating adhesion, and peel test.

## **Air Barrier Assemblies and Continuous Insulation**

- Understand effective water-shedding surface barriers.
- Equalize the pressure between the outside skin and inside face of a panel.
- Keep rain out with cladding and/or weather-resistant barriers.
- Control humidity with vapor and air barriers/retarders.

## **Avoiding Condensation in Low Slope Roofing Assemblies**

- Learn the differences between vapor barriers and vapor retarders.
- Learn specific design considerations for avoiding condensation.
- Understand the science behind vented and unvented compact roof assemblies.
- Demonstrate forensic case studies of condensation-related roofing failures.

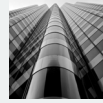


### **Below-Grade Waterproofing: Design Considerations and Common Failures**

- Design Considerations for Geotechnical Reports Perched Water Relieved.
- Case study of failed blindside waterproofing system with review of repair procedures.
- Positive Side Waterproofing.
- Blindside construction procedures and their impact on bentonite-based waterproofing systems.

### **Building Enclosure Commissioning (BECx)**

- Describe and define building commissioning.
- Explain the building envelope commissioning process.
- Understand the various steps in building envelope commissioning and real-life.
- Review best practices from the time the project develops a concept, through schematic design.



### **Building Performance Testing**

- Understand a traditional approach to assembling building materials, determine condensation point from psychrometric chart, and calculate the thermal drop across materials.
- Understand how the Fraunhofer WUFI hygrothermal analysis software tool is utilized in accordance with the ASHRAE Standard 160 analysis.
- Understand material properties, exterior environment, and interior environment approach in Advanced Hygrothermal Analysis.
- Understand the circumstances under which the ASHRAE Standard is used.

### **Forensic Analysis of High-Rise Buildings**

- Learn the top three contributing factors that extend the longevity of high-rise building assemblies.
- Learn how hot-applied built-up roofing (BUR) systems are field-applied and how quality control is essential for performance and longevity. When properly applied, BUR's can last up to 50 years.
- Examine and learn the components and structure of curtain and window wall assemblies used in construction projects today.
- Learn about the new failures mechanisms facing curtain wall assemblies today. Learn what to look out for to avoid future failing systems.
- Examine the importance of fire-resistive construction and its contribution to building performance and longevity.

### **Common Construction Defects in High-Rise Buildings**

- Learn about the top factors that contribute to construction failures in high-rise building assemblies.
- Examine the components and structure of curtain wall and window wall assemblies used in construction today.
- Learn about the new failure mechanisms facing curtain wall assemblies today and what to look for to avoid future failures.
- Analyze common mechanical and piping failures. Learn how to identify them.



## **Complex Buildings and Their Air Barrier Challenges**

- Understand the challenges associated with pushing the pressure boundary and the issues it creates with air barrier continuity.
- Review lessons learned from complex case studies with unique air barrier design, construction, and testing requirements.
- Review the process of air barrier design and common issues observed during construction.
- Review whole building air leakage testing and diagnostics challenges.

## **Curtain Wall Failures**

- Learn about the new failures facing curtain wall assemblies today.
- Learn how to specify glazing and curtain wall components to avoid failures.
- Analyze and learn the components and structure of curtain and window walls.
- Learn how to identify and avoid future failing systems.

## **Eliminate Deferred Maintenance in HVAC: Commercial Building Owner Savings**

- Examine the exponentially negative effects of deferred maintenance in HVAC in commercial buildings.
- How to identify deferred maintenance in HVAC.
- Getting past lowest first cost on HVAC and energy projects: How financial analysis wins the case for higher first-cost projects.
- How lower energy costs contribute to a higher asset value.

## **HVAC Modification to Combat COVID in Education Facilities**

- Understand the most recent evidence surrounding the mass spread of COVID-19 through ventilation systems in educational facilities and review specific modes of transmission through HVAC systems.
- Understand the current CDC recommendations to reduce disease transmission - specifically increasing ventilation to reduce contaminated air.
- Understand the functionality of HVAC systems, outside air ventilation requirements, the importance of pressurization zones, and best design practices.
- Understand the importance of ensuring that HVAC system filters are inspected, exhaust systems are operational, and outside air sources are maximized.





### High Performance Buildings

- Understand two alternatives to lower energy costs by increasing longevity or lowering maintenance.
- Energy efficient technologies of LED lighting retrofit and upgrades.
- Learn the main characteristics of a high performance building.
- Learn two paths to increase the operating income: By decreasing the building maintenance cost or using longer lasting envelope assemblies.

### Horizontal Above Grade Waterproofing

- Learn about various configurations, considerations, protections, insulations, and warranty questions regarding plaza deck waterproofing.
- Learn about the different types of plaza decks.
- Learn how to protect your plaza/podium from water, root, and thermal damage.
- Understand the structural substrates.



### Insulated Glazing Units: Fabrication, Missile Resistance, and Common Failure Modes

- Review IGU fabrication process from float glass facility to final assembly.
- Learn various production processes, including thermal treatments and applied coatings.
- Understand window missile resistance requirements.
- Understand common IGU failure modes as encountered by ABB.

### Mitigating Risk in Design

- Understand the nature of common building envelope/ waterproofing design defects.
- Understand how conscientious system design can mitigate risk and how to identify potential defects early on.
- Understand how proper system and material selection can mitigate risk of premature system failure.
- Understand the importance of quality control and commissioning to ensure system performance and longevity.

### Optimize Building Ventilation to Mitigate Virus Spread

- Understand the most recent evidence surrounding the mass spread of COVID-19 through commercial ventilation systems and review the modes of COVID-19 transmission through HVAC systems.
- Understand the current CDC recommendations to reduce disease transmission, specifically increasing ventilation to reduce contaminated air.
- Understand specific requirements for ventilation as they relate to hospital rooms, nursing care facilities, and assisted living centers.
- Understand the functionality of HVAC systems, outside air ventilation requirements, and best design practices.



### **Introduction to Curtain Wall and Window Wall System Issues**

- Learn how to mitigate risk in construction.
- Understand performance issues and forensic analysis.
- Review case studies of the causes behind glazing, frame-joint, drainage pathways, mulled windows, and other structural fenestration failures.
- Understand the history and manufacturing process.

### **Recommendations on How to Design, Specify, and Test Common Window Types**

- Learn common window assembly types seen in multifamily, commercial, or retail building types.
- Learn common window assembly and component failure issues.
- Learn key recommendations on designing and specifying window systems to mitigate the risk of failure.
- Learn the procedures and benefits of window assembly performance testing during construction.

### **Retro-Commissioning to Save Energy**

- Review examples/methods to verify that systems and assemblies perform.
- Review examples/methods to confirm that proper verification is provided to the owner before, during, and after construction and that the operating staff is trained to properly operate the facility.
- Review examples/methods to document the owner's requirements to improve the quality of design deliverables.
- Review examples/methods to memorialize the design requirements in a Basis of Design (BOD) letter.

### **Roofing Can Last 30 Years, But Most Do Not**

- Review roof warranties and learn the difference between design and construction defects.
- Understand the metal roof system, sheet metal roofing systems, and cool roofs.
- Review examples of bad roof construction and forensic evaluation of roof failures.
- Understand roof failure due to deferred or negligent maintenance.



### **Strategies for Passing a Whole Building Air Barrier Test**

- Review critical aspects of air barrier design.
- Determine the keys to passing a whole building Air Barrier Test.
- Outline successful construction QA/QC protocols for air barriers.
- Review examples of whole building testing.

### **Understanding Exterior Walls and Code Changes**

- Comprehend the new building code and its relationship with construction document requirements.
- Identify the critical details for the interfacing of components.
- Understand the differences between the three basic exterior wall systems: barrier wall systems, drainable wall assemblies, and rain screen principal.
- Learn the facts on building science and property of materials by analyzing actual case studies.



### **Understanding Wall Assemblies**

- Learn issues unique to cement plaster construction for light gauge steel framed buildings.
- Discuss moisture movement in typical cement plaster assembly, the physical forces at play, managing water in all its forms, air movement through the building, forces related to building usage, issues with high humidity, condensation, and ventilation.
- Learn about more robust rainscreen cement plaster systems.

### **Whole Building Air Barrier Testing Logistics and Planning**

- Review the ASTM standards that govern air barrier testing.
- Review the common industry practices in designing and constructing air barrier systems.
- Understand the project status, personnel involvement, contractor compliance, and calculations required prior to an air barrier test.
- Understand the equipment and labor required in whole building air barrier testing.
- Learn how to examine the recorded field data, and how diagnoses and recommendations become reports.

### **10-Year Implied Warranty on Public Bond Project Construction**

- Understand the 10-year implied warranty for major items and statute of limitations for defect litigation.
- Understand how to recognize common issues in new construction including: windows fogging, noise, leaking, finish and other glazing issues, air conditioning system issues, roofing and waterproofing issues, stucco/facade related issues, fire suppression system issues, and plumbing issues like hot water delivery.
- Learn how to conduct your own inspections to recognize and document issues (and what is involved in a third-party building inspection).
- Learn how to approach the developer/builder to resolve problems.