

ENCLOSURE CONSULTING SERVICES

Creating Efficient Buildings from the Outside, In

SWA offers expert Building Enclosure Design and Consulting Services including: forensic investigation; evaluation and assessment; assembly design, detailing and construction document reviews; specifications; and construction administration for all exterior building enclosure components. With a combined experience of over 30 years in high-end and specialty enclosure systems, our team of experts specializes in air and moisture management and thermal performance analysis with an emphasis on high-performance buildings. We also offer diagnostic services, and can assist with preventative maintenance programs for existing buildings.

SERVICES AND CAPABILITIES INCLUDE:

- **Architectural reviews** and construction drawing mark-ups and commentary to ensure appropriate assemblies are being employed in the design for cost/performance optimization.
- **Detail development** and preparation of assembly sketches, including roof, wall, window, and foundation waterproofing, insulation, and air-barrier systems.
- **Forensic diagnostics** for existing structures to identify deficiencies and develop solutions to improve the building enclosure performance (using infrared thermography, pressure-diagnostics, water testing, smoke testing, etc.).
- **Analytical tools** such as THERM and WUFI to simulate the thermal and hygrothermal performance of specific enclosure components and assemblies while in the design phase.
- **Laboratory and field mock-up testing oversight** to verify test results and performance standards.
- **Product and systems recommendations and specifications** during the design phase.
- **Construction Administration services** to ensure all enclosure components are being built in accordance with the design documents and specifications.

Our work spans both residential and commercial building markets, including single-family homes, high-rise and mixed-use apartment buildings, institutions, museums, and historic buildings.

SWA's goal is to support our clients in the design, construction, and operation of high performance buildings through careful attention to detail and a whole building approach. Our enclosure services complement our expertise in energy efficiency, resiliency, sustainability, and accessibility compliance and consulting.

Steven Winter Associates, Inc.

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DESIGN REVIEW AND CONSTRUCTION ADMINISTRATION

SWA's team of building enclosure experts provides a high level of consulting and quantitative analysis to optimize building performance, support certifications, maximize efficiency incentives, and comply with local laws and energy codes. We utilize advanced, specialized tools for detailed analysis of particular building systems (WUFI and THERM).

ENCLOSURE COMMISSIONING

Building enclosure commissioning provides a review process of the design and construction to achieve performance requirement: SWA's building enclosure team is able to:

- Assist in developing Owner Project Requirements (OPR)
- Provide technical reviews of design documents
- Attend pre-construction and construction meetings
- Execute submittal reviews
- Monitor building enclosure construction
- Provide design assistance
- Perform building enclosure testing

EXISTING AND HISTORIC BUILDINGS DIAGNOSTICS

A focus of the SWA building enclosure team is the investigation and evaluation of buildings for water leaks, moisture and air migration, and thermal performance. We can assist building owners and design professionals in identifying failures in existing building enclosures through onsite observation, review of existing documents, overseeing probes, and testing. These investigations form the basis of recommendations for remedial work, while also providing valuable information to the design team.

ENCLOSURE SERVICES FOR GREEN BUILDING PROGRAMS

LEED ENVELOPE COMMISSIONING

For projects pursuing LEED certification, there are a number of new requirements that pertain to the building envelope such as the inclusion of Building Envelope Commissioning (BECx) in the Enhanced Commissioning credit. These include review of the OPR, BOD and project design. SWA's enclosure team can perform the necessary reviews of the exterior enclosure design, adding specific expertise to the team.

PASSIVE HOUSE

For projects seeking Passive House certification, SWA's building enclosure team adds value by developing WUFI models to assess hygrothermal performance of the building envelope, reviewing moisture barrier continuity, and can recommend appropriate water and vapor control systems, as well as provide expertise in proper detailing of the thermal envelope. Our enclosure team also provides on-site inspection and verification of all building enclosure assemblies to ensure construction accurately reflects the design.

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