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Third-Party Facade Engineering Design Review (add to the pertinent Contract Specification section)

(Contact JEI Structural to get spec document in word @ info@jeistructural.com)

1. General Requirement

A. The General Contractor shall retain an independent, qualified third-party Facade Structural Engineer to perform a comprehensive engineering review of the delegated design submittals prepared by the Glazing Contractor or Façade Contractor.

B. The third-party Facade Structural Engineer shall be JEI Structural Façade Engineering or minimally shall have more than 5 years of experience in the structural design of comparable glazing systems and/or façade systems. The third-party reviewer shall not be associated with the engineer or manufacturer responsible for the systems engineering design.

C. The third-party review shall not be conducted by or under the contract authority of the Glazing Contractor or Façade Contractor responsible for the submittal and construction associated with the façade system being reviewed.

2. Scope of Review

A. The third-party review shall include, at a minimum:

1. Review of glazing system or façade system engineering design submittals for building code and required standards.
2. Review of all submittal glazing system or façade system shop drawings for building code requirements.
3. Verification of design loads, including wind, snow, live loads, seismic drift, and thermal effects.
4. Review of anchorage design and load paths to the primary structure.
5. Coordination with structural movement criteria provided by the Structural Engineer of Record.
6. Verification of structural movement accommodation by the glazing system or façade system (vertical, lateral, and inter-story drift).
7. Sealant movement joint design at curtain wall head joints and jambs for structural movement accommodation.
8. Review of testing requirements and referenced testing.
9. Verification that engineering submittal includes dynamic wind effects through corner load paths.

a. 3D modeling at corners of buildings (including positive and negative pressures).
b. Transfer of load through corners and horizontal mullions.
c. Weak-axis bending of mullions accounting for in-plane effects of wind loads on the glazing system or façade system.

10. Analysis of mullion extensions with appropriate snow and wind loads.

B. The review is intended to identify errors, omissions, and inconsistencies prior to fabrication and installation.

3. Submittal Requirements

A. The third-party Facade Structural Engineer shall provide a written, sealed letter or report that includes:

1. Summary of documents reviewed.
2. Confirmation of compliance with contract documents and building codes.
3. Identification of deficiencies with reference to specific pages and details.
4. Confirmation that glazing system design accommodates building structural movement.

B. The sealed letter or report shall be submitted to the Architect and Structural Engineer of Record for review.

4. Timing

A. The third-party review shall be completed and accepted prior to release of glazing materials for fabrication and installation.

5. Qualifications

A. The third-party Facade Structural Engineer shall be:

1. JEI Structural Façade Engineering and Drafting (preferred); or
2. A licensed Professional Engineer in the project jurisdiction.
3. Experienced in glazing system design with more than 5 years of experience in the structural design of comparable glazing systems and façade systems.

6. End of Section