



## SERVICE PROFILE

# Systems and Components Design

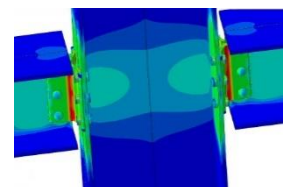


- Building enclosure systems design
- Facade engineering
- Roofing and waterproofing
- Integration detailing
- Facade access and fall protection systems design
- Fire protection system design
- Structural design and preparation of construction documents
- Seismic upgrade and retrofit
- Construction materials testing and evaluation
- Performance testing of building enclosures
- Bid phase assistance and construction administration
- Forensic engineering

We have considerable experience in the development of drawings and specifications for custom design configurations in the built world. When a structure or building component is unconventional or has specialty design needs, we collaborate with all project stakeholders—including the owner, material fabricators, and the design and construction teams—throughout the design process to ensure the proper integration of WJE solutions into the interrelated systems of the building.

Our engineers and architects approach the design process in a holistic manner. Our interdisciplinary team works closely with the project stakeholders in both the design development and construction documents phases to achieve better solutions that satisfy aesthetic and functional performance requirements.

Whether there are compatibility issues involving the many interdependent systems, materials, and components that make up a building configuration or special design expertise is needed on a particular component of the overall design, our engineers and architects have the technical expertise and testing capabilities to design and implement appropriate solutions for both new and existing construction.





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### REPRESENTATIVE PROJECTS

- Black Canyon Lake Dam - Navajo County, AZ: Embankment stability analysis, filter and drainage design, and modification of spillway enlargement
- CenterPoint Intermodal Center North - Joliet, IL: Bridge design to meet stringent rail traffic clearances and roadway elevations
- Clorox General Office Building Plaza - Oakland, CA: Strengthening and other structural modifications to accommodate new plaza configuration
- Diablo Canyon BBRE Towers - San Luis Obispo, CA: Structural design services for steel stair towers to permit employee access to six new bullet and blast resistant enclosures
- Malibu Lumber Retail Center - Malibu, CA: Structural engineering consultant responsible for structural design of six buildings
- Marin County Civic Center - San Rafael, CA: Roof replacement and alternatives analysis
- One Ala Moana - Honolulu, HI: Fully annotated construction details and complete technical specifications for the performance of the curtain wall, roofing, and waterproofing systems
- One Magnificent Mile - Chicago, IL: Design of supplemental anchorages and fall arrest systems to meet access needs, reduce operational risk, and improve worker safety
- Wintrust Arena at McCormick Square - Chicago, IL: Alternative design solutions related to exit capacity and exit travel distances for the large arena and event spaces and signature elements of the proposed building enclosure system

