OLD BONES

THE U.S. HAS ALWAYS BEEN the land of opportunity. But in many cases, those opportunities manifest not when looking forward but rather back—especially when it comes to the built environment.

Scattered across the country, often in larger urban centers, are numerous historic abandoned buildings that have outlived their original intended purpose but are located in very desirable areas. Fortunately, beneath the façade of crumbling masonry and plaster lies, more often than not, a rigid skeleton of structural steel. Why does that matter? Because steel maintains its strength and usefulness well beyond the life of other materials, regardless of the nishes, offering easier—and more attractive—renovation opportunities. Where a historic concrete-framed building might need to be demolished in its entirety, a steel-framed building can typically be saved, with members being replaced or reinforced on an as-needed basis.

Not only does renovation preserve history, but it also provides a more sustainable outcome. According to Carl Elefante, director of sustainable design at Quinn Evans Architects, the greenest building is the one that is already built.

If you're going to renovate a historic steel-framed structure, you need to know what you're dealing with. Here are ten questions to ask in order to help you evaluate the existing framing in your next retro t job:

1. W a b d b ? Knowing when the original building was built will help you identify historical records as well as steel production, design and fabrication practices of the time. Consider that in the early 20th century, steel mills such as Carnegie Steel Company, Jones & Laughlin Steel Company and Inland Steel Company all produced proprietary structural shapes, meaning that each mill had its own unique catalog of different shapes. Also note that over the past century, the base yield strength of structural steel shapes has varied from 30 ksi to 50 ksi (and today, even higher). A good source for historical information on structural steel is AISC Design Guide 15: *AISC Rehabilitation and Retro t Guide A Reference for Historic Shapes and Specications* (available at .a c. /d ; a recent update contains a new chapter of examples for evaluating existing steel). Many other historical resources are also available to AISC members, including past AISC manuals, speci cations, out-of-date publications and pre-AISC publications from structural steel producers. Visit .a c. / b ca to nd out more.

2. A v d a a ab ? The original construction drawings, when available, are the best source of information concerning a structure's steel framing system, and many industrial building owners have maintained such records and drawings; community-owned building drawings are usually retained by the municipality.

Another source of valuable information is the original shop and erection drawings. In many cases, especially for abandoned utility and industrial buildings, these drawings are readily available and will provide you with not only the sizes of the existing members but also the con gurations of the end connections.

If existing drawings are not available, it may be necessary to produce as-built drawings of the existing structure. This will require extensive eld measuring of the structure, includ-

ing the bay size measurements and beam and column locations.