

Evaluation

A Clear Picture

With today's technology, buildings are built to last for decades with only roof replacements anticipated as major capital projects. In actuality, however, this is not always the case. Many buildings today, old and even new, face extensive building envelope problems. These problems can be cosmetic or they can be structural. In order to properly correct the problem, the true cause first needs to be addressed. StructureTec's in-depth evaluation process considers the building as a whole in order to accurately determine what the causes of the problem are and then develop solutions for correction.



The Problems

One of the major categories of problems when dealing with reconstruction actually involves deficiencies of original construction. This phenomenon is a growing trend in the construction industry today. Many buildings are fast-tracked in order to finish the project sooner. This causes a definite lack in attention to detail. These deficiencies are evident in several ways. First, there can be a design flaw, stemming from an architectural or engineering problem. It can also be a material flaw, stemming from a manufacturing or system oversight. Finally, it can be a workmanship error, caused by the contractor.

The next major cause of problems in building envelopes is deferred maintenance. Many facility owners believe that their building envelope is built to be weatherproof without any maintenance except for the roof. This is not the case. Many building components, including joints and sealants, have a life expectancy of seven to twelve years. If they are not properly maintained, they can cause serious problems in a building envelope system.

Many buildings today, old and even new, face extensive building envelope problems.

Building Envelope Components

Roofs

- Low Slope
- Steep Slope

Walls

- EIFS
- Masonry
- Curtain
- Panelized System

Openings

- Windows
- Louvers/Grills
- Doors
- Penetrations

Joints

- Expansion
- Control/Isolation

Flashings

- Counter
- Head

Water Protection Systems

- Waterproofing
- Weatherproofing

■ The deliverables produced during this phase include a report with restoration recommendations and budgets, building schematics showing deficiencies, and representative condition photos. ■

Water/moisture infiltration along with damage to insulation, interior finishes, and equipment are a few of the minor problems that can be caused by either of these scenarios. If undetected, however, serious deterioration and even structural distress can occur. These problems can also lead to another serious issue concerning indoor air quality (IAQ) or Sick Building Syndrome (SBS). Undesirable water in a building is often a major component of IAQ and SBS problems regardless of the initial cause of the intrusion.

The Process

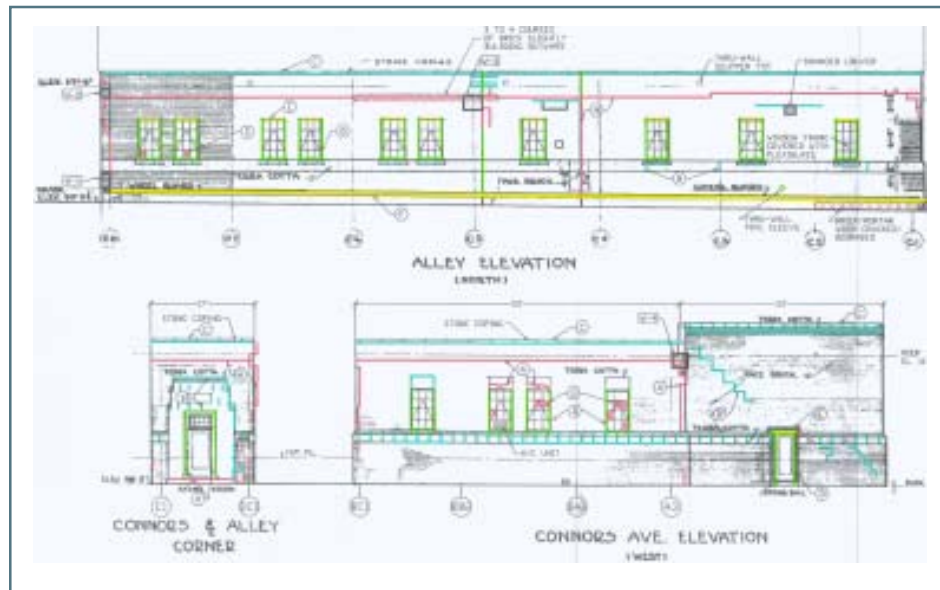
The evaluation process is managed by a licensed professional engineer and begins with a review of the plans, specifications, and other available information relative to the exterior envelope construction. A visual survey and condition evaluation with attention to detail is then performed for each exterior building elevation to identify obvious defects, cracks, and degradation. The condition of existing joints is evaluated, including sealant materials, backer rod, bond breaker tape, joint size, and sealant adhesion. Masonry, concrete, glass, atriums, cladding, openings, flashings, and water protection systems are

also evaluated to determine their condition and working status. In order to determine the overall weather-proofing performance of the wall, water leakage testing may be performed with observations of the interior to identify locations of water infiltration.

When these steps have been completed, the information is analyzed and a written report with our observations, findings, and recommendations is prepared. If several restoration procedures are feasible, they will be listed along with a primary restoration plan. Budget estimates for the recommendations as well as color photographs and schematics of the building will also be included.

These procedures will identify the structural problems for the majority of the situations. Additional testing, however, may be required in a more in-depth evaluation. Wall openings and material testing are some of the options which might be included in this process.

With the information from this evaluation, facility managers can consider the various restoration procedures and budgets, choosing a program which will best suit their company's needs. ■



BENEFITS

Identifies small structural problems before they become larger structural problems

Ascertains integrity of materials and construction

Accurate delineation on cause of problems

Provides various restoration procedures to determine best fit for client

Professionally licensed experts - industry qualified

Total Building Envelope Management SolutionSM

www.structuretec.com

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