

General Description:

- **Location:**
Midland, Michigan
- **Profile:**
Six-Story Building
- **Project:**
Masonry Restoration & Weatherproofing - North Hotel Tower

Services Provided:

- Evaluation
- Design Development
- Construction Document
- Negotiated Contract
- Field Quality Assurance

Challenge:

- Liability issues involving owner architect, and contractor
- Leakage conditions unsolved by previous parties
- Multiple leakage problems resulting from varied building components

Solution:

- Delineated on specific causes of problems relating to individual components of the wall assembly
- Used a scientific approach to determine causes of leakage
- Complete building envelope knowledge allowed problems to be solved in a sequential order

Acquest Realty Advisors, Inc. Ashman Court Hotel/Dow Corporation

Ashman Court Hotel is a six-story facility that was constructed with exterior brick masonry walls. This fairly new facility had experienced profuse

terior masonry and through-wall flashing detail at the base of the North Hotel Tower wall. The second area was actually intermittent leaks around the perimeter at



Overview of Ashman Court Hotel

leakage conditions shortly after original project completion. Both the initial architect and the original contractor were brought back to determine the cause of the problem, but these efforts were unsuccessful. An outside consultant was then brought in but was also unsuccessful in solving the owner's problems. StructureTec was then contracted on the recommendation of the previous consultant. Through a process of deduction, the cause of the leakage was discovered to be not one, but three separate problems. The first area of moisture ingress was through the ex-

high-bay/low-bay junctures. The third was occurring through the roof system that interfaced with



Water ingress caused by masonry distress and deficient through-wall flashings.



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the North Tower wall. The first and second areas were both masonry flashing problems. There were significant deficiencies in the laps and transitions of the flashing, and in many areas the flashing was non-existent. The roof problem was discovered to be an expansion joint that did not allow for movement between deck transitions. Once the problems and causes were delineated, the construction specification was written and the project was bid out. The restoration process was now able to commence. For the wall problems, restoration included replacing damaged brick units, tuckpointing deficient mortar joints, and installing a new stainless steel through-wall flashing system for the exterior brick veneer. Exterior walls were cleaned to remove existing stains, and a clear water repellent sealer was applied to all exterior masonry sur-

FEATURES

Scientific approach to problem-solving

Research included exploratory openings in wall

Designed new stainless steel through-wall counterflashing

Designed weatherproofing sealer system for exterior masonry walls to satisfy the porosity

Provided Field Quality Assurance

BENEFITS

Eliminated the cause of the problem, not just effect

Enabled the owner to address the specific areas requiring attention

Cost-effective corrective action with long-term watertight integrity

Created a moisture barrier to minimize moisture ingress through the exterior masonry wall

Ensured high quality end product

faces. Existing polyurethane elastomeric sealant was removed at all joints exhibiting open, deficient, or missing sealant and replaced with new elastomeric sealant materials. Corrective action for the roof involved remediation of an existing roof expansion joint detail and associated roof flashings along the base of the North Tower wall. These flashings were reconstructed with new EPDM materials and integrated with the masonry flashing system. Upon completion of the work, water testing was performed. Results from this testing showed that the specified exterior restoration and weatherproofing procedures were successful in correcting previous water leakage conditions inside the Ashman Court Hotel. ■



New through-wall flashings installed to correct the water ingress problem.

Total Building Envelope Management SolutionSM

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