DIS re:news

DESIGN INSTALLATION SYSTEMS, INC. 8110 River Drive • Morton Grove, IL 60053 • 847-470-8100 • www.disrestoration.com

Vol. 2, No. 2 Exceeding the Expectations of the Construction Industry Since 1982 June 2004

Features

- *Increased Capabilities*
- *Sheet Metal Work*
- *Stone Work and Fabrication*

As with most things in life, building restoration requires a learning curve. No one can simply buy a truck and begin successfully fixing deteriorated structures without the necessary qualifications and experience. Design Installation Systems has been learning and growing for more than 20 years. We have acquired all types of equipment as well as the trained personnel to use it. One of the main things separating DIS from the crowd is our ability to complete most projects without the need to outsource work.

When needed, we use only the most trusted and respected subcontractors in the industry. We learned long ago that keeping as many aspects of a project in-house improves project flow. As a project advances, changing contractors often leads to delays and increased costs. Having the ability to progress through the process without calling in outside help minimizes delays and cost increases.

Our ability to fabricate stone and concrete replacements is just the beginning. DIS' in-house facilities include storerooms of materials and hardware. Along with sheet metal and steel, we have scaffolding for every application. We provide our own sidewalk canopy for protection and have the people and fabrication equipment to custom-build almost anything to stabilize and repair building structures and facades. Our experience has added to our knowledge base and is the foundation we use to build into the future.

Having our own equipment and materials in our shop means that we are constantly ready to respond to our clients' needs. When the need for building maintenance comes unexpectedly or repair work is needed in a hurry, DIS can mobilize very quickly to meet the challenge. We can erect sidewalk canopy and swing-stage scaffolding in short order, stabilize the situation, and help engineers with inspections. After a plan of action is devised, DIS is ready to complete the work, regardless of the scope.

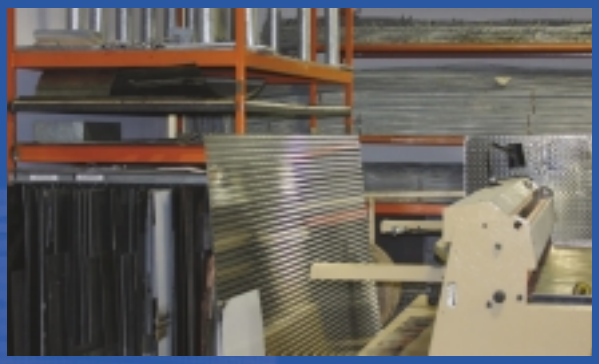
In the following pages we will explore some of the many in-house facilities at our disposal. Given our wide range of capabilities, Design Installation Systems is the logical choice when choosing a restoration or general contractor. We urge anyone who has questions or an interest in seeing our facilities first hand to call to set up an appointment.

Structural Elements

At Design Installation Systems, we are proud of our expanding capabilities. Our newest addition is a fully functioning sheet metal shop, which allows DIS to complete customized flashing, copings, and other sheet metal components with short lead times. The shop allows us to make each piece to the exact specifications brought in from our field representatives. This streamlining reduces chances for error and ensures a more precise fit for each piece.

As discussed in the March 2004 issue of *DIS re: news*, there are a number of flashing materials available today. One of the most popular choices for thru-wall flashing and counter flashing is sheet metal. Copings and sill caps are made of sheet metal but usually have a color coating or other finish that matches existing components. When reconstructing walls, some sheet metal work is almost always necessary in the work.

A variety of metals are available for these installations. Our in-shop supply includes aluminum, stainless steel, galvanized, copper, and brass in many gauges. All sheet metal can be cut and shaped in our fabrication shop. Thicker pieces can be welded, rather than bent, into the needed configuration.



When an item request is brought into our office, the fabrication process begins. Most pieces require drawings, either for the fabricator or for Architect/Engineer approval. Our project manager reviews the requirements and on-site dimensions and delivers a CAD drawing to the shop. The needed pieces are immediately made to order. The sheet metal is cut to fit on large shears and then bent into the required configuration. Hand-shaping, rolling, and spot welding are all provided at our facility.

When an opening has been made in a wall, the priority is to complete the repair as fast as possible. Temporary weatherproofing is always put into place to help protect the building interior. Although the area is protected, nothing can substitute for the fully reconstructed wall. Having the ability to remove the pieces and reset them the same or the next day provides a level of comfort to the owner and contractor alike.

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Stone Issues

Where buildings have stone facades, the stone, for the most part, is not structural (see "Masonry Restoration," March issue). When shifting or compression of stone occurs (just like with masonry), cracking and spalls are the result. But unlike masonry, modern stone facades are often larger in height and width than brick and sometimes as thin as 2 inches. These stone panels are therefore less stable when damaged. Although limestone is often installed more like brick, and is thicker than other stone cladding, larger limestone panels are often less thick than brick in relative terms.

After careful hands-on inspections are made, engineers can determine if problems warrant repair of the stone or if replacement is the preferred option. Repair of limestone, marble, and granite can include dutchman, patching, caulking, and tuckpointing. In situations where the stone is undamaged but its attachment to the backup structure is in question, supplemental anchorage is sometimes installed. These retrofit anchors tie the stone back to the structure without having to remove the stone.

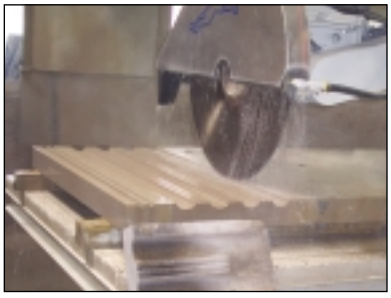
When stone replacements or stone dutchman repairs are needed, we supply our own custom fabricated pieces, which are cut in our shop from our stock. This in-house fabrication often reduces our time for completion by 4 weeks or more on simple, flat pieces. Lead-times for custom profiles are reduced by 6 to 8 weeks.

Completing stone repairs on a facade also includes steel and other work, as discussed in past issues. Keeping our fabrication processes in-house and under our direct control and having experienced stone masons on staff, DIS is a leader in all types of stone restoration.

Loose spall in stone (removed during inspection for safety).

Stone observed after a loose spall has fallen to the ground.

Spalled stones are cut and ready to receive dutchman repairs. The process involves replacing a small portion of the stone with new stones cut to fit and then mortared into place.



Project Profiles

Two North Riverside Plaza, Chicago, Illinois

Client:	Equity Office Properties
Consultant:	The Structural Shop
Assignment:	Exterior Wall Rehabilitation
Duration:	2 Years

Serving as the building owner's headquarters and gateway to thousands of rail commuters each day, Two North Riverside Plaza was again in need of extensive stone maintenance. As a result, ownership turned to Design Installation Systems to complete a comprehensive program including limestone repair and replacement, tuckpointing, and caulking. A considerable amount of limestone dutchman repairs were installed on the facades along with full stone replacements. As the project progressed, many of the parapet walls were found to be in need of major repair and thus were rebuilt.

Civic Opera Building, Chicago, Illinois

Client:	Equity Office Properties
Consultant:	The Structural Shop
Assignment:	Limestone and Terra-Cotta Restoration
Duration:	In Progress

The historic Civic Opera Building located on the Chicago River is currently undergoing extensive limestone and terra-cotta restoration. Design Installation Systems has done maintenance on this landmark for years and is currently in the early stages of a 4-year repair program. The repair and maintenance program currently underway is focused on stabilization and replacement of stones. In keeping with the character of this fine building, the profile of each replacement stone is carefully matched to the original. Additional caulking and tuckpointing work will help to protect the building from the harsh weather typical to the building's riverfront exposure.

333 North Michigan, Chicago, Illinois

Client:	333 North Michigan Avenue
Consultant:	Gemini Associates
Assignment:	Limestone Facade Restoration
Duration:	In Progress

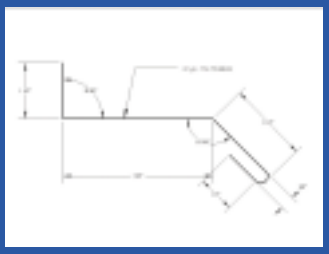
Corrosion of steel shelf angles and lintels within the walls of this Michigan Avenue treasure was stressing the limestone facades. Design Installation Systems was asked to complete a facade restoration project that included steel repair and replacement. Stone work included pinning limestone panels, repairing spalled stones, and full stone replacements where panels could not be salvaged. The work also included parapet wall repairs and rebuilding. To help keep the walls leak free, tuckpointing, sealant repairs, and crack repairs were completed at selected areas on each elevation.

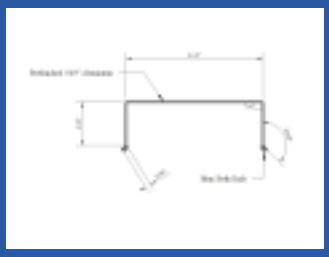
Montgomery Ward Building, Chicago, Illinois

Client:	Northwestern University
Consultant:	WJE
Assignment:	Exterior Facade Rehabilitation
Duration:	Third Year of 5-Year Project

Northwestern University's Ward Building is finished with the second year of the 5-year facade rehabilitation and is currently embarking on the third year. Work includes removal and replacement of deteriorated or damaged limestone blocks matching existing pieces in size and appearance. Also included is complete tuckpointing of all mortar joints, replacement of steel shelf angles, and full depth limestone dutchman repairs.

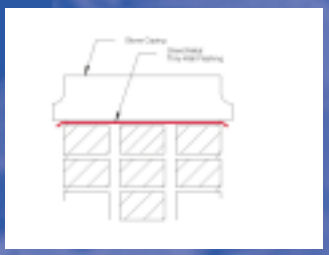
Structural Elements





These sample drawings show sheet metal configurations typical in wall construction. The idea behind flashing is to shed water away from an entry point and keep it from entering the building system. Most flashings are found at terminations and transitions. A properly tuckpointed and maintained brick wall may shed water sufficiently on its own, but if you look at the termination at the top of the wall, you should see a coping. The coping can be stone, brick, or sheet metal. If the wall cap is not sheet metal, it will most likely include flashing of some kind underneath. You can detect walls that have poor or missing flashings by examining them after a soaking rain. If water is entering a wall system, the brick or stone will become saturated. This effect is a leading cause of weather-related wall failures in this area. When freezing temperatures follow a soaking and the wall has not had a chance to dry, freeze/thaw damage results.

Flashing is always needed at building transitions. When Design Installation Systems is asked to complete tuckpointing or stone work in a leak area, oftentimes flashings are in need of replacement. Any time a roof area intersects with a wall, flashing is needed. Great care must be taken when working on or around flashings. Experience has shown that flashing details are critical. As the best results are attained when flashing and wall work are done simultaneously, having the ability to replicate existing flashings on demand has proved to be a great asset for DIS.



In modern construction, choices abound. For every application, there are many acceptable materials. Each material may have a number of varieties, colors, sizes, etc. Sheet metal is one of the most widely used building materials, and we are pleased to add sheet metal fabrication to our list of in-house services

Stan Podraza

We are pleased to introduce Stan Podraza, shop supervisor. Stan recently celebrated his 15-year anniversary with Design Installation Systems. In his time with DIS, he has always strived for excellence and has continued to grow with the company. We appreciate his hard work and congratulate him on his efforts.

Not only does Stan oversee and coordinate all aspects of shop operations, but he is an integral part of maintaining safety equipment and scaffolding. "We realize that our presence on a jobsite is often a disturbance to normal building operations. We try to minimize that negative influence as much as possible and feel that bringing clean and properly functioning equipment is a large part of that," Stan says. Stan's enthusiasm and meticulous care of our equipment reflects the high standards we have set for ourselves.

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