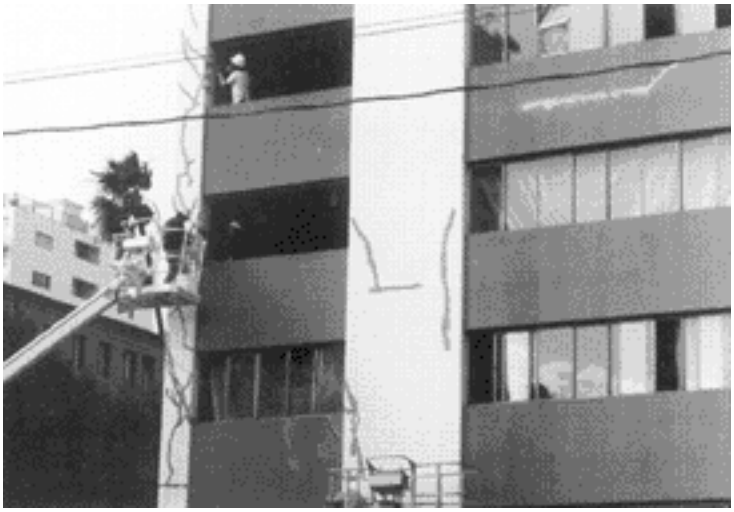
PROJECTions August 1994

Gluing Los Angeles Back Together

Epoxy Injection Repairs

by Doug Snider



The January 17, 1994 Northridge Earthquake and ensuing aftershocks have opened up a new line of work for American Constructors California, Inc. (ACCI). The company's in-house artisan level personnel will epoxy-inject miles of structural concrete cracks and perform spall repair. This process involves sophisticated epoxy pumps, resins, epoxy grouts, and a well-trained work force. ACCI uses Lily Corporation's CD3-A epoxy injection pumps exclusively, which utilize an entirely pneumatic drive system to assure critical ratio accuracies through an entire range of pressures and materials. Because the materials used are multi-component, they must be mixed before being injected into the damaged concrete. The mixing ratios are critical in achieving the epoxy design strengths. The majority of epoxy injected is Sika products' Sikadur 52, a super-low viscosity (175 centipoise) high modulus (3.5 X 105) material with 6,200 psi tensile and 1 1,700 psi compressive strengths at 1 4 days. The method for injection is a multi-step process and is as follows:

- Prepare the surface by grinding it with a diamond cup grinding wheel in order to bind the paste cap to the concrete.
- Drill port holes approximately 1/4" deep along the length of the crack. (The spacing of the ports is in direct relationship to the thickness of the concrete; 10" concrete = 10" spacing.)
- Set injection ports and apply Sikadur 33 paste to pressure sea the surface of the crack.
- After the surface paste has set for 24 hours the epoxy is injected into the crack at a pressure of approximately 100 psi.

The above process of prep, paste, port, and inject is labor intensive and takes about 15 minutes per lineal foot of crack to perform.

American Constructors' projects have included:

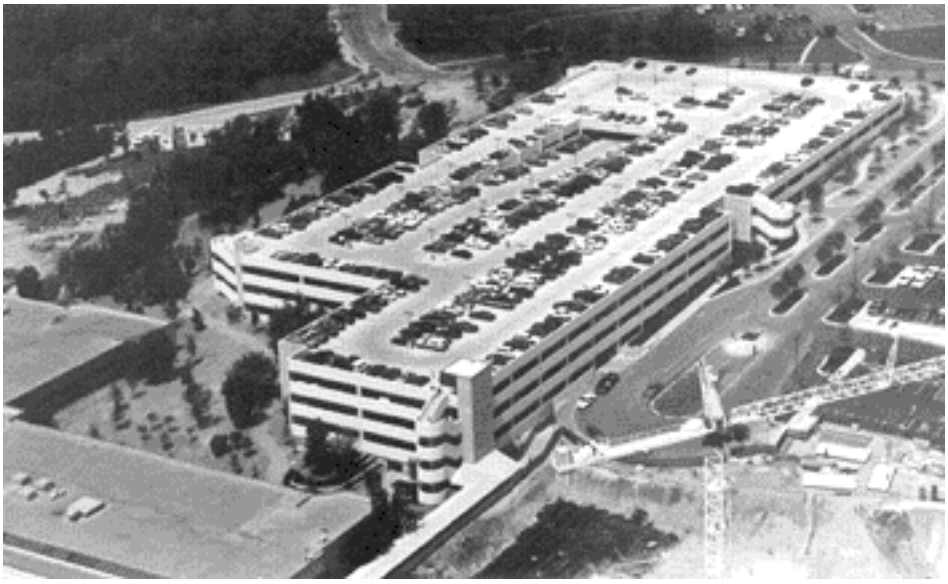
The Santa Monica Radisson Hotel - a 300 room high-rise building where the company worked around the clock, 7 days a week to expedite the re-opening.

The Woodland Hills Holiday Inn -a 130 room, mid-rise building.

Los Angeles County Hall of Administration - the 1 million square foot county seat of government. ACCI continues to receive additional work orders from the County of Los Angeles.

Motorola Parking Garage Garners Award for ACI

A three-and-a-half month completion schedule for a 1,200 car, 454,000 SF parking garage for Motorola in Austin, Texas, has earned American Constructors, Inc. AGC's Construction Excellence Award. A super-fast schedule was required to allow Motorola to begin construction of their second microchip manufacturing plant in Austin. Leading American's team were Project Manager Marty Burger and Superintendent Tim Cahalane, who, in close coordination with the representatives of Motorola, completed the first phase of the garage and initial occupancy 70 days after construction began.



A four-level precast concrete garage structural system incorporated 1,350 pieces of precast, including 63' long prestressed double tees, architectural walls, and spandrels and columns. The precast members, which were furnished by Coreslab Structures, Inc. of Austin, Texas, were erected using a 150 ton crane. Adding to the project's complexity were two 1 2" water lines traversing the site which required relocation concurrently with excavation and caisson foundation construction. These lines were tied in to the existing FAB Building which was to maintain operations at all times. The original scheduled completion was not delayed despite numerous design changes, relocating of utilities, and the addition of a 2,000 SF employee locker and shower room facility which was constructed below the parking garage. Other American Constructors team members included Steve Swanson, Terry Sheehan, Tim Shelton, Robert Morris, Pete Smith and Gabe Navejas.

American Constructors Is On the Road Again!

It's 12:30 PM on Wednesday, May 25th. The engine of the pink bus is idling. The box lunches are placed in all the seats. And everyone is wearing a hard hat. We're off to see one of the most unique projects in central Texas, the Barsana Dham Temple in Oak Hill.

We invited some of our friends, clients and associates to take a tour of this 35,000 SF, 3-story building located on 200 acres outside of Austin. This will be the principle campus for the project's owner, the International Society of Divine Love. Owner Representative Adolph Tonnessen pointed out the highlights of the hard work that has gone into creating this high quality structure, including the India Shilpis who are handcrafting the intricate and detailed stonework on the Temple. Construction, which started in early '93, includes several unique features such as 10-18 architectural concrete columns constructed or white cement and 21 different flat root surfaces. This temple structure is designed and being constructed to endure for the next 1,000 years. Working at the site were Project Manager Pat Sparks, Project Superintendent Bruce Blakely and Labor Foreman Greg Harders.

NEW WORK

ACHI (Texas)
Lakeline Mall Sitework Improvements

After much anticipation and many years of planning, construction began in January on shopping center developer Melvin Simon's newest and largest Austin mall. American Constructors, selected as the sitework contractor, is moving over 500,000 cubic yards of earth throughout this 109 acre site. The 1,364,000 SF mall is scheduled for a fall 1995 opening and will include five anchor tenants and approximately 5,573 parking spaces. American Constructors has Project Manager Tom Peoples and On-Site Manager Tom Staley working on the job.

ACHI (Texas)
Microchip Support Facilities

In Austin, American Constructors continues building at the high tech manufacturing facilities, as they race to get their plants completed and start manufacturing. Currently, American Constructors has four projects under way at Advanced Micro Devices' FAB 25 project. The most demanding project is a 50,000 SF industrial plant which processes manufacturing wastes and provides high purity water for the microchip plant. The building includes a massive underground concrete structure

built 35 feet below grade and requires continuous 35 foot high wall pours. Working at the site are Project Manager Marty Burger, Project Engineer Terry Sheehan, Project Superintendent Tim Cahalane and Field Superintendents Tim Shelton and R.C. McMillan.

ACHI (Hawaii)
Dillingham Hall at Punahou School

After 14 months of intensive renovation and new construction, the remodeled Dillingham Theater opened in February 1994 to rave reviews from the local community and Punahou School. The theater, complete with a two-story orchestra lift and 40-foot steel technical arches, proved to be quite a challenging job. The renovation involved extensive excavation and underpinning of the existing structure and the new CIP beams. The restoration of the fly balconies in the 70 foot high stage house tower gave Project Engineer Mike Betz an opportunity to get in shape! Designer Malcolm Hoizman's new vision for Dillingham Hall raised some eyebrows in the local historic community, but the consensus in the theater community is that the old auditorium has finally become a theater. Dillingham Hall represents ACHI's fifth renovation of the historic buildings on the 150-year-old Punahou School campus and is a prime example of American Constructors' commitment to quality work and satisfied owners.

ACHI (Hawaii)
The Challenge at Manele Golf Clubhouse and Maintenance Facility

The construction of the new golf clubhouse, comfort stations, and maintenance facility for the Manele Bay Golf Course on the island Lanai offered many unique opportunities and challenges. The project continued American Contructor's partnership with the Lanai Company, which owns 90 percent of the island, and if offered the construction team the opportunity to live and work in one of the most beautiful spots in the state of Hawaii. Frequent flyer miles, free golf, unlimited tuna sandwiches and the busy night life were added distractions for the project team. However Project Engineer Mike Betz Project Superintendent Raymond Batalon, and owners Rick Duggan and Paul Gattis proved to be an effective team.

The project included four different sites spread out over the new 18-hole golf course. With only two working concrete trucks, no hardware or material stores, and all deliveries made on the once-a-week barge, long range planning and scheduling were critical. Despite these challenges, the team was able to maintain the pre-bid schedule and meet all completion date for the various phases of the project. The level of quality of the finish work in the clubhouse, coupled with the

challenges of working on Lanai and an extremely tight schedule, have made this a job of which the company can be truly proud.

NEW PEOPLE


Michele Andersen

Joining **American Contructors (ACI)** in **Texas** as Business Development Associate is Michele "Mikki" Andersen. Mikki will be identifying new projects and clients and assisting in the company's sales and marketing efforts. She and her three children have lived in Austin since 1983.

Project Manager/Engineer Terry Sheehan has also joined **ACI**. Terry, who is originally from Chicago, has worked in Austin since 1984 as an estimator and project manager.

ACI has also added the following team members: Tom Staley, On-Site Manager of the Lakeline Mall project and recent retiree from the Navy Seabees; R.C. McMillan, Field Superintendent on the Advanced Micro Devices (AMD) project; John Haas, estimator and engineer working on his architectural engineering degree from the University of Texas at Austin; and Robyn Thompson, Administrative Assistant at the AMD project.


Dave Elmore

Joining **American Constructors California (ACCI)** in a key management position as Operations and Senior Project Manager is Dave Elmore. Dave brings to the company over 25 years of experience in the building business including 18 years with the Austin Company. Dave's credentials include degrees in architecture and business administration, as well as registration as both a professional architect and engineer.

Other new faces at **ACCI** include Project Superintendent Terry Adams, Project Engineers Bradley Williams and Hitesh Patel, and Executive Secretary Shannon Jackson.