SUMMER 2009 CHAMBERLIN Roofing & Waterproofing NEWSLETTER

Hurricane Ike Emergency Repair and Roof Replacement at Memorial Hermann Hospital

An aerial view of the Memorial Hermann Hospital campus shows the scope of work involved in the emergency repair and roof replacement project.

Hurricane Ike came ashore the upper Texas Gulf Coast on September 13, 2008 at 2:00 a.m. and left a path of utter destruction in its wake. Winds reached 110 miles per hour and wreaked havoc on many residential and commercial buildings. Storm surge waters reached 20 feet and millions of people lost electricity, use of public drinking water and even their homes. The Texas Medical Center and Houston's Memorial Hermann Hospital campus received its share of damage, too.

High winds from the hurricane ripped off large portions of Spanish tile on the hospital's numerous roof elevations. The tiles were blown all over the buildings; some impaled themselves in the adjacent flat roof areas and others fell to the ground damaging other parts of the building on the way down. Chamberlin and Manhattan Construction were on site immediately after the hurricane passed to assess the aftermath.

While Houston and surrounding areas were suffering from loss of electricity and gasoline shortages, Chamberlin was prepared to begin emergency repairs immediately after the hurricane ran its course. Generators were on hand to power the office's phone and computer systems, and gasoline was delivered to fuel the truck fleet. Chamberlin's project management team created a "situation room" to handle the large call volume and dispatch technicians to clients that needed help fast – clients like Memorial Hermann.

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CONSULTANT'S CORNER:

By: Bill Conley, President, Conley Group

Exterior Wall Maintenance

Know the Basics. Collect Data. Look Long-Term.

In today's economy, building owners have a renewed focus on maintaining building envelope systems rather than replacing them. While proper maintenance is always more economical in the long run, the economic downturn has most certainly inspired special attention to and care for existing assets.

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The five-building Memorial Hermann campus suffered significant damage to its Spanish tile and flat roofing systems. The tiles that remained intact on the roof were loose and posed a life-safety risk to pedestrians below.

"When you first looked at the building, you could not see the magnitude of damage on the multiple roof areas," said Manhattan Construction Project Manager Lisa Cantrell. "The broken tiles created a chain reaction of damage."

Over the course of three weeks Chamberlin worked to remove the hazardous debris, stabilize existing roof systems and install temporary roofs on the Life Flight helipad, over the emergency room entrance and throughout the entire campus until permanent repairs could be made. Chamberlin was called upon again shortly after temporary repairs were made to install the permanent roofs atop the Memorial Hermann Cullen and Jones Pavilions, the Heart and Vascular Institute and The Institute for Rehabilitation and Research (TIRR) buildings.

The Chamberlin team installed a two-ply modified membrane roofing system along with wood blocking, sheet metal flashing and trim. Part of Chamberlin's contract also included replacing the Spanish tile that was blown off in the storm. Chamberlin employed Graziano Roofing of Texas for their expertise in tile installation.

Debris scattered across roof at the Memorial Hermann Hospital Campus as a result of heavy winds from Ike.

On both temporary and permanent repair projects, accessing the various roof areas was a significant challenge. Space limitations intrinsic to the Texas Medical Center provided no areas for material storage and no place to put a crane large enough to move materials. In addition, roof terrain that varied from totally flat to extremely steep made work conditions highly diverse. Some could not be accessed by crane, so smaller cranes were brought in to lift material to one roof level so that it could be hoisted to another level.

Beyond logistical challenges related to material management and construction in tight quarters, working on site also required

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So, what do you do if you're charged with solving chronic leakage problems for your company? First of all, rest assured while solving leaks and preserving the value of exterior wall systems can be challenging, it is a manageable task. Following a few basic principles of effective building envelope management will help secure a successful approach. Before you get started, consider how the following insights should work into your game plan.

Know the importance and worth of the task.

Approach the task with a high sense of purpose and responsibility. The success of your efforts is important to the corporation, its employees and stockholders. Here's why.

The exterior skin, insulation, windows and structural support systems of the building are important corporate assets with high replacement values. Their performance is critical to protecting the company's core business and administrative functions. These systems house and ensure a safe, productive work environment for employees, vendors, customers and the general public.

Furthermore, with high energy costs and the need for indoor air quality and environmental health of the work place, the effective proactive maintenance of these wall systems is critical to building and corporate management. The EPA has estimated an economic loss of "tens of billions" of dollars per year in worker productivity and health and energy costs related to indoor air quality of buildings.

You cannot manage what you cannot measure.

Any remediation project and/or asset management program must begin with quantifying the task – whether it is the number, location and severity of leaks within a building – or the quantity, type, age, condition or remaining service life of the various components which make up the wall systems.

Begin by establishing a reliable leak reporting and validation process for observed water infiltration problems. The procedure will vary by organization, building size and building maintenance staff availability, but the leak data should be reported to and verified by a specific individual who understands the importance of accurate leak information. At a minimum, the leak report should include: date, time, floor level, elevation (N/S/E/W), specific location (i.e. office number), window/wall location (i.e. head of 3rd window) and severity (condensation, drips, trickle, continuous flow, serious flood).

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Despite the project challenges, Chamberlin went through the Memorial Hermann campus almost as fast as Hurricane Ike did.

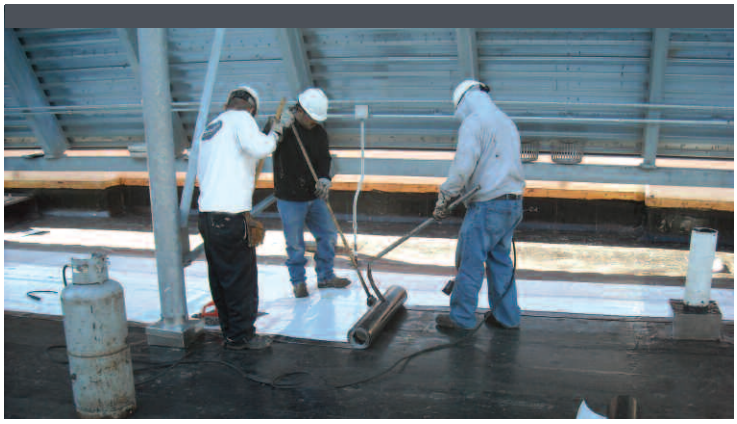
Chamberlin to maintain constant communication with Manhattan Construction and the hospital in order to ensure patient care was not marginalized in any way. Chamberlin coordinated as many as 50 on-site roofing mechanics each day.

Roofs were installed above operating, recovery and patient rooms. Likewise, modifications were made to the fireproofing beneath the roof deck inside the rooms. Each day, areas directly below construction work were closed off to patients and hospital staff for safety purposes.

"In the instance of an office building, for example, work can take place after hours," explained Chamberlin Project Manager, Bob Edwards. "In this case we were performing work on a hospital that is occupied 24 hours a day, seven days a week. So, limiting disruption to patients was as much of a challenge as it was a priority. We had to work closely with Manhattan Construction and the hospital to close areas as needed."

Despite the project challenges, Chamberlin went through the Memorial Hermann campus almost as fast as Hurricane Ike did.

"It was amazing how fast the project was mobilized and new roofs were installed," said Manhattan Project Manager Sean Crozier. "Chamberlin was extremely timely on the emergency repairs, and their commitment and ability to get the hospital up and running was outstanding."



Work in progress.

Memorial Hermann Hospital campus in the Texas Medical Center.

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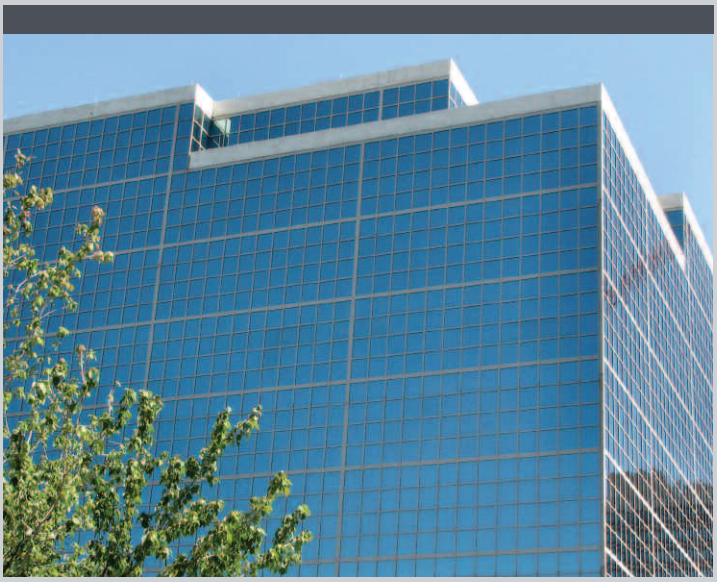
Accurate leak data is a critical first step in developing an effective, efficient survey and remediation project. Too often the condition assessment efforts have begun with "it leaks everywhere," when in fact the building only leaks at the heads of the windows on the 7th and 8th floors on the north elevation and at the spandrel panels and floor lines on the 14th, 15th, and 16th floors on the south and east elevations. The cost, schedule and scope of the condition assessment, and the design and remediation phases, can be greatly reduced and simplified with detailed leak history data. This data provides a valuable initial understanding of the scope of the problems: Are the leaks isolated? Systemic? Wind dependent? Temperature dependent? Vertically oriented? Growing in severity?

Invest in a professional inspection when necessary.

The scope and focus of an exterior wall survey should be based upon the nature of the leakage problems and the type of construction involved. Due to building heights, the exterior wall investigation process can sometimes be both expensive and time consuming. While a visual review using binoculars from ground level and intermediate roof or balcony levels is a good starting point, it is considered cursory. Since visual inspection is not definitive, except for the most serious distress conditions, lift equipment or swing stages are normally utilized for access to perform inspection, material sampling and water testing activities. The cost of these materials can represent 20-30 percent of the total survey cost.

Although full exterior inspections are sometimes required for forensic or litigation cases, one can be successful with selective (but detailed) inspections on one to two swing stage drops (typically 30' vertical sections of the building exterior) on each elevation.



An additional inspection drop may be required to investigate special features or observed distress conditions. Selective inspections are generally 20-30 percent of the cost of full surveys.

Inspection locations should be selected to access, inspect and test all components of the exterior wall systems at each floor level. In addition to detailed visual inspection and quantification of each wall system component and their relative condition, placement, attachment, expansion provisions and joinery, some of the following testing procedures may also be utilized:

- Sample extraction, dimensional and material testing of sealants and gasket materials;
- Mil thickness testing of coatings or paint finish;
- Rylem tube testing of absorption rates on masonry, concrete, stone or other surfaces;
- Compression testing of gasket/glass interface in the window system;
- AAMA 501.3 field static water infiltration testing;
- ASTM 783 air infiltration test;
- ASTM E546-88 test method for frost point of sealed insulating glass.

Proper attachment of exterior wall components is critical to performance and safety considerations. The survey should include inspection of structural framing and anchorage conditions at random locations, especially if movement, damage or distress

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of any wall components is present. This review may involve removal of interior ceilings or wall finishes for access and/or boroscope cameras to investigate demolition and reconstruction costs. In some systems, sectional removal for investigation of construction conditions may be necessary. It is easy to overspend for testing and inspection procedures. Although valuable tools, the location, scope and cost of any testing procedures, system demolition and inspection activities should be validated as relevant to resolving observed problems.

Look long-term.

Despite the variety and complexity of all systems, the "source causes" can be identified and corrected with the following in mind: access cost, risk, safety and disruption of high rise remediation projects. All sealants, gaskets, coatings and insulated glass units have limited and predictable service lives. Their remaining service life and cost, risk or disruption of future projects should be considered in finalizing the scope of the project. Invest in selective, limited repairs for specific problems. Consider full scale, comprehensive renovation when the leak problem conditions are widespread and/or wall system components aging and remaining service life is therefore limited.

A good condition assessment should include a 10-year estimate of future maintenance and remediation needs and associated costs. And don't be surprised at the real cost of ownership. The greatest value your research and time can offer corporate and financial management is a true estimate of the building's needs. Accurate knowledge of their asset management costs is what they need most.

Bill brings over 20 years of roofing industry experience to the benefit of Conley Group's clients. His proactive and tireless efforts consistently provide clients with the greatest opportunity to achieve a successful result and positive return on their expenditures related to roofs, walls, plazas and waterproofing. His work on corporate programs and industry panels keeps Conley Group on the leading edge of the industry through the integration of financial management and technical expertise. Bill can be reached at 800-809-2821 or bconley@conleygroup.com.

A National Award Winning Year — ABC Excellence in Construction and Safety Excellence Awards

A key part of our culture at Chamberlin is to always deliver "more" to our clients. Our goal is to exceed expectations, go above what is standard and excel in all that we do. We do this for our clients, not for accolades. However, being honored for excellence at the national level is something that brings all of us at Chamberlin great pride. This acknowledgment solidifies that our commitment to our clients stands out in the industry and sets us apart.

The Associated Builders and Contractors (ABC) 19th annual Excellence in Construction (EIC) and National Safety Excellence Awards (NSEA) Banquet was held in Washington, D.C. on June 24th. The awards celebrate the nation's most outstanding construction projects and those companies dedicated to providing safe workplaces. There were hundreds of entries from across the country. This year, Chamberlin was honored with two first-place (Eagle), one runner-up (Pyramid) and a Safety Excellence Award – a total of four national awards!

Dallas County Community College District (DCCCD) received an Eagle in the "Exteriors – Masonry, Precast or Stone" category. DCCCD's new offices used to be known as the Sears Roebuck Building, which was constructed in 1914. Construction Manager, Turner Construction, came to Chamberlin with an extremely comprehensive scope of restoration services and a challenge to make the building useable while enhancing its architectural significance as a historical registered building. The scope of work involved the complete restoration of the interior and exterior of the main office building as well as the courtyard and cotton gin building.

Discovery Green was also an Eagle winner in the category of "Other Specialty Construction Under $1 Million." Discovery Green is a 12-acre interactive park located in the heart of downtown Houston. Under the direction of Miner-Dederick Construction, Chamberlin had an active role in almost every phase of the project due to the large amount of waterproofing necessary in critical locations such as the below-grade parking garage, Kinder lake and model boat basin, Gateway interactive fountain, the Grove restaurant and other park buildings. Discovery Green recently achieved LEED Gold level certification from the U.S. Green Building Council.

The Pyramid award was received for Booker T. Washington High School for the Performing and Visual Arts in the category of "Exteriors – Masonry, Precast or Stone." The facility is a Dallas Independent School District arts magnet school constructed in 1929. Chamberlin was contracted by T.S. Byrne General Contractors to perform the exterior masonry restoration of the building. As part of this major exterior renovation, Chamberlin focused on transforming this abandoned eye sore into a serviceable building within a tight budget and limited timeframe.

After receiving one gold level and four platinum level awards from ABC's Safety Training and Evaluation Program (STEP) over the last five years, Chamberlin became eligible to compete in the 2008 National Safety Excellence Awards (NSEA). The NSEA program recognizes ABC firms whose safety performance and programs are judged to be exemplary and exhibit a lasting commitment to jobsite safety. Of the 15,000 contractor members, only 19 received this prestigious award. Chamberlin was among the six excellence award recipients in the specialty contractor category.

National Safety Excellence Award
Pictured left to right, ABC CEO Kirk Pickerel, Chamberlin Safety Director Cullen Irish, Chamberlin Vice President David Neal and ABC National Chairman Jerry Gorski

Eagle Award for Discovery Green
Pictured left to right, ABC CEO Kirk Pickerel, Chamberlin Senior Project Manager Joe Cotten, Chamberlin Superintendent Alex Benzor and ABC National Chairman Jerry Gorski

Eagle Award for Dallas County Community College District (DCCCD)
Pictured left to right, ABC CEO Kirk Pickerel, Chamberlin Project Manager Andy Wharton and ABC National Chairman Jerry Gorski

If a Hurricane or Tornado Tore Off Your Roof , Would You Know What to Do?

We do! Try these six recommendations to help prevent potential roof damage that may develop from high winds and heavy rain generated by hurricanes, tropical storms or tornadoes:

1. Airborne objects cause the most damage to buildings during high winds. Walk your roof and remove all debris that might become airborne.

2. Severe ponding of water on roofs can lead to total roof collapse. Check all drains and clean all debris in and around them to maximize water runoff from the roof during periods of heavy rains. Keep in mind that the dead-load weight for one gallon of water is equal to 8.33 pounds. A 200 sq. ft. pond on your roof at an average depth of 3 inches increases the dead-load bearing weight upon a structural deck system close to 3,000 pounds. This weight can be concentrated in a relatively small area in and around the drains. This condition can significantly decrease the designed safety load that was intended for the structural decking system and has been the major contributing factor in roof collapses in the past.

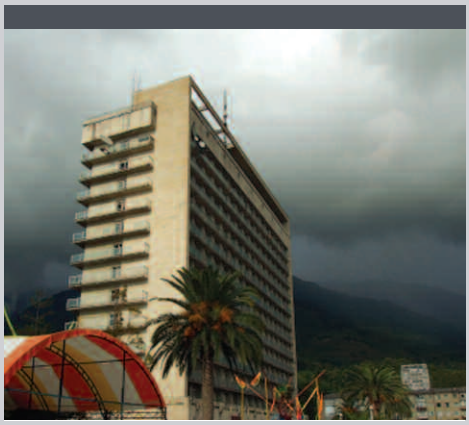
3. Proper drainage of your roof system is critical. Clean all gutters and check downspout drainage.

4. Many roofs are lost to high winds because the perimeter sheet metal has not been adequately secured. Inspect metal coping and secure all loose panels and joints.

5. Critical components of mechanical equipment can be lost during a storm if not properly secured. Secure all HVAC access panels and loose parts.

6. Large projectiles can cause a huge amount of damage during severe storms. Secure all common area items such as trash containers, benches and urns that are not secured to the property.

At Chamberlin, our technicians are available to our clients 24 hours a day, seven days a week. In the event of a roofing emergency we can survey your property, assess possible damage and make any necessary temporary repairs within 24 hours or less depending on the severity of the storm and the requests for help. We keep an inventory of the material necessary to temporarily stop the water from entering your building and minimizing damage to the contents.



Call your local Chamberlin office today to create an emergency plan and secure priority service for your urgent roofing and waterproofing needs. A little preparation now will ultimately protect your building and tenants when severe weather strikes.

Parking Garage Restoration & Repair — Did You Know?

Did you know that Chamberlin has extensive experience in the maintenance and repair of parking garages? Whether new structural columns are required to ensure the stability of the structure or a traffic bearing, waterproof coating is needed to protect the integrity of the concrete from water infiltration, or any other type of deterioration problem, Chamberlin has the knowledge, capability and experience to help you extend the life of your parking garage investment. Some of the parking garage restoration and repair services offered by Chamberlin are listed here.

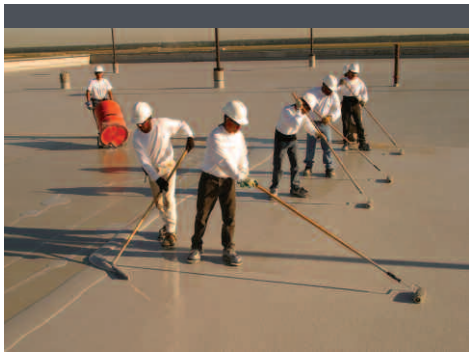
Maintenance & Protective Restoration:

- Vehicular & Pedestrian Traffic Bearing
- Waterproof Coatings
- Water Repellents
- Expansion Joint Repair & Replacement
- Elastomeric Coatings & Epoxy Paint
- Installation & Repair of Drainage Systems
- Caulking & Joint Sealants

Structural Restoration:

- Bearing Pad Replacement
- Horizontal & Vertical Spall Repair
- Epoxy & Urethane Grout Injection
- Concrete Spandrel Panel Repair
- Double “T” & Inverted “T” Beam Repair
- Concrete Pan Slab Replacement
- Structural Wraps
- Structural Steel Repair & Replacement

Please feel free to email David Neal at dneal@chamberlinltd.com if you have any questions on what type of methods are available to solve your particular garage issues. Also, if you need assistance in developing budgets for necessary repairs, we are happy to assist, free of charge.



PROJECTS IN PROGRESS

CHAMBERLIN
Roofing & Waterproofing

LOCATIONS:

Call the nearest local office or 1-800-749-1432

HOUSTON
7510 Langtry
Houston, Texas 77040
Ph. (713) 880-1432
Fax (713) 880-8255

DALLAS/FT. WORTH
2346 Glenda Lane
Dallas, Texas 75229
Ph. (214) 273-9110 / (817) 237-1927
Fax (214) 273-9120 / (817) 237-2676

AUSTIN
1515 Dungan Lane, Ste. 210
Austin, TX 78754
Ph. (512) 275-1600
Fax (512) 275-1603

SAN ANTONIO
9035-A Aero St.
San Antonio, TX 78217
Ph. (210) 822-6536
Fax (210) 822-8211

OKLAHOMA CITY
2620 South Meridian Ave.
Oklahoma City, OK 73108
Ph. (405) 680-0506
Fax (405) 680-0508

Also licensed in Arkansas and Louisiana

Terminal D Project 500L – Houston, TX
Roof Replacement
Contract Amount: $2,400,000 (approx.)
Owner: City of Houston
Architect: PGAL
General Contractor: Clark Design/Build LLC
Scope of Work: Removal of existing roof system and installation of single-ply roofing system and sheet metal
Project Description: George Bush Intercontinental Airport Houston

Longhorn Village – Austin, TX
New Construction Waterproofing
Contract Amount: $750,000 (approx.)
Owner: Longhorn Village
Architect: Rees Associates
General Contractor: Manhattan Construction Company
Scope of Work: Foundation drainage, below-grade waterproofing, cementitious waterproofing, dampproofing, balcony deck coating, joint sealants, through-wall flashing, hot-applied waterproofing, pavers and expansion joints
Project Description: Assisted and independent living center

Fair Park Esplanade – Dallas, TX
Remedial Waterproofing
Contract Amount: $550,000 (approx.)
Owner: City of Dallas Park & Recreation Department
Architect: Quimby McCoy Preservation Architecture, LLP
General Contractor: Rogers O'Brien
Scope of Work: Bentonite waterproofing, joint sealants, traffic coating, paint coating and concrete restoration
Project Description: Reflection pool and fountains

UNTHSC Public Health & Education Bldg. – Fort Worth, TX
New Construction Roofing
Contract Amount: $300,000 (approx.)
Owner: University of North Texas System
Architect: Jacobs Carter Burgess
General Contractor: Austin Commercial
Scope of Work: TPO roofing system, sheet metal and flashing
Project Description: Four-story education center

Oklahoma University Cancer Institute – Oklahoma City, OK
New Construction Waterproofing
Contract Amount: $250,000 (approx.)
Owner: The University of Oklahoma
Architect: The Benham Companies
General Contractor: Manhattan Construction Company
Scope of Work: Waterproofing, sealants, dampproofing and pavers
Project Description: Multi-story building and parking garage

Irving Convention Center – Irving, TX
New Construction Waterproofing
Contract Amount: $750,000 (approx.)
Owner: City of Irving
Architect: RMJM Hillier
General Contractor: Austin Commercial
Scope of Work: Air barrier, sheet membrane waterproofing, hot-applied waterproofing, joint sealants, expansion joints and flashing
Project Description: 100,000 sq. ft. meeting and exhibit space

5000 Montrose at the Museum – Houston, TX
Remedial Roofing & Waterproofing
Contract Amount: $750,000 (approx.)
Owner: 5000 Montrose Council of Co-Owners
General Contractor: Cavalry Construction Company, LP
Scope of Work: Removal of existing roof system and installation of new TPO single-ply roofing system, sheet metal flashing, precast sealants, wet glazing and pressure washing
Project Description: 23-story condominium

OMRF Research Tower – Oklahoma City, OK
New Construction Waterproofing
Contract Amount: $250,000 (approx.)
Owner: Oklahoma Medical Research Foundation
Architect: Perkins+Will
General Contractor: Flincto, Inc.
Scope of Work: Waterproofing, sealants, repellents, exterior coating, air barrier, firestopping and crystalline waterproofing
Project Description: Laboratory, administrative and clinical research building

Fort Bend County Jail Expansion – Richmond, TX
New Construction Waterproofing
Contract Amount: $800,000 (approx.)
Owner: Fort Bend County
Architect: Rosser International, Inc.
General Contractor: Turner Construction Company
Scope of Work: Perimeter fire-safing, fire caulking, security sealants, joint sealants, expansion joints, floor sealers, traffic coating, dampproofing and flashing
Project Description: 250,000 sq. ft. addition to prison facility

Rich Products Corporation – Brownsville, TX
Roof Replacement
Contract Amount: $350,000 (approx.)
Owner: Rich Products Corporation
Consultant: Canon Consulting
General Contractor: Chamberlin Roofing & Waterproofing
Scope of Work: Removal of existing built-up roof system and installation of new single-ply roofing system
Project Description: Cold food storage building

SPECIALTY CONTRACTING SERVICES:

ROOFING/SHEET METAL
- BUR
- EPDM
- Modified Bitumen
- PVC/TPO Thermoplastic
- Metal standing seam
- Roof related sheet metal
- Gutters/downspouts

WATERPROOFING/CAULKING
- Joint sealants
- Membrane waterproofing
- Elastomeric wall coatings
- Traffic coatings
- Expansion joints
- Dampproofing/flashing
- Water repellents/metal flashing

BUILDING/GARAGE RESTORATION
- Concrete/Masonry restoration
- Exterior cleaning & coating
- Epoxy & grout injection
- Bearing pad replacement
- Structural repair
- Paver repair & replacement

ROOF MAINTENANCE/LEAK REPAIR
- Roofing & waterproofing expertise
- Roof & waterproofing surveys
- Custom roof maintenance plans
- Maintenance budgeting assistance
- Service 24 hours/365 days a year
- Free estimates