

## Fresh Look for Gables Uptown Trail

Gables Uptown Trail is a seven-story, luxury multi-family building that hosts 334 apartments and is located in Uptown Dallas adjacent to The Katy Trail, a winding path through Dallas that was once an abandoned railroad line. The structure has a stucco façade, which experienced cracking over time. Chamberlin's expertise in building envelope repair and restoration led to them being selected to make exterior refurbishments on the mid-rise apartments.

This year-long project kicked off in January of 2017. To combat the wear and tear the elements had inflicted on the exterior of the building, Chamberlin performed joint sealant replacement, power washing, stucco repair, balcony cleaning and painting and installation of a waterproof coating on the entire building envelope. The result is a pristine façade that is watertight to protect residents and their property.



*Chamberlin performed building envelope restoration for Gables Uptown Trail in Dallas, Texas.*

### REVITALIZING A DALLAS LUXURY COMMUNITY

This building boasts unique aesthetics with five different colors on the façade, creating a color-by-numbers effect when matching the new coating to the preexisting scheme. Chamberlin performed multiple mock-ups of caulking and coating samples to determine which colors would be the closest match to original construction.

Before the coating application began, the crew tested the stucco for moisture. A hand-held reader was utilized to report whether the moisture level was low, medium or high. For proper adhesion, the product could not be installed at any level measuring greater than low for moisture. Drying time for the stucco had to be allotted

after power washing or rain, and these times varied depending on temperature and sun exposure.

Chamberlin performed quality control checks throughout the project for the manufacturer, the consultant and the owner. Cheesecloths were placed in sections of the coatings for pull tests, which were also performed on the joint sealants to confirm adhesion. All tests passed with high marks.

The application of the different colored coatings took precision and detail. Where two different colors met, a razor straight line was required with no overlap in color. Chamberlin crew members handled this

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### CONSULTANT'S CORNER:



*By Gary Williams  
Senior Project Manager/Business  
Development Executive, Conley Group*

### Building Enclosure Commissioning (BECx) We've been doing this all along. What's the big deal?

The commissioning process evolved from the world of verifying that mechanical systems were properly installed and functioning to meet code and design requirements. Mechanical System Commissioning is required by code.

The definition of Building Commissioning according to IECC 2015 is: A process that verifies and documents that the selected building

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two-coat installation with great care, and the results impressed the entire project team.

## SILICONE SEALANTS VS. WATER-BASED SEALANTS

The material specified for the waterproof coating added an additional challenge to the precise application process. GE SiShield 2400 is a 100% silicone barrier that retains color beautifully while sealing out water and serving as a barrier for air intrusion. Silicone sealants are UV resistant and resilient to the elements, degrading less easily than water-based sealants. While these qualities benefit the building, they add a level of difficulty to the installation. Crew members worked meticulously to avoid dripping or splattering the coating on other areas of the building, balconies below, the side walk, vehicles or anything else in surrounding areas. A special cleaner is required to remove any displaced coating, and even with the cleaner many times the coating will not come off. Tarps covered windows, railings, cars and other objects for added protection.

Wind and extreme heat further compounded the situation. Normally, the material cures within an hour or two, but the heat was accelerating the

drying pace. When applying two coats of this material, usually they would blend together seamlessly. However, the first layer drying more quickly prohibited this. On the first drop Chamberlin completed, they noticed visible lines where the application strokes overlapped. To combat this, Chamberlin consulted with the manufacturer and added 5% paint thinner to the coating. This solution was successful going forward and also covered the visible overlaps.

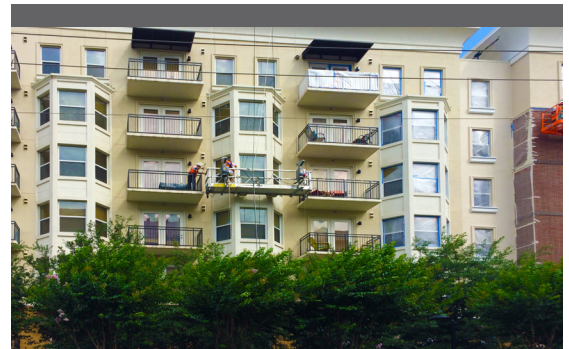
## MEANS OF ACCESS FOR BUILDING RESTORATION

Chamberlin performed over 100 drops with five swing stages working simultaneously to complete the building envelope restoration. The intricate design of the building posed challenges for the design and rigging of the swing stages.

Many different sizes and shapes of swing stages were built to maneuver around the facility's multiple eyebrows, balconies and other protrusions. Chamberlin built U-shaped stages, L-shaped stages, stages of multiple widths and extensions to access the different areas of the façade. They also utilized a boom lift, scissor lift, scaffolding

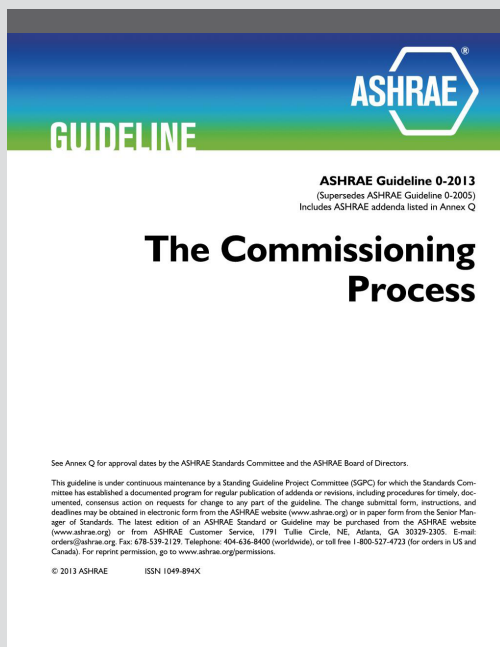


*Tarps covered windows, railings, cars and other objects in the surrounding area to protect them from contact with the silicone coating used for the building envelope restoration.*



*The intricate façade required multiple means of access for the building envelope restoration.*

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systems have been designed, installed, and function according to the owner's project requirements and construction documents, and to minimum code requirements.

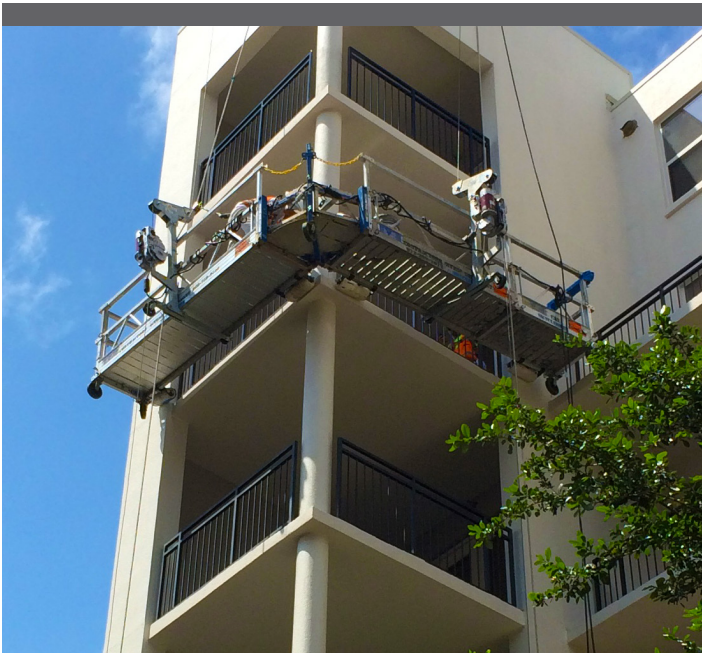
ASHRAE Guideline 0-2013 "The Commissioning Process", is the industry standard used to conduct the commissioning process. The ASHRAE Commissioning Process is supplemented by companion Technical Guidelines. Technical Guidelines are defined as:

*"A document written in informative language that provides state-of-the-art design or best practice guidance. Guidelines provide information on system selection, design approaches, practices, and goals as well as setting desirable and achievable performance levels. Guidelines may address issues of concern such as startup and commissioning, operation and maintenance and assurance that the goals of the associated standard (if any) are achieved." (Source: ASHRAE 2010 Project Committee Manual of Practice (PC MOP))*

The National Institute of Building Sciences, NIBS Guideline 3-2012 "Building Enclosure Commissioning Process (BECx)" is the industry standard to conduct Building Enclosure Commissioning (BECx). According to the NIBS Guideline 3-2012, "The Building Enclosure Commissioning (BECx) Process is utilized to validate that the design and performance of materials, components, assemblies and systems achieve the objectives and requirements of the owner."

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Swing stages were constructed in various shapes and sizes to access different areas of the building façade for restoration.



Installation of GE SilShield 2400 for the building envelope restoration on Gables Uptown Trail in Dallas, Texas.

and a mass climber in areas a swing stage could not be hung, such as the curved façade on the building's front.

A pitch on the roof's parapet wall forced the anchor point for the swing stages farther into the roof's center. Swing stages with a longer reach, such as those dropping over balconies, required anchor points even farther in. HVAC and the

multitude of other roof equipment added additional challenges, leaving limited roof space for rigging. Long beams, up to 2,000 pounds of counterweights and strong back cables to prevent the beams from bending were utilized to complete this complicated rigging situation.

Chamberlin had a competent person inspect the rigging and stages every day before

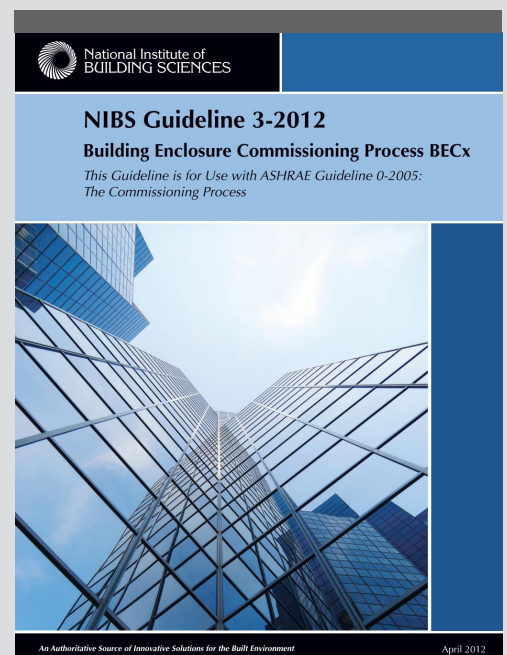
work began, and every crew member went through swing stage training before the job started. The project was completed with no safety incidents and all crew members returning home safely each night. Chamberlin Superintendent Jerry Elliott stated, "All the guys worked together to overcome any difficulties faced and did so safely." ■

## (BECx Continued from pg. 2)

A primary difference between the BECx Process and traditional Building Envelope (BE) Consulting Services is that the BECx Process focuses on early engagement with the owner *prior* to the beginning of design services and continuing *throughout* the life of the building. The baseline for the BECx Process is developed in the Owner's Project Requirements (OPR). NIBS Guideline 3-2012 defines the OPR as:

*"A written document that details the goals, concepts, and criteria that are determined by the Owner to be important to the success of the project. The portion of the OPR that relates to the Building Enclosure is considered to be a "living document" for the BECx Process and outlines the objectives upon which the Pre-Design, Design and Construction phases are evaluated."* (NIBS Guideline 3-2012)

A significant difference between traditional BE Consulting Services and BECx is that traditional BE Consulting Services may include responsibility for design. The BECx Process is intended to verify that building design and construction meets the Owner's Project Requirements (OPR). Design Services are usually *not* a part of the BECx Process. Another difference is that traditional BE Consulting Services are frequently contracted in a piecemeal manor. This oftentimes occurs to meet budgets and scopes of work requested by building owners. Like BECx, traditional BE Consulting Services can, and frequently do, begin during the early design phase by providing design review or design services at Schematic Design (SD), Design Development Documents (DD), and Construction Documents (CD) Phases. Design Phase Sequencing for traditional BE Consulting Services and the BECx Process is similar.



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Building Envelope Consultants may be engaged for various levels of consulting services to conduct Design Reviews and to provide Construction Administration Services. BECx Providers may also tailor scopes of work to suit owner requirements depending on the size and complexity of projects, however, organization of the BECx Process lends itself to helping building owners understand the necessity of implementing the entire process and is intended to engage the Building Enclosure Specialist (BES) prior to the beginning of design. A summary of key process phases, activities, and deliverables for the BECx Process is listed below.

The BECx Process is divided into four (4) phases. Pre-Design, Design, Construction, and Occupancy and Operations. The Building Enclosure Commissioning Authority (BECxA), is responsible to formally document the project-specific Building Enclosure Commissioning. The Building Enclosure Specialist (BES) is the person considered the technical building envelope expert who conducts the BECx Process.

## PRE-DESIGN

*“Pre-Design is a preparatory phase of the project delivery process in which the Owner’s Project Requirements (OPR) are established and general information about the overall project is gathered.” (NIBS Guideline 3-2012)*

Key activities and deliverables in the Pre-Design Phase include:

- Form Commissioning (Cx) Team
- Organize Kickoff Meeting
- Develop Owner’s Project Requirements (OPR) Document
- Determine Commissioning Scope and Budget for the Commissioning Process
- Develop Initial Commissioning Plan
- Identify Training Requirements
- Prepare Commissioning Process Progress Report

*“The OPR developed during Pre-Design should be recognized as a starting point for subsequent design phases. The OPR will continue to evolve during the design phases in order to balance the functional, performance and budgetary criteria of the project.” (NIBS Guideline 3-2012)*

The OPR and Commissioning (Cx) Plan are updated and a Commissioning Process Report are prepared *at each phase of the ensuing BECx Processes.*

## DESIGN PHASE

Similar to traditional BE Consulting, the BECx Design Phase consists of Schematic Design (SD), Design Development (DD), and Construction Documents. BECx Design Phases occur at approximately 35%, 65%, and 100% of Design Completion respectively.

*“The design phase is comprised of tasks that verify the Owner’s Project Requirements are comprehensively outlined, detailed and specified in the Contract Documents (CDs). Design reviews are performed and documented by the Building Enclosure Specialist (BES), and team meetings are held to review and discuss building enclosure systems and their performance for compliance with the OPR. The BECx plan is further refined and the BECx project-specific specification is included in the Project Manual.” (NIBS Guideline 3-2012)*

Key Design Phase activities and deliverables include:

- Schematic Design (SD)
  - Basis of Design (BOD) Document (prepared by Design not BECx Team)
  - Review Basis of Design (BOD)
  - Determine Systems Manual Structure
  - Determine Training Requirements
  - SD Technical Design Review
- Design Development (DD)
  - DD Technical Design Review
  - Update Basis of Design (BOD, occurs at each ensuing phase)
  - Update Systems Manual (occurs at each ensuing phase)
  - Update Training Requirements (occurs at each ensuing phase)
- Construction Documents (CD)
  - CD Technical Design Review - Provide recommendation(s) for the development of additional details and drawings. Review entire set of CD documents for completeness and coordination.
  - Develop Construction Checklists
  - Develop Cx Process Requirements for Construction Documents
  - Review and provide advice on

mock-up design and construction, testing, and inspection procedures

- BECx specification - Develop a project building-specific building enclosure commissioning specification and matrix outlining the roles and responsibilities of the construction phase commissioning team

## CONSTRUCTION PHASE

*“Recommended Construction Phase building enclosure commissioning team members include but are not limited to: Owner, A/E, Specialist Design Subconsultants, CxA, BECxA (as required), BES, Construction Manager, General Contractor, Subcontractors, Manufacturers, Independent Testing Laboratories and others as required by the project.” (NIBS Guideline 3-2012)*

- Develop Project-Specific Checklists
- QA/QC Plan and Site-Specific Testing Plan
- Implement an Issues/Non-Conformance Log Process
- Conduct Pre-Construction BECx Kickoff Meeting
- Perform technical reviews of the Building Enclosure Submittals and Shop Drawings
- Perform periodic construction observations for mock-ups and BE system installations
- Observe, coordinate, and/or perform and document field performance testing
- Final BECx Plan
- Final OPR
- Develop Building Enclosure Maintenance Manual

## OCCUPANCY AND OPERATIONS PHASE

The Occupancy and Operations Phase extends the BECx Process into the closeout and owners operation of the building. One of the key hallmarks of this phase is that the BECx Process continues throughout the life cycle of the building.

- Prepare for submittal of the Substantial Completion Document
- Completion of all Owner Project and Agreement Requirements or Documented Amendments
- Conduct Systems Training
- Final Project Commissioning Report

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(BECx Continued from pg. 4)

- Verify Schedule of Services during the Warranty Phase
- Verification of Commissioning Responsibilities for new work identified in the Commissioning Plan
- Direct and verify seasonal tests
- Coordinate Building Enclosure Contractor Call-Back and Warranty Enforcement ■

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*Gary Williams is a skilled Client Executive and Senior Project Manager at Conley Group with an extensive background providing consulting services for K-12 and higher education schools, commercial buildings, sports facilities, and historic structures. Mr. Williams' skill set includes Facility Asset Management Planning, Building Envelope Design, Project and Construction Management, and Building Envelope Commissioning. Mr. Williams is a member of the Project Management Institute (PMI) and holds a Project Management Professional Certificate (PMP). He also holds Commissioning Authority + Building Enclosure (CxA+BE) and Building Enclosure Commissioning Process Provider (BECxP) Commissioning Certifications from the University of Wisconsin. Mr. Williams is a member of Roof Consultants Institute (RCI) and the North Texas Chapter of RCI (NTCRCI). Mr. Williams has presented technical education sessions at national and regional conferences, some of which include 2015 NFMT Orlando, 2016 RCI, 2017 TAPPA, 2017 BOMA, SCUP, and 2018 ABAA. He has also served as guest speaker for numerous technical training programs and lunch & learn events for building owners, trade associations, A/E firms, and general contractors. Mr. Williams can be reached at 972-444-9020 or [gwilliams@conleygroup.com](mailto:gwilliams@conleygroup.com).*

**Want to share your building envelope expertise?**

**Contact Cristina Kinney to submit an article for Chamberlin Roofing & Waterproofing's guest column.**

[ckinney@chamberlinltd.com](mailto:ckinney@chamberlinltd.com)

## Safety: Every day, all the time, no excuses.



Werner conducted fall protection training for Chamberlin Roofing & Waterproofing during National Safety Month.

The National Safety Council designates June as National Safety Month, which focuses on reducing leading causes of injury and death at work, on the road and at home. The four safety topics highlighted this year were emergency preparedness, wellness, falls and driving. Just previously, OSHA led the annual National Safety Stand-Down Week to raise fall hazard awareness across the country. Chamberlin participated in both efforts, sharing information and educating on these safety topics. Crews also participated in safety stand-downs on project sites, where the project team takes a break to focus on fall hazards and reinforce the importance of fall prevention.

Safety at Chamberlin is more than just a word, it's a fundamental value. More than anything, we must excel at safety because our employees' lives depend on it.

Chamberlin Roofing & Waterproofing's safety program was recognized by the Associated Builders and Contractors' (ABC) Pinnacle Award. This is the highest level of safety recognition in their awards program and "honors members who have created world-class safety processes and a safety culture where every employee understands that the wellbeing of those around them is everyone's responsibility," said 2018 ABC National Chair George R. Nash, Jr. ■



Chamberlin Safety Director Justin Lambert (center) and Vice President Andy Wharton (right) accepted the ABC Pinnacle Award at the ABC Convention in Long Beach, California.

## LOCATIONS:

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### TEXAS SCHOOL FOR THE DEAF BP 4 – AUSTIN, TX

#### Remedial Roofing and Waterproofing

Contract Amount: \$1,700,000 (approx.)  
Owner: Texas Facilities Commission  
Architect: Parkhill Smith and Cooper  
General Contractor: Flintco, LLC  
Scope of Work: Demolition of built-up roofing system and lightweight concrete, installation of two-ply SBS modified bitumen roofing system, barrel standing seam roofing system, site sealants, masonry joints, expansion joints and wet glazing  
Project Description: Renovation of two gymnasiums and central plant

### CITY OF LAKEWAY POLICE BUILDING – LAKEWAY, TX

#### New Construction Waterproofing

Contract Amount: \$150,000 (approx.)  
Owner: City of Lakeway  
Architect: Brinkley Sargent Wiginton Architects  
General Contractor: SpawGlass Contractors, Inc.  
Scope of Work: Installation of fluid-applied air barrier, thermal insulation, sheet metal flashing, fire sealants and joint sealants  
Project Description: Police facility

### VICTORIA MALL – VICTORIA, TX

#### Roof Replacement

Contract Amount: \$6,600,000 (approx.)  
Owner: Hull Property Group  
General Contractor: Gemini Construction Company  
Scope of Work: Sheet metal fabrication and installation, counterflashing, coping, expansion joints and installation of two-ply SBS modified roofing system  
Project Description: Re-roof of regional shopping mall

### CANOPY BY HILTON – SAN ANTONIO, TX

#### New Construction Waterproofing

Contract Amount: \$700,000 (approx.)  
Owner: 155 Commerce Hotel, LLC  
Architect: Gensler  
General Contractor: Sundt Construction  
Scope of Work: Installation of below-grade waterproofing, hot fluid-applied waterproofing, traffic coating, fluid-applied air barrier, joint sealants, sheet metal flashing and trim  
Project Description: 21-story hotel on the River Walk

### UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER BARSHOP – SAN ANTONIO, TX

#### New Construction Waterproofing

Contract Amount: \$650,000 (approx.)  
Owner: The University of Texas Health Science Center at San Antonio  
Architect: Alamo Architects  
General Contractor: Vaughn Construction  
Scope of Work: Installation of traffic coating, thermal insulation, air barrier, flashing, expansion joints and joint sealants  
Project Description: Science and research facility

### BARRYKNOLL APARTMENTS – HOUSTON, TX

#### New Construction Waterproofing

Contract Amount: \$1,900,000 (approx.)  
Owner: MetroNational  
Architect: Ziegler Cooper Architects  
General Contractor: Gilbane Building Company  
Scope of Work: Installation of below-grade hot fluid-applied waterproofing, air barriers, traffic coating, joint sealants and expansion joints  
Project Description: Eight-story upscale multi-family units

### TRINITY PARK SURGERY CENTER – ARLINGTON, TX

#### New Construction Roofing

Contract Amount: \$250,000 (approx.)  
Owner: Tarrant County Surgery Center, LP  
Architect: Hereford Dooley Architects  
General Contractor: Broadus Construction  
Scope of Work: Installation of TPO roofing, flashing and sheet metal  
Project Description: Medical facility

### TEXAS INSTRUMENTS EXTERIOR BRICK REPLACEMENT – DALLAS, TX

#### Remedial Waterproofing

Contract Amount: \$500,000 (approx.)  
Owner: Texas Instruments  
Architect: MJDI Architects, Inc.  
General Contractor: Ballfour Beatty Construction, LLC  
Scope of Work: Installation of thermal insulation, sheet membrane air barriers, joint sealants, sheet metal flashing and trim  
Project Description: Design and manufacturing headquarters

### OSU BASEBALL FACILITY – STILLWATER, OK

#### New Construction Waterproofing

Contract Amount: \$700,000 (approx.)  
Owner: Cowboy Athletic Facilities, LLC  
Architect: Studio Architecture  
General Contractor: Manhattan Construction Company  
Scope of Work: Installation of horizontal sheet waterproofing, horizontal pre-applied sheet waterproofing, vertical fluid-applied waterproofing, spray-applied air barrier, joint sealants and site and paving sealants  
Project Description: Ballpark stadium

### UNT NEW RESIDENCE HALL PHASE 1 & 2 – DENTON, TX

#### New Construction Roofing

Contract Amount: \$1,100,000 (approx.)  
Owner: University of North Texas System  
Architect: Jacobs Engineering and Mackey Mitchell Associates  
General Contractor: Vaughn Construction  
Scope of Work: Installation of TPO roofing and ACM metal panels  
Project Description: Higher education housing

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