



TECHNICAL QUALIFICATIONS OF
ARNOLD & ASSOCIATES, INC.
A CERTIFIED AND REGISTERED ROOFING
AND WATERPROOFING
CONSULTING FIRM FOR
ENTIRE BUILDING ENVELOPE

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SECTION I

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Arnold & Associates, Inc. is a woman-owned, historically underutilized certified business (HUB), and registered professional consulting firm. Arnold & Associates, Inc. has on staff Licensed Architects in addition to Registered Exterior Wall Consultants (REWC), Registered Building Envelope Consultants (RBEC), Registered Roof Consultants (RRC), Registered Waterproofing Consultants (RWC) and Registered Roof Observers (RRO), all are accredited by the International Institute of Building Enclosure Consultants (IIBEC), formerly Roof Consultant's Institute, Inc. in Raleigh, North Carolina.

*These accreditations enable Arnold & Associates, Inc. to provide professional consulting services for the **entire building envelope** including roofing, glass curtain walls, storefront assemblies, exterior building veneers, plaza decks, pool decks, parking garages, above and below grade waterproofing.*

The absolute values of uncompromising integrity and ethical decision-making, combined with twenty-five plus years of industry expertise have established Arnold & Associates as a cornerstone for long-term business relationships and project success for building envelope projects.

These values support all of Arnold & Associates actions:

- ◆ **Assume accountability for the success of a project**
- ◆ **Provide accurate and intelligent analysis for each project**
- ◆ **Pursue all tasks with the goal that they will be performed in a superior manner**
- ◆ **Respect for the clients and their objectives**
- ◆ **Demonstrate personal honesty and integrity through leadership example**

In summary, our company philosophy evolves into what can best be defined as a "Win-Win-Win" philosophy where:

- ◆ **Clients receive high quality, cost effective service;**
- ◆ **The projects are successful for the long-term;**
- ◆ **Arnold & Associates and the Client receive opportunities to develop a long-term business relationship.**

To best serve our Clients' needs, Arnold & Associates has the ability to organize and coordinate a team of experienced specialist that perform the following Professional Building Envelope Consulting Services:

- ◆ **Due Diligence for Pre-Acquisition and/or Refinancing of Real Estate Services**
- ◆ **Facility Condition Assessment Services**
- ◆ **Evaluation and Report Services for Roofing and/or Waterproofing**
- ◆ **Preliminary Design Services for Roofing and/or Waterproofing**
- ◆ **Pre-Design/Testing Services For Glass Curtain Walls and/or Masonry**
- ◆ **Moisture Testing Services For Roofing and/or Waterproofing**
- ◆ **Structural/Mechanical Engineering Services**
- ◆ **Construction Document Services for Roofing and/or Waterproofing**
- ◆ **Bidding and/or Negotiation Services for Roofing and/or Waterproofing**
- ◆ **Project Administration and Intermediate Observation Services for Roofing and/or Waterproofing**
- ◆ **Project Full-Time Observation Services for Roofing and/or Waterproofing**

As an independent consulting firm, Arnold & Associates does not have any ties with manufacturers, suppliers or contractors. Therefore, Arnold & Associates is completely accountable and works solely for the Client to evaluate, design, and inspect projects. This relationship ensures our Clients unbiased recommendations and competitive bidding.

We look forward to the opportunity of meeting with you to discuss your needs and the manner in which we can be of service.

SECTION II

PROFESSIONAL SERVICES OFFERED

DUE DILIGENCE FOR PRE-ACQUISITION AND/OR REFINANCING OF REAL ESTATE SERVICES

Arnold & Associates shall provide Due Diligence Services based on project requirements and Client needs and develop a comprehensive report in accordance with the Schedule of Consulting Fees and will include the following:

Scope of Due Diligence Services - The following building systems and conditions are included in the study. Our study will be conducted by a team of architects and retained registered engineers with expertise in architecture, structural and mechanical/electrical engineering and construction. The team working on each project have extensive experience in such investigations. Conclusions will be drawn from on-site observations, interviews with users and management/maintenance personnel. Appropriate documents will be reviewed for orientation purposes. Except where indicated to the contrary, no destructive testing or laboratory analysis is included in the basic service outlined herein. The aspects of the property to be studied include:

- **Site Components and Site Amenities** - Construction documents will be reviewed along with site conditions to evaluate effectiveness of the site drainage system on the subject site or apparent problems caused by conditions on adjacent property. Persons associated with the project will be interviewed to identify chronic problems with drainage. Detailed flood plain investigations, hydrological studies or storm water regulation compliance audits are not included in this basic study. Paving walks, landscaping, retaining walls signage and lighting will be reviewed.
- **Structural Components** - Arnold & Associates and associated engineers will visually assess the apparent condition of the structural system in the building, paved areas and retaining walls. Any building plans made available will be summarily reviewed and any unusual design features that merit in- depth investigation will be identified and reported on. If appropriate, typical details will be spot checked by physical measurement of the visible structural components used, and compared with the specified dimensions and construction techniques, to infer general conformance with plans and specifications with respect to the structural system. Areas that are potentially vulnerable, because of design, condition, or use will be examined in particular to determine need for maintenance, monitoring or corrective action.
- **Exterior Systems/Components** - Building components will be examined, including window and wall sections and details. Arnold & Associates will visually examine the property to evaluate the performance of the building veneer, curtain walls, window systems and doors. The condition of sealants and details intended to protect the interior spaces from water infiltration will be examined. Areas that need maintenance or significant repair will be noted.
- **Roof Components** - Roof design and details on construction documents will be addressed to identify likely locations of water infiltration. Arnold & Associates will visually examine the field of the roof, flashings, copings, pitch pans and mounting details for roof top mounted equipment and skylights. Any evidence of infiltration or deterioration of the system that is likely to lead to infiltration in the near future will be noted. Review of available maintenance records and talk with available maintenance personnel concerning the maintenance program as part of the survey process. An estimate of the remaining useful life of the roof will be provided, along with suggestions for any immediate maintenance indicated, if any. Any additional testing that seems appropriate such as infrared moisture survey after this evaluation is completed will be recommended. If the existing roof is protected by a current guarantee, and a specific outside contractor is required to take such samples or make roof penetrations, the cost of retaining such outside contractor is an additional cost not included in the basic proposal and will be incurred only after authorization.

Mechanical/Electrical/Plumbing Components - Mechanical Components: Arnold & Associates and associated engineers will review the building plans and maintenance records and procedure and interview maintenance personnel as required. We will verify that the existing mechanical equipment has the capacity to maintain comfortable temperatures and humidity for the intended use under normal operating conditions, check the appropriateness of the distribution system, and evaluate the general condition, design and use of the controls. Conditions that would indicate a limited remaining useful life for major HVAC equipment, which could call for a special operating reserve will be addressed. Refrigerant type and likely future prospects for equipment retrofit or replacement, after some currently used refrigerants are no longer available, will be noted.

Electrical Components: The main electrical service and general distribution design will be surveyed to verify adequacy of capacity for the present use of the building and remaining capacity for future tenants. We will identify and describe backup systems in place such as UPS (Uninterrupted Power Supply) batteries, emergency generator(s), and estimate cost of furnishing and installing any needed backup systems that are not currently in place.

Plumbing: Arnold & Associates and associated engineers will check visible supply and sanitary drainage risers that are visible. Our survey team will check operation of fixtures in a sampling of locations and note any evidence of developing problems that could result in expensive modification in the near future. Note hot water heating system capacity and efficiency, sump pump or sewage lift station condition and apparent adequacy.

Vertical Transportation - Arnold & Associates and associated engineers survey team will review maintenance reports and records for the elevators, and/or escalators along with current maintenance agreements. Elevator equipment and equipment rooms will be inspected. Elevator service company personnel will be interviewed, and Arnold & Associates will verify that all features included in the installation are operable. Identify any potential upgrades that are advisable. Arnold & Associates will interview maintenance personnel, tenants or others familiar with the property, if necessary, to verify the performance of the existing system.

Fire Protection & Life Safety/Components/Code Compliance - Arnold & Associates and associated engineers life safety specialists will review the fire protection portion of construction documents or as-builts, and verify that maintenance and testing is current, inspect equipment to evaluate apparent physical condition. Interview maintenance personnel, service contractors and fire officials to verify operating reliability and conformance with city requirements. Arnold & Associates will survey city agencies and departments charged with code enforcement to determine whether the building is known to be out of compliance with city and state building and mechanical/electrical codes and ordinances, as well as any historical information that would indicate a pattern of problems that might affect future operations.

· **ADA Compliance** - Review of the facility for compliance with handicap access and usability guidelines, enforceable by the Department of Justice on all public accommodations, as specified by new federal legislation under the Americans with Disabilities Act Accessibility Guidelines (ADAAG). Arnold & Associates and associated specialists will examine all elements of the facility regulated by the act and to determine which components, features or arrangements of the constructed facility appear to be out of compliance, and will provide estimates of probable cost for those corrections that may be required. The study is limited to areas of the owner's public spaces and a review of the building standard details and dimensions. Tenant spaces, except through a review of the building standards, are excluded from this investigation.

It is noted that the language of the Americans with Disabilities Act is complex and ambiguous, and contains statements and directives for which regulations or specifics are not defined for a comprehensive implementation. The owner remains solely responsible for compliance with the removal of barriers to disabled persons as required by the Act. Arnold & Associates will attempt to locate those barriers of the existing facility that may exist which are clearly defined by the ADA or the state regulations.

· **Environmental** - Arnold & Associates and associated specialist will provide a limited review of the existing Level One Site Assessment prepared for the seller, and comment on its apparent completeness and methodology. The asbestos sampling protocol will be reviewed for appropriateness, and additional sampling recommended, if necessary.

· **Probable Cost Summary** - The probable cost and time of each component requiring maintenance and/or replacement will be developed for each of the listed facility components.

FACILITY CONDITION ASSESSMENT SERVICES

Arnold & Associates and retained professionals shall perform a comprehensive physical survey of the proposed project, provide Facility Asset Condition Assessment Services to meet specific client requirements, and develop an information database/computer generated report in accordance with the Schedule of Consulting Fees. The following building elements and components are included in our standard facility condition assessment survey.

- | | <u>Optional</u> |
|--|---|
| · Site Components | · Guest Room Interior Finish/Components |
| · Site Amenities | · Guest Room Furnishing/Components |
| · Exterior Systems/Components | · Guest Room Bath Finish/Components |
| · Structural Components | |
| · Common Area Interior Finish/Components | |
| · Mechanical Components | |
| · Plumbing Components | |
| · Electrical Components | |
| · Fire Protection and Life Safety Components | |
| · Vertical Transportation | |
| · ADA Compliance | |
| · A software program with a printed technical report that provides the following information: | |
| - On-site acquisition of information to develop inventory of components, warranty information, and historical data. | |
| - Condition Assessment of each system component. | |
| - Verification and/or determine expected service life of each component. | |
| - Determination of component is maintainable or non-maintainable. | |
| - Ten-year probable cost summary for maintenance and/or capital replacements. | |
| - Present to client Facility Asset Management software complete with all data entered as outlined above. | |
| - Optional - Provides computer-generated drawings for each area with location of all components and mechanical equipment, as required. Or, updates Client's existing CAD drawings. | |

EVALUATION AND REPORT SERVICES FOR ROOFING AND/OR WATERPROOFING

Arnold & Associates shall perform a comprehensive physical survey of the proposed project and develop a Technical Evaluation Report in accordance with the Schedule of Consulting Fees and will include the following:

- *Field identify and document source of existing problem conditions.*
- *Examination of facility-roof and/or vertical wall construction and installation details.*
- *Cross section analysis of core samples of deck, roof and/or vertical wall, sealants, coating, system construction.*
- *Capacitor moisture testing of assembly at core areas.*
- *Evaluate and determine the expected performance life of the existing roofing and/or waterproofing system and determine if maintainable or non-maintainable.*
- *Present to Client an evaluation report that provides the following technical information:*
 - *Detailed nomenclature of existing project construction.*
 - *Summarization of existing conditions and photographs that correspond to each of the existing conditions.*
 - *Appraisal of existing roof and/or vertical wall construction.*
 - *Program or prioritize, using construction standards, the facility/complex by building, roof area and/or vertical wall elevation as directed by existing conditions and Client requirements.*
 - *Recommendations based on existing conditions.*
 - *Project probable cost summary for Client approval.*

**The document prepared and presented for Evaluation and Report Services are not to be used for bidding, construction, or regulatory approval.*

PRELIMINARY DESIGN SERVICES FOR ROOFING AND/OR WATERPROOFING

Arnold & Associates shall perform a comprehensive observation of the proposed project to develop preliminary design data, detail nomenclature and to establish project probable cost summary in accordance with the Schedule of Consulting Fees and will include the following:

- *Field identify source of existing problem conditions.*
- *Examination of facility roof and/or vertical wall construction and installation details.*
- *Review facility requirements for environmental and operational constraints.*
- *Develop criteria based on facility environmental and operational constraints - required design changes, primary roof/waterproof system design, alternates to the primary system and summary.*
- *Cross section analysis of core samples of deck, roof and/or vertical wall, sealants, coating system construction.*
- *Establish project probable cost summary based on primary and cost alternative systems of roof/waterproofing and/or waterproofing system for Client approval.*
- *Field develop scope of work required for Construction Documents.*
- *Field develop project drawings and details as required for Construction Documents.*
- *Present to Client a technical report that provides the following information:*
 - *Detailed nomenclature of existing project construction.*
 - *Summarization of existing conditions and photographs that correspond to each of the existing conditions.*
 - *Recommendations based on existing conditions.*
 - *Project Probable Cost Summary for Client approval.*

**The document prepared and presented for Evaluation and Report Services are not to be used for bidding, construction, or regulatory approval.*

PRE-DESIGN/TESTING SERVICES FOR GLASS CURTAIN WALLS AND/OR MASONRY

Arnold & Associates shall retain the services of a waterproofing contractor and /or an independent testing laboratory. Our staff will coordinate their efforts in performance of pre-design site-related testing and construction work in accordance with the Schedule of Consulting Fees and will include the following:

- *Work with Client and a Contractor to locate and stage rigging on the building.*
- *Provide static testing of windows to the modified standards of ASTM E1105.*
- *Establish procedures required to properly seal windows and address building leakage.*
- *Provide in-place testing of window sealing procedures.*
- *Work with contractor to perform destructive masonry procedures to establish origin of problem.*
- *Establish procedures required to properly correct masonry problems.*
- *Perform in-place testing of installed corrective masonry procedures.*
- *Review testing procedures and findings with Client.*
- *Should corrective procedures involve the designed structural integrity provide stamped structural engineering report and recommendations of potential corrective action.*
- *Provide core-testing as required at (balconies), (plaza deck), and (parking garage) to determine the presence and extent of moisture between the structural concrete slab and the overlay concrete slab.*
- *Based on core samples, develop the extent to which overlay concrete must be repaired or replaced.*
- *Review core sample findings with Client.*
- *Coordinate findings and decisions from site testing and sample applications into design criteria to be incorporated into the specifications for remedial work.*
- *Provide probable cost summary for work based on results of testing.*
- *Provide on-site monitoring and coordination of testing and sample area installation.*

MOISTURE TESTING SERVICES FOR ROOFING AND/OR WATERPROOFING

Arnold & Associates shall provide infrared moisture survey on the following designated areas and develop a moisture survey report in accordance with the Schedule of Consulting Fees and will include the following:

- *Instrumented thermographic survey of designated roof areas with Raytheon Model PalmIR 250 Infrared imaging system.*
- *Verification of moisture content via moisture probes and/or capacitance sampling where applicable.*
- *Identification and painting of areas of moisture-laden materials and/or energy loss.*
- *Core sample analysis of system construction where applicable.*
- *Thermographic and photographic documentation of wet area profiles.*
- *ASTM moisture content testing as required.*
- *Present to Client moisture survey report that provides the following technical information:*
 - *Summary of survey results with wet area tabulations*
 - *Core sample summary*
 - *Recommendations*
 - *Scaled drawings with wet area locations indicated*
 - *Thermograms as required for report clarification.*

STRUCTURAL/MECHANICAL ENGINEERING SERVICES

Arnold & Associates shall associate with a Structural and/or Mechanical Engineers to perform a comprehensive analysis of the proposed project and develop a technical evaluation report in accordance with the Schedule of Consulting Fees and will include the following:

- Assess the condition and performance of the structural systems of the building/deck assembly, and evaluate the probable suitability and compliance of the design and code and criteria. We will identify and appraise deficiencies and distress and categorize by severity. A review of available construction documents and reports will be made to evaluate the design of structural systems and construction program. Recommendations for subsequent repairs or with budget estimates will be developed. Observations shall be made from a visual basis of the exposed components.
- Field identify and document the load calculation and structural code compliance.
- Perform structural monitoring as required to determine dynamic structural failure.
- Establish areas of structural distress and determine the rate of failure.
- Provide structural design services as required with repair or replacement of roof assemblies.
- Design to provide new mechanical/electrical equipment required with revisions to facility.
- Design to relocate mechanical/electrical equipment.
- Design for replacement of roof top mechanical/electrical equipment.
- Present to Client a structural/mechanical evaluation report that provides the following technical information:
 - Detailed nomenclature with load calculations of existing project construction.
 - Summarization of existing conditions and photographs that correspond.
 - Appraisal of existing construction/equipment remediation alternatives and value engineering.
 - Recommendations based on existing conditions - based on structural analysis and requirements.
 - Project probable cost summary based on structural/mechanical requirements of existing facility.

CONSTRUCTION DOCUMENT SERVICES FOR ROOFING AND/OR WATERPROOFING

Upon approval of preliminary system design and project probable cost summary by Client, Arnold & Associates will prepare related bid and construction documents, specifications, drawings and related details in accordance with the Schedule of Consulting Fees and will include the following:

- Review existing conditions with manufacturer for potential warranty claims and negotiate for possible warranty involvement with repairs/replacement.
- Prepare Bid Forms, Payment and Performance Bond Forms, Release of Lien Forms.
- Insert Owner's Construction Contract or AIA Contract.
- Review and include General Conditions and Supplemental Conditions to the Contract.
- Review and research material properties and Specifications.
- Prepare Scope of Work.
- Compile Construction Documents including detailed Drawings and Specifications.

* In conjunction with the Design and Construction Document Services, Arnold & Associates, Inc. must also provide Construction Phase Services to determine whether or not the integrity of our design is being maintained and to clarify ambiguities or correct misunderstandings that arise during the construction of the project.

BIDDING AND/OR NEGOTIATION SERVICES FOR ROOFING AND/OR WATERPROOFING

Upon Client approval of Construction Documents/Project Manual, Arnold & Associates shall provide Bidding Services in accordance with the Schedule of Consulting Fees that will include the following:

- *Conduct Contractor Pre-Qualification Review. Develop a list of pre-qualified contractors to bid required work known to be competent with the work required and approved by the specified product manufacturers for work required to receive the specified warranties.*
- *Notify bidding contractors of date, time and place of pre-bid conference.*
- *Schedule, attend and assist Client with Pre-Bid Conference.*
- *Review Substitution Requests during Bidding.*
- *Coordinate Requests for Information and Distribute to all Bidding Contractors.*
- *Prepare and Distribute Addenda.*
- *Review Bidding Results and Prepare Bid Analysis (Tabulation).*
- *Negotiate with Contractor a Suitable Contract Amount (Optional).*
- *Make Recommendations to Owner.*
- *Assist in Developing and/or Writing Owner/Contractor Agreement.*

CONSTRUCTION PHASE SERVICES FOR ROOFING AND/OR WATERPROOFING

Arnold & Associates shall provide Construction Phase Services to become generally familiar with the progress and quality of the work performed on the project based on the Schedule of Consulting Fees and will include the following:

- *Review shop drawings and product submittals.*
- *Schedule and conduct pre-construction conference.*
- *Schedule and conduct progress meetings at which Contractor, Client, and Project Manager can discuss procedures, progress, problems and scheduling.*
- *Processing of applications by Contractors for progress and final payments and forward to Client with recommendations.*
- *Perform Project Observation of the work of the Contractors to determine, in general, if the work is being performed in accordance with the requirements of the Contract Documents.*
- *Upon Contractor's determination and notification to the Client and Consultant of substantial completion, prepare a list of incomplete or unsatisfactory items and observe the correction and completion of the finalized work.*
- *Determine final completion, provide written notice to Client and have Contractor notify manufacturer project is ready for final review. Secure from the Contractor and transmit to Client required guarantees, affidavits, releases, bonds and waivers.*

PROJECT FULL-TIME OBSERVATION SERVICES FOR ROOFING AND/OR WATERPROOFING

Arnold & Associates shall provide Full-Time Project Observation Services to observe the work of the Contractors to determine, in general, if the work is being performed in accordance with the requirements of the Contract Documents based on the Schedule of Consulting Fees and will include the following:

- *Provide On-site full-time field construction observation, quality assessment and problem resolution.*
- *Conduct weekly Client, Contractor, Consultant progress meetings.*
- *Provide weekly conditions and progress reports.*
- *Photograph Contractors weekly work progress and specific problematic issues and installations.*

SECTION III

QUALIFICATIONS AND RESUME

QUALIFICATIONS

Arnold & Associates has the tools, equipment, personnel necessary to perform a large volume of roofing and waterproofing consulting projects across the United States and worldwide.

TECHNICAL CAPABILITIES:

- Infrared camera, Raytheon Model PalmIR 250.
- Spray rack and associated vacuum pump to perform ASTM 1105 Testing of curtain walls.
- Metering equipment to test balance of air pressure.
- Computerized data processing, estimating program, computerized development of specifications, construction documents, and CADD drafting.
- Comprehensive library including major manufacturers' architectural specification manuals including Factory Mutual and Underwriters Laboratories, Building Codes, Trade Manuals, McGraw-Hill Sweet's Catalog, Engineering and Retrofit edition.

STAFF CAPABILITIES:

Principals and management staff are Registered and Certified Consultants in roofing and exterior building waterproofing/renovation.

- *Experience in roofing and waterproofing project management, scheduling and safety programs.*
- *Experience in significant and notable roofing projects, historical landmark building restoration and state-of-the-art waterproofing projects.*

NCARB certified staff Architects and Registered Engineers.

- *Experience in hands-on design and working drawings on significant construction projects.*
- *Experience in project design, planning and management.*
- *Special experience in ongoing maintenance planning for large or complex facilities.*

Field inspectors capable of handling a large quantity of evaluations on short notice.

- *Each inspector is personally equipped with a tool kit for proper sample removal and roof repair for any roof system encountered.*
- *Each inspector is equipped with a Delhmorst hand-held moisture meter for moisture content testing of insulation or substrate.*

Central Location

- *Our corporate office is located in Dallas. This central location allows Arnold & Associates to efficiently and cost-effectively reach all Client's project destinations.*

Specialization

- *Arnold & Associates is engaged only in roofing and waterproofing building envelope consulting and related services. This narrow field of focus allows us to streamline our efforts and stay current with changes in the industry, technological innovations and proven solutions. The benefit to the Client is fast, economical and accurate response to service requests.*

Roofing Knowledge

- *Arnold & Associates personnel are all senior consultants experienced with all current roofing systems, including: hot built-up (coal-tar and asphalt), cold process built-up, modified bitumen, single-ply, sprayed in place foam, metal, tile, slate and shingle. In addition, this consulting team is fully experienced in roofing repairs and has successfully completed major repair projects across the U.S. and overseas.*

Waterproofing and Restoration

- *Arnold & Associates has experience in vertical wall waterproofing, plaza deck renovation projects, exterior historical building restoration, below grade foundation leaks, containment systems, deck coatings, special floorings, leak location and repair. In addition, Arnold & Associates provides new construction design review for Contractors and Owners on any size project from large new corporate headquarters to small retail facilities.*

Glass Curtain Wall

- *Arnold & Associates provides complete evaluation, ASTM-1105 testing, design and design review for curtain wall new construction and renovation projects. Sloped glazing systems, skylights, strip windows, punched openings, lock strip windows and all other glass and glazing systems can be trusted to our experts.*

PARTICIPATING IN RELATED TRADE ORGANIZATIONS:

AIA: American Institute of Architects

ASTM: American Society for Testing Materials

CSI: Construction Specifications Institute

IIBEC: International Institute of Building Enclosure Consultants, formerly known as RCI: Roof Consultant's Institute

BRIEF RESUME OF KEY PERSONNEL

Wendy Arnold-Kelleher

President

DUTIES AND RESPONSIBILITIES IN CURRENT POSITION:

As President and Senior Management Executive, Mrs. Kelleher is actively involved in the day-to-day operations of the firm. Specific areas of accountability include the following:

Strategic Planning: Participation in the development and coordination of all business plans and programs addressing current business activities and future business development and growth.

Financial Planning: Direct responsibility for management and maintenance of all financial accounts, documents, contracts, reports and programs. Liaison with accounting and financial consultants. Authorizes and approves all contract expenditures, purchasing and payroll accounts.

Estimating/Specifications: Directly responsible for the review and maintenance of all proposal and contract estimates for clients and subcontractors. Responsible for the review, maintenance and distribution of all technical and management reports, construction documents, specifications, field inspection reports. Directs the planning and scheduling of all pre-bid and pre-construction meetings.

Project Design Activities: Participates in the development and final review of all roofing, waterproofing and exterior wall plans. Provides consultation and review of design specifications to achieve optimum design efficiencies and cost benefits.

Research & Development: Provides direction and overview in the execution of all R&D activities for business management and project related requirements. Includes: MIS database programs and systems for financial and project management applications; and the coordination and review of submittals to private sector clients and government agencies.

Human Resources / Staffing: Provides direction and overview in the planning and implementation of all human resources and staffing plans and programs. Provides supervision and consultation to all senior executives and associates. Directs the activities of the administrative staff assigned to corporate office.

WORK EXPERIENCE:

<u>DATE</u>	<u>JOB TITLE</u>	<u>EMPLOYER</u>
1/10 - Present	President	Arnold & Associates, Inc.
1/90 - 12/31/09	Office Administrator Secretary/Treasurer	Arnold & Associates, Inc.
2/88 - 1/90	Sales Associate	Anne Moore LTD./Moore Supply Company

OVERVIEW:

Mrs. Kelleher implements strong organizational skills to manage and maintain day-to-day operations of the firm as well as quality control of reports and specifications, and management of computer systems.

Mrs. Kelleher's numerous years of experience and commitment to establishing and attaining project goods, ensure that appropriate project research and planning activities leads to a successful work environment. She has a strong background in the production of survey documents with experience in computer programs and mythology.

AFFILIATIONS: *International Institute of Building Enclosure Consultants (IIBEC), formerly Roof Consultants Institute (RCI)*

EDUCATION: **University of North Texas – Bachelor of Science, 1988**

BRIEF RESUME OF KEY PERSONNEL

William G. Hobgood, III, RRC, RWC, REWC, RBEC, RRO

Senior Vice President/Senior Consultant

DUTIES OR RESPONSIBILITIES

OF CURRENT POSITION: *Project Manager, Design Review, Construction Management, Waterproofing Evaluation, Roof Evaluation, Design, Specification and Construction Documents.*

WORK EXPERIENCE:

<u>DATE</u>	<u>JOB TITLE</u>	<u>EMPLOYER</u>
01/10 - Present	Senior Vice President Operation Manager	Arnold & Associates, Inc.
4/02 - 12/09	Associate	Arnold & Associates, Inc.
9/98 - 3/02	Regional Manager	Dana Commercial Credit Design and Construction, Total Facility Resources
1/98 - 9/98	Senior Project Manager	Trammell Crow Corporate Services
5/91 - 12/97	Regional Manager	Banc One Corporation, Design and Construction Corporate Real Estate Services
1/89 - 5/91	Project Manager	NCNB Support Services, Inc.
5/87 - 11/88	Field Engineer	The Hayman Company, Inc.

OVERVIEW:

As Senior Vice President and Operations Manager, Mr. Hobgood's responsibilities are to work alongside the president as a member of the board to provide direction and overview in the planning and implementation of all human resources and staffing plans and programs. He provides supervision and consultation to all senior executives, consultants and associates. Further responsibilities include Project Management, Design Review, Bidding and Contract Negotiation, Construction Administration, Roof Evaluation Services, Design and Construction Review, Construction Problem Solving, Leak Investigation, and Waterproofing Evaluation and Design.

Between March and November of 2014, Mr. Hobgood earned the Registered Roofing Consultant (RRC), Registered Waterproofing Consultant (RWC), and Registered Exterior Wall Consultant (REWC) designations from IIBEC, Inc., the International Association of Building Envelope Consultants. Once all three of the above designations were earned, Mr. Hobgood was awarded the Registered Building Envelope Consultant (RBEC) designation as one of 55 Consultants in North America who have earned all three of the RCI Consulting designations.

Mr. Hobgood served as a member of the RRO Exam Development Committee from 2009 through 2021 and was involved with the rewriting of the RRO Certification Exam in 2012 and again in 2017. Mr. Hobgood served as the Chairman of the RRO Exam Development Committee from March 2018 through 2021. He was also a member of the IIBEC Registration Committee and will serve on the committee from March of 2021. He has also served on the Board of Directors for the North Texas Chapter of IIBEC and served as the Secretary in 2015 and as the Treasurer from 2016 to 2019.

Mr. Hobgood came to Arnold & Associates with over 16 years of real estate, construction, and project management experience. His experience as the Owner's Representative for a wide variety of project types, from retail, office, industrial and historical restoration, and renovation projects has provided him with extensive expertise in roofing and waterproofing. He managed the regional offices of design and construction for three major corporations and has managed Project Managers and support personnel. Through his diverse career in construction as a department manager and project manager he has developed his skills in communications, problem solving, budgeting, scheduling, quality control, value engineering and management. He has the proven track record of bringing projects in under budget and on schedule.

AFFILIATIONS: *International Institute of Building Enclosure Consultants (IIBEC), formerly Roof Consultants Institute (RCI); ASTM*

REGISTRATIONS: *Registered Roof Observer, Registration No. 0561 – May of 2005
Registered Roof Consultant, Registration No. 0771 – March 2014
Registered Waterproofing Consultant, Registration No. 0077 – October of 2014
Registered Exterior Wall Consultant, Registration No. 0062 – November of 2014
Registered Building Envelope Consultant, Registration No. 0035 – December 2014*

EDUCATION: *Texas A&M University – Bachelor of Science in Building Construction, 1986
University of Texas Arlington – Master of Science in Real Estate Finance, 1996*

BRIEF RESUME OF KEY PERSONNEL

Michael L. Cogburn, CSI

Architect Emeritus/Senior Consultant/Vice President

DUTIES OR RESPONSIBILITIES

OF CURRENT POSITION: *Vice President, Project Architect, Project Manager, Design Reviewer, Construction Management Coordinator, Curtain Wall Waterproofing Evaluation and Design Specialist, Roof Evaluation and Design Consultant, Pre-Acquisition Due Diligence Team Leader, and Construction Problem Solver.*

WORK EXPERIENCE:

<u>DATE</u>	<u>JOB TITLE</u>	<u>EMPLOYER</u>
01/10 - Present	Vice President	Arnold & Associates, Inc.
9/96- 12/09	Associate	Arnold & Associates, Inc.
5/94 - 9/96	Associate	Wiginton Fawcett Hooker Jeffry Architects
5/87 - 5/94	Associate	The Vincent Association
11/81 - 5/87	Associate	Hatfield Halcomb Architects, Inc. (Currently HH Architects, Inc.)
10/79 - 10/81	Associate	Grogan and Associates Architects
5/73 - 10/79	Associate	Grogan and Scoggins Associates Architects

OVERVIEW:

Since the early 1970's Mr. Cogburn has been involved in hundreds of architectural projects as a registered architect in the State of Texas. Designing a diversity of projects throughout his career, he has developed a keen sense of project management and experience in construction technologies. With valuable experience in Specification Preparation, Construction Administration, and Construction Systems Problem Solving, he has served his clients well. Working closely with a variety of owners and in many cases multiple groups of client representatives, he has brought consensus to multi-faceted design problems and budgeting constraints. Problem solving, Scheduling, Budgeting, and Quality Assurance are particular strengths which characterize his experience.

In recent years, Mr. Cogburn has directed a significant number of exterior restoration projects of multi-million dollar scope including roofing, masonry, concrete, and stone veneer restoration, plaza deck design/restoration and water infiltration correction, as well as skylights, curtainwall, window system, and other glazing system correction projects throughout the United States, Canada and the Caribbean.

Mr. Cogburn is an active Charter Member of the North Texas Chapter of the International Institute of Building Enclosure Consultants (IIBEC) and has served as President for the Chapter in 2014. He has been active in local city and Dallas County government (City of Coppell) and has served as Chairman of the Historical Preservation Commission, Park and Recreation Board Member for the City of Coppell; and has served on the Dallas County Parks and Open Spaces Commission. Also, Mr. Cogburn continues to serve his church as a deacon and bible teacher.

OTHER AFFILIATIONS: *International Institute of Building Enclosure Consultants (IIBEC), formerly Roof Consultants Institute (RCI), Construction Specifications Institute (CSI)*

REGISTRATION: *Architect - State of Texas - Registration No. 8553
Architect Emeritus (2021)*

EDUCATION: *The University of Texas at Arlington, 1974
Bachelor of Science in Architecture*

BRIEF RESUME OF KEY PERSONNEL

Sydney N. Singer

Architect/Senior Consultant/Vice President

DUTIES OR RESPONSIBILITIES

OF CURRENT POSITION: *Project Architect, Project Manager, Design Review, Construction Management, Vertical Curtainwall Waterproofing Evaluation, Roof Evaluation and Design, Construction Problem Solving*

WORK EXPERIENCE:

<u>DATE</u>	<u>JOB TITLE</u>	<u>EMPLOYER</u>
01/10 - Present	Vice President	Arnold & Associates, Inc.
7/00 - 12/09	Associate	Arnold & Associates, Inc.
4/97 - 7/00	Project Architect/Associate	F&S Partners, Inc.
4/95 - 4/97	Project Architect	Rogers/Ford L.L.P.
4/92 - 4/95	Architect/Construction Administrator - State of Texas Clerk of the Works	Texas Department of Mental Health and Mental Retardation
4/89 - 4/92	Project Architect	F&S Partners, Inc.
8/76- 4/89	Designer/Intern Architect	Roper and Associates, Inc.

OVERVIEW:

During Mr. Singer's forty-two years of architectural experience, he has been involved in a diverse range of architectural projects. He has had the opportunity to execute projects in the Residential, Institutional, Corporate, and Hospitality markets. Within these markets, he has experience in both renovation and new construction. Additionally, he has gained valuable experience as an Owner's Representative.

While developing projects throughout his career, Mr. Singer has strived for creative and budget conscious solutions to owner's programs. His roles as an architect has been inclusive of design, document production and construction administration. He has successfully observed and monitored the erection of a multitude of buildings of various building materials and construction types.

Through his diverse career and exposure to a wide range of project types, he has developed the skills for scheduling, budgeting, management, quality control, and problem solving. "Communications" is the main key which has allowed him to perform his tasks to the greatest degree of success. Mr. Singer is a proponent of open and direct communication between all parties involved in a construction project. With Arnold & Associates, Mr. Singer is taking his experience as an Architect and focusing on the building enclosure system area, which includes roofing, above and below grade waterproofing, building weather barriers, building veneers, and glazing fenestrations.

During his tenure at Arnold & Associates, Inc., Mr. Singer has been extensively involved in building enclosure evaluations, forensic investigations, and developing recommendations and repairs for buildings with water infiltration issues. He assists local architects and general contractors during design and construction with quality control/peer reviews for building enclosure systems and provides expert witness services to the legal community.

AFFILIATIONS: *Enclosure Consultants (IIBEC), formerly Roof Consultant Institute (RCI); ASTM International, Construction Specification Institute (CSI)*

REGISTRATION: *Registered Architect - State of Texas - Registration Number 13699*

EDUCATION: *The University of Texas at Arlington, 1983
Bachelor of Science in Architecture*

BRIEF RESUME OF KEY PERSONNEL

Gary L. Mitchell, RRC, RRO, CCCA, CEI

Vice President/Senior Consultant

DUTIES OR RESPONSIBILITIES

OF CURRENT POSITION: *Project Manager, Design Review Construction Manager, Roofing/Waterproofing Inspection, Evaluation, Design and Construction Review, Construction Problem Solving, Leak Investigation, and Waterproofing Evaluation and Design.*

WORK EXPERIENCE:

<u>DATE</u>	<u>JOB TITLE</u>	<u>EMPLOYER</u>
01/10 - Present	Vice President	Arnold & Associates, Inc.
7/01 - 12/09	Senior Consultant	Arnold & Associates, Inc.
1/00 - 7/01	Roof Consultant	CRS
4/84 - 12/99	Roof Consultant/Support Engineer	TXU Energy Services/Service Master
8/82 - 4/84	Control Technician	University of North Dakota
5/62 - 8/82	Superintendent of Mechanical Section	United States Air Force

OVERVIEW:

Mr. Mitchell is a Senior Consultant with experience in designing, repairing, surveying, project management, Due Diligence and inspecting all types of roof and wall systems. He possesses that rare mixture of technical expertise and outstanding management abilities. Mr. Mitchell has proven strengths in communication, developing, planning and scheduling plus excellent presentation and customer focus skills. His proven ability to deliver major projects on time and under budget has been appreciated by his clients.

Roofing/Waterproofing responsibilities include investigation and evaluation of roofing and facade systems with recommendations for repair or replacement, construction design/repairs, preparation and implementation of maintenance for over 40 million square feet of roof surface, technical consultation with clients, review of plans and specifications for compliance with industry standards, construction inspection, moisture surveys, preparation of survey, and preparation of reports with findings and recommendations, initiation and implementation of contracts to include preparation of contract specifications, development of unit prices, solicitation, pre-bid meetings, review of bids, pre-construction meetings, project meetings, pre-final and final inspections.

AFFILIATIONS: *International Institute of Building Enclosure Consultants (IIBEC), formerly Roof Consultant Institute (RCI)
The Construction Specifications Institute
The Society of Protective Coating*

REGISTRATION: *Registered Roof Consultant, Registration No. 0264
Registered Roof Observer, Registration No. 0031
Construction Document Technology
Certified Construction Contract Administrator*

EDUCATION: *Metropolitan State College – Bachelor of Science in Mechanical Engineering Technology, 1978*

BRIEF RESUME OF KEY PERSONNEL

Jared W. Filbeck

Architect/Senior Consultant/Vice President

DUTIES OR RESPONSIBILITIES

OF CURRENT POSITION: *Project Architect, Project Manager, Design Review, Construction Management Coordinator, Roof Evaluation and Design, Curtain Wall Waterproofing Evaluation*

WORK EXPERIENCE:

<u>DATE</u>	<u>JOB TITLE</u>	<u>EMPLOYER</u>
1/07 – Present	Vice President	Arnold & Associates, Inc.
1/06 – 12/06	Principal	Jared W. Filbeck, Architect
1/96 – 12/05	Project Architect	F&S Partners, Inc.
1/95 – 8/95	Architectural Intern	F&S Partners, Inc.

OVERVIEW:

Throughout his career, Mr. Filbeck has had the opportunity to experience a broad range of Architectural challenges. He has participated in the design, management, and production of many different types of Institutional & Commercial projects including both renovation and new construction. His varied experiences have helped to develop his problem-solving skills, which he uses to achieve creative solutions. With each project, Mr. Filbeck brings thoroughness and an attention to detail that directly benefits his clients. His experience as an Architect enables him to look at each project holistically as well. The combination of these attributes helps him to deliver projects that satisfy the client's needs.

Mr. Filbeck has recently been involved in the restoration of the Cathedral Guadalupe in Dallas, as well as major hotels in, Dallas, Houston, San Francisco, New Orleans and Atlanta. He has also assisted local Architects and general contractors during design and construction with quality control/peer reviews for roofing and waterproofing systems.

AFFILIATIONS: *International Institute of Building Enclosure Consultants (IIBEC), formerly RCI – The Institute of Roofing, Waterproofing, & Building Envelope Professionals*

REGISTRATION: *Architect – State of Texas – Registration Number 18312
Architect – State of Louisiana – Registration Number 7215
Architect – State of Ohio – Registration Number 2218925
National Council of Architectural Registration Boards Certificate 57942*

EDUCATION: *University of Texas – Bachelor of Architecture, 1995*

BRIEF RESUME OF KEY PERSONNEL

Lyle J. Shive, REWC, RRO

Senior Consultant/Vice President

DUTIES OR RESPONSIBILITIES

OF CURRENT POSITION: *Extensive experience evaluating projects under construction, existing structures (roofing and exterior envelope), water testing, design of roof and exterior wall systems, development of construction documents and construction administration. Coordination with various team members including Architects/Engineers, general contractors and specialty contractors for projects including schools, hospitals, multi-family housing, hospitality, retail and office buildings.*

WORK EXPERIENCE:

<u>DATE</u>	<u>JOB TITLE</u>	<u>EMPLOYER</u>
<i>Present</i>	<i>Vice President</i>	<i>Arnold & Associates, Inc.</i>
<i>1/93 – 12/12</i>	<i>Principal</i>	<i>Lyle J. Shive</i>
<i>1/84 – 1/93</i>	<i>CAD Manager</i>	<i>Booziotis & Co. Architects</i>

OVERVIEW:

Mr. Shive has had the opportunity to work on a broad variety of projects including high-end residential, education, museums, federal projects as well as Fair Park restoration and other civic restoration work. Mr. Shive has provided contract detailing services and field verification work to a variety of clients in the architectural design field. Recently, Mr. Shive has performed extensive evaluations of storm damaged structures including wind damage, hurricane/storm damage, hail damage, and flooding. These projects are located in Texas, Florida, Arizona, Baja, California, Puerto Rico and The Bahamas.

Extensive experience inspecting and evaluating existing structures, as a Construction Observer, various full & part time construction observation roles on Army Corps of Engineers projects and other facilities, duties have included developing full sets of construction documents, pre-project field verification of existing conditions, photography, assembly of presentations, model making and jobsite construction administration and inspection.

AFFILIATIONS: *International Institute of Building Enclosure Consultants (IIBEC), formerly RCI – The Institute of Roofing, Waterproofing, & Building Envelope
Professionals Registration No. 40027*

REGISTRATION: *Registered Exterior Wall Consultant, Registration No. 0082
Registered Roof Observer, Registration No. 1603*

EDUCATION: *Mountain View College – Associates Degree in Drafting and Design, 1984*

SECTION IV

***STATE OF TEXAS HISTORICALLY UNDERUTILIZED
BUSINESS (HUB)***

Texas Historically Underutilized Business (HUB) Certificate



Certificate/VID Number:	1752313351400
File/Vendor Number:	004616
Approval Date:	27-SEP-2019
Scheduled Expiration Date:	27-SEP-2023

The Texas Comptroller of Public Accounts (CPA), hereby certifies that

ARNOLD AND ASSOCIATES, INC.

has successfully met the established requirements of the State of Texas Historically Underutilized Business (HUB) Program to be recognized as a HUB. This certificate printed 27-SEP-2019, supersedes any registration and certificate previously issued by the HUB Program. If there are any changes regarding the information (i.e., business structure, ownership, day-to-day management, operational control, business location) provided in the submission of the business' application for registration/certification as a HUB, you must immediately (within 30 days of such changes) notify the HUB Program in writing. The CPA reserves the right to conduct a compliance review at any time to confirm HUB eligibility. HUB certification may be suspended or revoked upon findings of ineligibility.

*Statewide HUB Program
Statewide Procurement Division*

Note: In order for State agencies and institutions of higher education (universities) to be credited for utilizing this business as a HUB, they must award payment under the Certificate/VID Number identified above. Agencies, universities and prime contractors are encouraged to verify the company's HUB certification prior to issuing a notice of award by accessing the Internet (<https://mycpa.cpa.state.tx.us/tpasscmblsearch/index.jsp>) or by contacting the HUB Program at **512-463-5872** or toll-free in Texas at **1-888-863-5881**.

Rev. 06/19

SECTION V

REFERENCES

PARTIAL LIST OF REFERENCES

HOTEL

RLJ LODGING TRUST

5060 Magnolia Walk
Roswell, GA 30075
Contact: Mr. Tom Krupa
Telephone: 678/373-3310
Project: Roofing/Waterproofing

HOST HOTELS & RESORTS, INC.

4747 Bethesda Avenue, Suite 1300
Bethesda, Maryland 20814
Contact: Mr. Ron Walther
Telephone: 240/744-1000
Project: Roofing/Waterproofing

XENIA RESORTS & HOTELS, INC.

200 S. Orange Avenue, Ste 2700
Orlando, FL 32801
Contact: Mr. Wade Fischer
Telephone: 407/246-8132
Project: Roofing/Waterproofing

LOEWS HOTELS

667 Madison Avenue
New York, New York 10021
Contact: Mr. Jefferson Lam / Mr. Joe Thomas
Telephone: 212/521-2851
Project: Roofing/Waterproofing

AP ADVISORS LLC

3827 S. Carson St., #137
Carson City, NV 89701
Contact: Ms. Andrea Pelletier
Telephone: 760/902-0496 (cell)
Project: Roofing/Waterproofing

GREAT WOLF RESORTS

350 N. Orleans Street, Ste 10000B
Chicago, IL 60654
Contact: Mr. Akos Wright
Telephone: 708/967-3335
Contact: Mr. Bob Holesko
Telephone: 312/502-9598
Project: Roofing/Waterproofing

AIMBRIDGE HOSPITALITY

JAGUAR HOSPITALITY SERVICES CORP.

5301 Headquarters Drive
Plano, Texas 75024
Office: 972/952-0200
Contact: Mr. Matt Berge, Senior VP Operations
Telephone: 214/295-3562
Contact: Mr. Jacob Fruth
Telephone: 214/295-3574
Contact: Kerry Ready, Director Design
And Construction
Telephone: 512/695-5489
Projects: Roofing/Waterproofing

NEWCREST IMAGE, LLC

400 State Highway 121 Bypass
Lewisville, TX 75067
Contact: Mr. Bill Percy
Telephone: 214/774-4650
Project: Roofing/Waterproofing

OHANA REAL ESTATE INVESTORS

8880 Rio San Diego Drive, Suite 345
San Diego, CA 92108
Contact: Mr. Nathan Tucker
Telephone: 858/381-4415
Project: Roofing/Waterproofing

BRE HOTELS & RESORTS

530 Fifth Avenue, 22nd Floor
New York, NY 10036
Contact: Mr. Steve Harbin
Telephone: 561/901-8831
Project: Roofing/Waterproofing

MONTAGE LOS CABOS

Carretera Transpeninsular Km. 12.5
Bahia Santa Maria
Cabo San Lucas, B.C.S.
C. P. 23450 Mexico
Contact: Mr. Edward Landin, Director of Engineering
Telephone: +52 1 (624) 17 753 88
www.montage.com
Project: Roofing

ROCKBRIDGE CAPITAL

4100 Regent Street, Suite G
Columbus, Ohio 43219
Contact: Mr. Sam J. Davis
Telephone: 678/938-2155

PROPERTY MANAGEMENT OWNER / DEVELOPER

CBRE COMMERCIAL REAL ESTATE

14785 Preston Rd, Suite 1100
Dallas, TX 75254
Contact: Ms. Lisa Donovan
Telephone: 972/991-1500
Project: Roofing/Waterproofing

PARK HIGHLANDER HOMEOWNER'S ASSOCIATION

4240 Prescott
Dallas, TX 75204
Contact: Mr. Rex Jobe
Telephone: 214/850-8888
Project: Roofing/Waterproofing

CENCOR REALTY SERVICES, INC.

3102 Maple Avenue, Suite 500
Dallas, TX 75201
Contact: Ms. Kathy Detrick
Telephone: 214/954-0300
WEITZMAN
3102 Maple Avenue, Suite 350
Dallas, Texas 75201
Contact: Ms. Sandi Scott
Telephone: 214/720-6659
Project: Roofing/Waterproofing

ATLANTIC-PACIFIC COMMUNITIES (AP COMMUNITIES)

2950 SW 27th Avenue, Suite 200
Miami, FL 33133
Contact: Mr. Greg Griffith
Telephone: 305/357-4737
Project: Roofing/Waterproofing

CATHOLIC DIOCESE OF DALLAS

3725 Blackburn Street
Dallas, TX 75219
Contact: Ms. Maria Carillo
Telephone: 214/379-3162
Project: Roofing/Waterproofing

CROSS CREEK RESIDENTIAL

3100 Monticello Ave., Ste 700C
Dallas, TX 75205
Contact: Mr. Guy Brignon
Telephone: 214/502-9134
Project: Roofing/Waterproofing

LEE ASSOCIATES

14950 Quorum Drive, Suite 100
Dallas, TX 75254
Contact: Mr. Phil Rosenfeld
Telephone: 972/934-4040
Cell: 469/222.4159
Project: Roofing/Waterproofing

TEMPLE SHALOM

6930 Alpha Road
Dallas, TX 75240
Contact: Mr. Steve Lewis, Mr. Barry Epstein
Telephone: 972/661-1810, Ext. 202
Project: Roofing/Waterproofing

EPT LAND COMMUNITIES

444 Executive Center Boulevard, Suite 238
El Paso, TX 79902
Contact: Mr. David Bogas
Telephone: 915/838-8100
Project: Roofing/Waterproofing

NICK ANDERSON RESIDENTIAL HOUSING DEVELOPMENT, LLC

3401 Allen Parkway, Suite 102
Houston, TX 77109
Contact: Mr. Nick Anderson
Telephone: 832/722-0066
Project: Roofing/Waterproofing

CAMBRIDGE DEVELOPMENT GROUP

4550 Post Oak Pl Dr. #225
Houston, TX 77027
Contact: Mr. Douglas Dalton II
Telephone: 832/689-4779
Project: Roofing/Waterproofing

HAMMES REALTY SERVICES

1400 N. Water Street, Suite 500
Milwaukee, Wisconsin 53202
Contact: Ms. Lori Kraemer, VP Property
Management
Telephone: 414/509-2533
Project: Roofing/Waterproofing

LEGACY PARTNERS

13155 Noel Road, Suite 825
Dallas, TX 75240
Contact: Mr. Bob Panizo, VP Construction
Telephone: 972/728-7219
Project: Roofing/Waterproofing

OHANA REAL ESTATE INVESTORS

8880 Rio San Diego Drive, Suite 345
San Diego, CA 92108
Contact: Mr. Nathan Tucker
Telephone: 858/381-4415
Project: Roofing/Waterproofing

RETAIL

MACY'S/FEDERATED LOGISTICS SERVICES

500 Meadowlands Parkway
Secaucus, New Jersey 07094
Contact: Mr. Bob Zoldy
Telephone: 203/271-5871
Project: Roofing/Waterproofing

MACY'S INC.

7 West Seventh Street
Cincinnati, Ohio 45202
Contact: Mr. Tony Riese
Telephone: 513/579-7288
Project: Roofing/Waterproofing

INDUSTRY

GOODYEAR/COOPER TIRE & RUBBER COMPANY

3500 Washington St.
Texarkana, AR 71854
Contact: Mr. John Whitlow
Telephone: 903/748-8712
Project: Roofing/Waterproofing

NCH CORPORATION

2727 Chemsearch Boulevard
Irving, TX 75062
Contact: Mr. Paul Blevins
Phone: 972/438-0140
Project: Hail Claim/Roofing

ENCORE WIRE CORPORATION

1329 Millwood Road
McKinney, TX 75069
Contact: Mr. Todd Clayton
Telephone: 972/562-9473
Project: Roofing/Waterproofing

GOODYEAR/COOPER TIRE & RUBBER COMPANY

700 Lima Avenue
Findlay, OH 45840
Contact: Mr. Todd Hermiller
Telephone: 567/376-0722
Project: Roofing/Waterproofing

PUBLIC

TEXAS DEPARTMENT OF HEALTH AND HUMAN SERVICES COMMISSION

3125 N. Beach Street
Fort Worth, TX 76111
Contact: Mr. David Lee
Telephone: 817/759-3791
Project: Roofing/Waterproofing

CITY OF FRISCO

6101 Frisco Square Boulevard, 5th Floor
Frisco, TX 75034
Contact: Mr. Mack Borchardt
Telephone: 972/292-5127
Project: Roofing/Waterproofing

UNIVERSITIES/SCHOOLS

AUSTIN COLLEGE

900 North Grand Avenue

Sherman, TX 75090

Contact: Mr. David Turk, Executive Director
Of Facilities

Telephone: 903/815-3638

Project: Masonry/Waterproofing

UNIVERSITY OF TEXAS AT DALLAS

800 W Campbell Road

Richardson, TX 75080

Contact: Kelley Kinnard

Telephone: 214/364-9499

Project: Roofing/Waterproofing

UNIVERSITY OF NORTH TEXAS

P.O. Box 13527

Denton, Texas 76203-6527

Contact: Sharon Kirkpatrick

Telephone: 940/565-2396

Project: Roofing/Waterproofing

HOSPITALS

ST. FRANCIS HEALTH SYSTEM

6161 South Yale Avenue

Tulsa, OK 74136

Contact: Mr. Mike Mullins, P.E.

Telephone: 918/830-6002

Project: Roofing

ARCHITECTURAL FIRMS

NEHMER

1300 Piccard Drive
Rockville, MD 20850
Contact: Mr. Matthew Hudson, CCM
Telephone: 301/670-1635
Project: Roofing/Waterproofing

MCCARTHY ARCHITECTURE

501 2nd Avenue, Bldg. A, Suite 600
Dallas, TX 75226
Contact: Mr. Kelly McCarthy
Telephone: 214/370-3966
Project: Roofing/Waterproofing

GFF ARCHITECTS

2808 Fairmont, Ste 300
Dallas, TX 75201
Contact: Ms. Jacqueline Block
Telephone: 214/303-1500 x 192
Project: Roofing/Waterproofing

BOKA POWELL ARCHITECTS

8070 Park Lane, Suite 300
Dallas, TX 75231
Contact: Mr. William B. Krabacher, AIA
Telephone: 972/701.9000; Cell: 214/536-1812
Email: wkrabacher@bokapowell.com
Contact: Mr. Thomas Stastny, Sr. Const. Admin.
Telephone: 972/701-9000; Cell: 214/448-4978
Email: tstastny@bokapowell.com

PGAL

14135 Midway Road, Suite G-200
Addison, TX 75001
Contact: Ms. Gunjali Mirajkar
Telephone: 214/647-6431
Project: Roofing/Waterproofing

HUCKABEE ARCHITECTS

801 Cherry St., Ste 500
Fort Worth, TX 76102
Contact: Mr. Benchmark "Ben" Harris, P.E.
Telephone: 817/480-4697
Project: Roofing/Waterproofing

GONZALES ARCHITECTS

14 NE First Ave., Ste 507
Miami, FL 33132
Contact: Mr. Jose Andrew
Telephone: 954/577-4071
Project: Roofing/Waterproofing

NEWGROUND

15450 S. Outer Forty Drive, Suite 300
Chesterfield, MO 63017
Contact: Mr. Tom Aver, Senior VP
Telephone: 636/898-8469
Project: Roofing/Waterproofing

PARKHILL

3000 Internet Blvd., Suite 550
Frisco, TX 75034
Contact: Mr. Scott Nelson
Telephone: 972/746-8290
Project: Roofing/Waterproofing

RANDALL SCOTT ARCHITECTS

2140 Lake Park Boulevard, Suite 300
Richardson, Texas 75080
Contact: Mr. Dan Brantner AIA
Telephone: 972/664-9100
Project: Roofing/Waterproofing

SECTION VI

PROJECT PROFILES

Project Profile For:

Embassy Suites by Hilton San Juan 800 Tartak Street San Juan, PR

Client's Objectives:

- ◆ Skylight Replacement - Evaluate existing atrium skylight and determine replacement options.
- ◆ Determine a Probable Summary of Costs for replacement options.
- ◆ Complete the project while the Hotel is operating with minimal disruption to guests and hotel functions.

Solution:

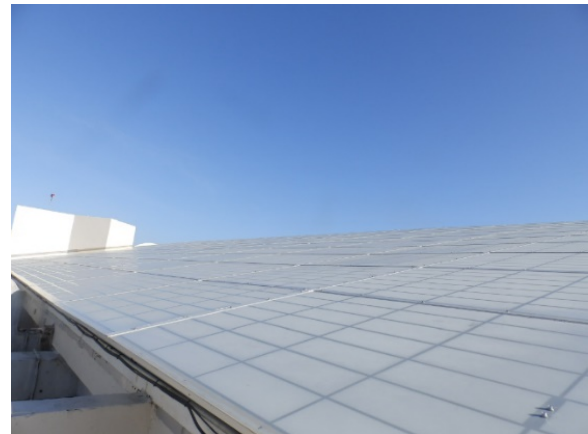
In 2013, Arnold & Associates, Inc. was requested by ownership to investigate conditions of a very large atrium skylight. The Building Engineer reported persistent leaks from the skylight even after several attempts to stop the leaks by others. The atrium skylight is an aluminum structural manufactured by Kalwall.

The skylight consists of 2-3/4-inch thick translucent panels, with a slope of 3 in 12. There are two (2) 4-inch X 4-inch X 1/8-inch aluminum purlin tubes spaced at 7-feet 10-5/16-inch and 18-feet 8-11/16-inches on each side of the ridge.

Wind bracing is 4-inches X 4-inches X 1/8-inch aluminum tube. The dead load is 7 psf and the live load is 20 psf. Wind loading based on ASCE 7-93, for cladding fastener uplift pressure design load 68.2 psf in the field, 110.8 psf at the perimeter. Design loads for the cladding panels are 49.5 psf in the field and 93.9 psf at the perimeter. Design loads for the rafters are 36.0 psf in the field and 76.6 psf at the perimeters.

Field investigation revealed many repairs to the junction of panels to stop the infiltration of moisture into the building. At the two (2) elevator shafts, water stands between the junctions of two walls. In both elevators, moisture is infiltrating into the building at junction of the wall and skylight. Panels have a major fiberglass bloom which is resulting in cracking of the panel surfaces. Fasteners at several locations are backing out.

AAI's recommendation was replacement of all panels. To eliminate ponding at the junction of the elevator and skylight addition bracing was added to develop a positive slope. An angle aluminum flashing was added at the perimeter of the walls with silicon tape. A coating was placed over the panels to help prevent fiberglass bloom. Additional fasteners were also added to increase wind load uplift of the panels.



Arnold's Project Consultant: Gary L. Mitchell,
RRC, RRO, CCCA
Project Costs: \$639,666.00
Project Owner: Blackstone

Project Profile For:

**Embassy Suites
by Hilton San Juan
800 Tarktak Street
San Juan, Carolina, Puerto Rico**

Client's Objectives:

- ◆ Evaluate hurricane damage to Hotel.
- ◆ Determine a Probable Summary of Costs for replacement.
- ◆ Complete the project on time and within budget.

Solution:

Embassy Suites by Hilton San Juan was hit by a major hurricane in 2017 damaging the roof systems. There are three (3) types of roof systems on this hotel, steep slope standing seam, low slope PVC, polyvinyl chloride, and coating system over concrete decking. All three (3) systems were impacted by the hurricane.

Major sections of the metal roof blew off, sections of the low slope PVC blew off, and the roof coating system was struck by numerous storm driven debris. Exhaust fans were displaced, duct work blew apart, condenser blew from bases.

Our task was to get the roof in the dry and then replace all roofs for the long term. The highest roofs, standing seam, are right at 100 feet from ground level. The new standing seam roof had to withstand a minimum of 150 mile per hour wind speed at 100 feet. To accomplish this Arnold & Associates reduced the new .040-inch panel width to 16-inches, installed new underlayment, reduced the hat channel spacing fastening the channel to the decking 6-inches on center, reduce the clip spacing and used all stainless-steel fasteners and clips. At the lower low slope roofs a base was mechanically fasten to the light-weight insulation and then a SBS (styrene butadiene styrene), base and cap were heat welded.

The upper concrete roof was cleaned and re-roofed with a liquid membrane. Duct work was rebuilt, new hurricane stands installed to support condensers, cross over installed were required, new exhaust fans installed, and electrical work was all brought up to current

code requirements. Plus, many of the internal drains were replaced to increase drainage capacity.

The project was started in March of 2017 and completed by the end of September.



Arnold's Project Consultant: Gary L. Mitchell,
RRC, RRO, CCCA
Project Costs: \$1,267,000.00
Project Owner: Blackstone

Project Profile For:

Hilton Baton Rouge Capital Center 201 Lafayette Street Baton Rouge, LA 70801

Client's Objectives:

- ◆ Evaluate existing hotel in historic area of Baton Rouge for below grade waterproofing.
- ◆ Evaluate existing historic drainage tunnel near hotel for hotel usage.
- ◆ Determine a Probable Summary of Costs for below grade waterproofing options.
- ◆ Complete the project while the Hotel is operating with minimal disruption to guests and hotel functions.

Solution:

Built in 1929, Hilton Baton Rouge Capital Center is located downtown Baton Rouge Historic area on the banks of the Mississippi River. The Mississippi River is about 238 feet from the hotel with a berm, and road separating them. The below grade area is an occupied space with water infiltrating the wall and floor system.

It was difficult determining the water level at the exterior, but it is believed that the water level is above the concrete floor slab. The water level fluctuates throughout the year but is at its highest during the spring when the snow melts from the Northern states and flows into the Mississippi. In the historic area of Baton Rouge there are underground tunnels, many of which have been infilled. The hotel has one which shows the history of the City. The Ownership wanted to build a restaurant depicting the cities history in this area and use the tunnel as a show place.

Our first course of action was to stop the infiltration of moisture. Most of the water was infiltrating between the floor slab and concrete wall. After reviewing several manufacturers, Koester a German waterproofing system was selected. This system was design for this application. A Waterproofing Contractor was selected.

Although somewhat unsure of how the waterproofing system would work against the Mississippi River, I visited the site several years later with no additional infiltration noted, and the Owner had started renovations.



Arnold's Project Consultant: Gary L. Mitchell,
RRC, RRO, CCCA
Project Costs: \$77,985.00
Project Owner: Rockbridge Capital

Project Profile For:

**Hotel Monaco Denver
1717 Champa St.
Denver, CO**

Client's Objectives:

- ◆ Evaluate existing historic steel windows and determine both replacement and restoration options.
- ◆ Evaluate existing historic double hung wood windows and determine both replacement and restoration options.
- ◆ Determine a Probable Summary of Costs for replacement and restoration options.
- ◆ Complete the project while the Hotel is operating with minimal disruption to guests and hotel functions.

Solution:

The Hotel Monaco Denver was opened in early 2000's. The hotel is located in two (2) historic buildings the 1909/1913 Beaux arts style Railway Exchange Building and the 1937 art modern New Building. The 1913 structure has a Terra Cotta front façade with large double hung wood windows, and the side and rear elevations are mass masonry construction, again with large wood double hung wood windows.

The New Building is a completely different architectural style. The two (2) street elevations have smooth limestone and large steel windows. During the conversion of the buildings from an office building to a hotel, large interior storm windows had been installed.

Working with the Denver Historic Commission it was determined that these buildings were on the historic registry of Denver, and the National Register of Historic Places. Therefore, preservation was determined to be the best option.

Arnold and Associates, Inc., William G. Hobgood, III, RRO, RRC, RWC, REWC, RBEC, conducted an extensive review of the hotel facility focusing on the preservation of the historic windows. Working with Complete Property Services the wood and steel windows were restored, resealed, broken glass replaced. Exterior storm windows were installed to preserve the wood windows. The steel windows were restored, sealed and painted both inside

and out and the interior storm windows were reinstalled.

The project was started in March of 2017 and completed by the end of September.

Probable Cost = Approximately \$1,513,000.00.



Project Name: Hotel Monaco Denver, Denver Colorado

Owner: Xenia Hotels & Resorts, Inc.
Project Manager: Denise Pickles Schroderbek
407-982-4160

Project Profile For:

J.W. Marriott Hotel Galleria Houston, Texas

Client's Objectives:

- ◆ Client needed leaks repaired throughout the buildings. Leaks were problematic in this existing brick masonry and in many of the existing aged roof areas.
- ◆ Client wished to complete the planned work in phases in an expedient manner with minimal loss of revenue or guest service complaints. Schedules and probable costs were determined and approved prior to bidding.
- ◆ Client required all work to be completed per Arnold & Associates, Inc. specifications and drawings per Owner Agreements for two separate Contractors working simultaneously. Storm interruption during work flow required adjustments by both Contractors and delays in the schedule.
- ◆ Sensitive guests in the hotel were not to be unduly disturbed during construction of the façade or roofing projects. Noise monitoring was required and contractors adjusted to Owner Operational needs.



Solution:

The hotel ownership enlisted Arnold & Associates, Inc. to orchestrate project specifications and drawings.

Façade Project: The exterior brick masonry, cast stone copings, and other exterior wall surfaces were analyzed and corrective measures were specified and bid to multiple qualified Façade Restoration Contractors. RTC Waterproofing was awarded the contract and all leak locations were repaired including window lintel flashings, brick tuckpointing, and sealant joint removal/replacement. Fogged glass was removed/replaced and all window frames were sealed with silicone sealant at glass to metal conditions. Driveway waterproofing and traffic coating was completed.

The Roofing Projects: JR Jones Roofing Projects included removal/replacement of significant ballroom roof areas and upper level guest tower roofs. Additionally, Liberty Hall conference building was also re-reroofed. All roof areas on the building have been updated and have 20 year warranties from the manufacturers.

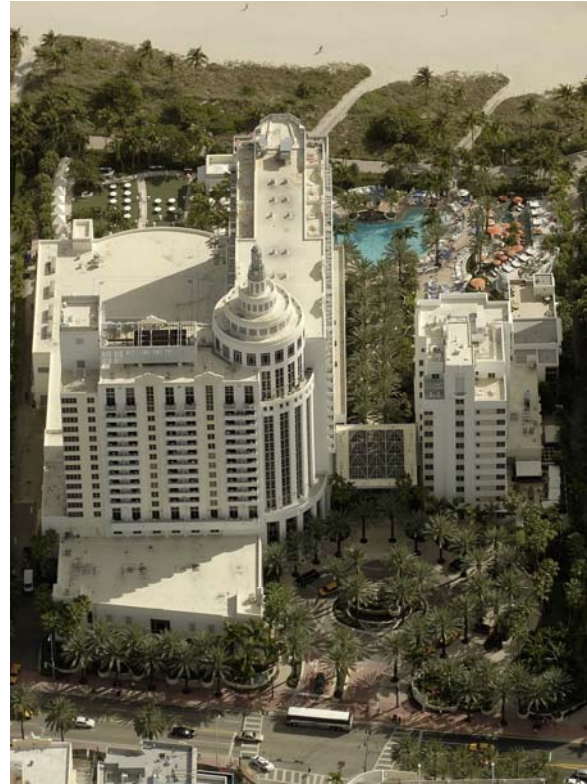
Once the Scope of Work was fully defined for all projects, the projects were issued for bidding. Contractors were engaged and executed the work schedules while coordinating closely with Hotel Managers and Engineering Staff. All Projects were highly successful and within the approved adjusted budgets. Project schedule included allowing sensitive guest relocation to other parts of the hotel during noise conditions. Major storms caused interruption to the project, but overall goals were successfully achieved.

Combined Final Cost: Approximately \$2,672,240
Project: Façade, Roofing & Waterproofing Projects
Property: J.W. Marriott Houston Galleria
Owner: Host Hotels & Resorts, Inc.- Ron Walther
Director of Engineering: RC Cloma & Rudy Garcia
Facade Contractor: RTC Waterproofing & Glass
Roofing Contractor: JR Jones Roofing - Houston
Consultant: Michael L. Cogburn, RA, CSI

Project Profile For:
Loews Miami
Miami Beach, Florida

Client's Objectives:

- ◆ *Facade Project: The Exterior stucco surfaces were stained and deteriorating due exposure to salts and UV light on this iconic South Beach hotel which included the historic St. Moritz as well as the main hotel building. The Client desired to upgrade the exterior with new coating materials, sealants, and paint which included all surfaces on the exterior walls. Work required stucco repairs prior to coating and specialty coping metal on decorate elements of the exterior walls. The hotel remained open during most of the work as well as during a significant interior Lobby remodeling project and Pool Deck project scheduled during the same timetable.*
- ◆ *Client wished to complete the planned work in a very short schedule during the summer of 2016 with all work completed by the tourist high season in December.*
- ◆ *Clients' Goal was to complete the project while the Hotel was in operation with minimal disruption to guests and hotel functions. Hotel was scheduled for shut down but not for the Facade work.*



Solution:

Arnold & Associates, Inc. completed Plans and Specifications which were used for bidding and for construction. Contractors were engaged and executed the work schedules while coordinating closely with Hotel Managers and Engineering Staff. The hotel experienced a tropical storm event during the project, which was planned and allowed for in the project scope. Demobilization and remobilization costs were included.

With extraordinary coordination by the planning team including The Hotel staff, Owner, Consultant, and Contractor, the Façade Project was highly successful with the Contractor meeting the scheduling demands and staying within the approved budget. Workmanship was excellent restoring this iconic hotel back to its glory on Collins Street in South Beach.

Combined Final Cost = Approximately \$1,101,000

Facade Project
Loews Miami Beach Hotel
Owner: Loews Hotels & Co.
Loews Hotels: Jefferson Lam
Director of Engineering: Andre Thuijs

Facade Contractor: Capital Contractor Services (CCS)

Consultant: Michael L. Cogburn, AIA, CSI
Arnold & Associates, Inc.

Project Profile For:

Loews Coronado Bay Hotel Coronado, California

Client's Objectives:

- ◆ *Facade Project: The Exterior stucco surfaces were stained and deteriorating due to 27 years of exposure to salts and UV light on this campus hotel which included eight (8) individual buildings. The Client desired to upgrade the exterior with new coating materials, sealants, and paint which included all surfaces on the exterior walls, railings, and balcony decks.*
- ◆ *The Pool and Pool Deck Project included the complete resurfacing of fiberglass finishes on three (3) pools and two (2) large spas. The concrete Pool Deck was significantly problematic with broken and cracked concrete creating trip hazards, drainage issues, landscaping deterioration, and dated colored concrete finishes. The Client wished to resolve these issues and enhance the entire Pool Deck surface to meet current California slip resistant standards and Health Department requirements while providing a beautiful color enhancement to the deck surface.*
- ◆ *Client wished to complete the planned work in a 10 month duration with 3 months additional for the Pool/Pool Deck work. Schedules and probable costs were determined prior to bidding.*
- ◆ *Complete the project while the Hotel is operating with minimal disruption to guests and hotel functions.*



Solution:

Once the Scope of Work was fully defined for both projects, the projects were issued for bidding. Contractors were engaged and executed the work schedules while coordinating closely with Hotel Managers and Engineering Staff. Both Projects were highly successful and within the approved budget. Arnold & Associates, Inc. completed Plans and Specifications which were used for bidding and for construction.

Combined Final Cost = Approximately \$2,410,000

Facade and Pool/Pool Deck Projects
Loews Coronado Bay Hotel
Owner: Loews Hotels, Inc.

General Manager: Sean Clancy
Director of Engineering: Brian Manning

Facade Contractor: Hamilton Pacific, Inc.
Pool/Pool Deck Contractors: California Construction Concepts, Inc., Pool Resurfacing 2000, Brightview Landscaping, and Berg Electric

Consultant: Michael L. Cogburn, AIA, CSI

Project Profile For:

Westin Peachtree Plaza Atlanta, Georgia

Client's Objectives:

- ◆ Tower Glass Replacement
- ◆ Scenic Elevator Reglaze
- ◆ Sundial Restaurant Reglaze
- ◆ Skylight Glass Replacement

Solution:

On March 14, 2008 a tornado with wind speeds over 200 mph ripped through Atlanta. The Westin Peachtree Hotel sustained extensive glass damage. 540 glazing units were broken and over 70% of the scenic elevator glass were damaged. 100% of the skylight glass was impacted and 81 rooms were out of service long term. Westin Peachtree Hotel is 723 feet tall with 73 floors and 320 rooms. It is the second tallest hotel in the Western Hemisphere. For this project 6,350 panes of glass were replaced and 800 skylight units.

Arnold & Associates, Inc. conducted an extensive review of the hotel and also developed a comprehensive permit and bid package for correction.



Project challenges included safety of guests, general public and construction personnel, as well as logistics of loading/unloading, materials and labor transportation. The sequencing of construction was developed to minimize noise/disruption to hotel operations. Five (5) floors were taken out of service at a time as work progressed from top to bottom. The 15 month schedule was completed on time with minimal hotel disruption.



Some of construction challenges were in working with Skanska Inc and Harmon Inc. making sure the project and all involved followed strict safety guidelines. 100% tie-off for glazers and netting had to be at each window location. Protective film on had to be installed on each glazing unit before removal. Swing stages were staged around the entire perimeter and tools had to be tethered to each worker. Pedestrians were protected with low level netting and pedestrian walkways at street level.

Construction Cost: \$22,500,000.00



Project Profile For:

Administration Building Austin College Sherman, Texas

Client's Objectives:

- ◆ Evaluate water intrusion issues related to the solid masonry exterior walls of the 1946 building.
- ◆ Complete bidding documents for masonry repairs and restoration cleaning.
- ◆ Maintain campus budgets and schedules.
- ◆ Prevent further water intrusion issues.

Solution:

Arnold & Associates, Inc. completed a thorough evaluation and recommended masonry repairs and cleaning of this 64 year old solid masonry building.

Extensive repairs and pointing of masonry joints as well as repairs to sealant joints, cast stone, and other masonry components were executed by trained waterproofing contractors. Rusting steel lintels above windows were removed/replaced and others were successfully cleaned and painted with rust inhibiting paint. Building cast stone and brick were cleaned and a high quality water repellent installed. Exterior windows were cleaned and painted and all exterior ferrous metal components were painted.

The Project was completed on time, and water intrusion issues were successfully mediated.

Final Cost = Approximately \$135,000.00

Project Name:
Administration Building
Austin College

Consultant:
Michael L. Cogburn, AIA, CSI



Project Profile For:

The Dallas Women's Forum Alexander Mansion

**4607 Ross Avenue
Dallas, Texas 75204**

Client's Objectives:

- ❖ *Address life-safety aspects of the exterior façade and roofing of the historic facility originally construction in 1906.*
- ❖ *Remove and replace deteriorated roofing materials and install a new modified bitumen roofing system.*
- ❖ *Design and complete repairs to address leaks at roof areas and "worse case" wall conditions.*
- ❖ *Assess the repair and restoration requirements for exterior masonry and historic wood windows.*
- ❖ *Assess removal and repair of unsafe structural issues.*
- ❖ *Assess historic detailing for columns, cast stone detailing, decorative metal, and windows.*



Solution:

The roof and facade of the historic Alexander Mansion had significant deterioration. The first task was to investigate the facility and identify recommended work and classify that work as 1) a life-safety requirement; 2) roofing and waterproofing requirement to address interior leakage or major deterioration; and 3) other recommended exterior work associated with repair and waterproofing.



Due to funding issues, only "as needed" and "urgent" issues were addressed during 2017. Additional work will be completed on the facility as funds and donations are acquired.

Texas Roof Management (TRM) and Frontier Waterproofing completed work on the building with design and recommendations by Arnold & Associates, Inc. in association with Holly Hall, Architect. Initial work was completed with many hours of pro bono donations as well as materials and supplies by TRM and Siplast, Inc.

