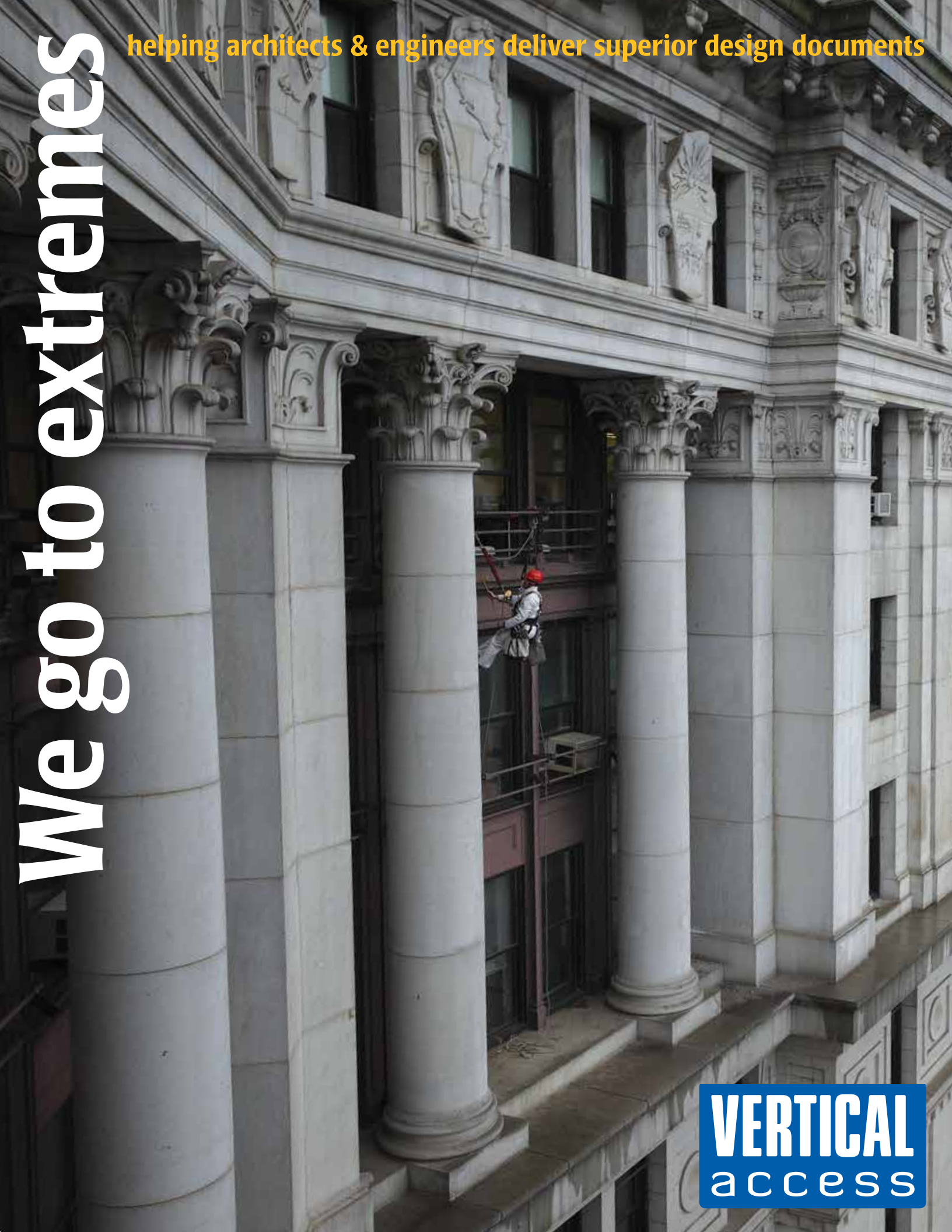
# We go to extremes

helping architects & engineers deliver superior design documents



VERTICAL access

# Vertical Access

is a professional consulting firm offering a suite of specialized services applied to the documentation, investigation, and preservation of buildings and other structures.

We collaborate with architects, engineers, conservators, and other design professionals, working closely with each of our clients to develop customized approaches that best serve the needs of each specific project.

## Contents



Front Cover:
**Municipal Building**
**One Centre Street / New York, NY**

Left:
**St. Francis de Sales Church**
**Philadelphia, PA**

Above:
**The New York Edition Hotel**
**New York, NY**

# Credentialed. Established. Distinguished.

**Responding to a need for specialized inspections in extreme locations, Vertical Access, founded in 1992, pioneered the use of industrial rope access in the United States. Derived from recreational rock climbing and caving techniques, this approach is used to conduct surveys of buildings, bridges, monuments, and other structures using lightweight, flexible rigging systems.**

Collaborating with architecture and engineering firms during the investigative phase of a project, our findings provide design professionals with the details and data needed to develop full and accurate scopes of work.

Vertical Access has worked on hundreds of structures, historically significant buildings, and landmarks throughout the United States ranging from Independence Hall in Philadelphia to the Chrysler Building in New York City, and from the 19th century wooden Hanging Flume structure in Colorado to the Arthur Ravenel Bridge, a cable-stay bridge in South Carolina.

Vertical Access is well-established and highly regarded in the fields of architecture and engineering, and distinguished in the world of historic preservation. Headquartered in Ithaca, New York, with branch offices in New York City, Washington, DC, Salt Lake City, and Guilford, CT, we serve the entire United States and Canada. We are also committed to protecting and preserving our environment and are members and contributors to 1% for the Planet, (www.onepercentfortheplanet.org).

### Hands-on in Hands-off Locations

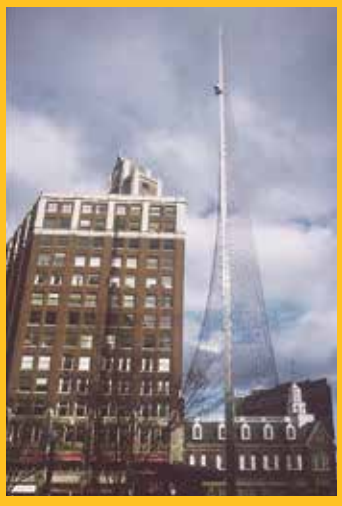
Our approach to the investigation of buildings and structures offers quick, hands-on access without expensive and time-consuming conventional swing stage or frame scaffolding, cranes, and boom lifts. Buildings, monuments, and structures with hard-to-reach areas such as steeples, domes, towers, chimneys, bridges and high parapet or screen walls are our specialty. Our portfolio includes a range of building types including academic, healthcare, religious, government, commercial, and institutional.

### Accurate and Detailed Scopes of Work

In the course of an inspection, Vertical Access' focus is on the investigation, documentation, and quantification of existing conditions.

The results of these investigations are used by our clients to present a more fully developed scope of work for budgeting, phasing, scheduling, and bidding for repair and maintenance work.

## PROJECT HIGHLIGHTS



**Liberty Pole**
**Rochester, NY**

**Chrysler Building**
**New York, NY**

**Arthur Ravenel Jr. Bridge**
**Charleston, SC**

**Hanging Flume**
**Uravan, CO**

## Expertise Informs Our Investigations

Vertical Access staff includes preservationists with backgrounds in construction, structural engineering, architectural conservation, and nondestructive evaluation of structures. Our staff is well-versed in traditional and modern building materials, and applies this knowledge in investigations of a variety of materials and systems including concrete and cast stone, brick and natural stone masonry, architectural terra cotta, cast iron and sheet metal, gold leaf and other architectural coatings, plaster, sealants, and tile and slate roofs. Our partners and employees are frequent presenters at industry-related conferences and have published papers in association journals.

## TPAS® (Tablet PC Annotation System)

While industrial rope access is a means to an end, our ultimate service is the collection, management, presentation, and sharing of condition survey data. Because effective and intelligent collection of data in the field is essential to providing comprehensive and useful report documents, we utilize the Tablet PC Annotation System — TPAS. Developed by Vertical Access, TPAS allows on-site annotation directly in AutoCAD. Existing conditions data are documented graphically and numerically, facilitating interpretation and diagnosis of fault patterns and failure mechanisms. More information about TPAS is found on page 15.

## In-House Graphics and CAD Capabilities

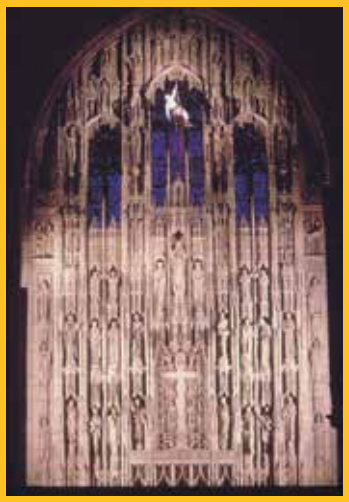
Vertical Access' CAD capabilities allow us to customize our reports for seamless integration into the project documents of our clients. We can digitize and manipulate existing drawings, as well as work directly with CAD files. We present our findings in either a database or spreadsheet format, (particularly effective for "stone-by-stone" investigations), using a system of attribute tags embedded in the CAD file. These attribute tags and material libraries were developed by Vertical Access as part of TPAS to allow for the efficient collection of survey information. Libraries are easily customized for each project as needed.

## Building Envelopes and Sustainability

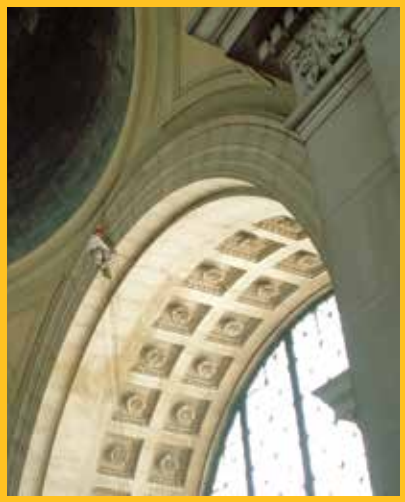
Our investigations help teams meet sustainability goals, be it an adaptive reuse of existing buildings or an historic preservation project. All buildings are now being held up to the highest sustainability standards, and helping to fulfill the demands of this mandate is a natural evolution of our specialization in the inspections of building envelopes of all types.

New Jersey State House
Trenton, NJ

Independence Hall
Philadelphia, PA



St. Thomas Church
New York, NY



Columbia University, Low Library
New York, NY

# Professional Affiliations

- American Institute of Architects
- American Institute for Conservation of Historic and Artistic Works
- American National Standards Institute
- ASTM International (formerly American Society for Testing and Materials)
- American Society of Civil Engineers
- American Society of Safety Engineers
- Association for Preservation Technology International
- Association of State Dam Safety Officials
- Boston Society of Architects
- Construction History Society of America
- International Concrete Repair Institute
- International Council on Monuments and Sites
- The Masonry Society
- National Center for Preservation Technology and Training
- National Council of Structural Engineers Associations
- New York Landmarks Conservancy
- Partners for Sacred Places
- Preservation League of New York State
- RCI, Incorporated (formerly Roof Consultants Institute)
- Sealant Waterproofing and Restoration Institute
- Society for Industrial Archeology
- Society of Professional Rope Access Technicians
- Structural Engineers Association of New York
- United States Society on Dams
- World Monuments Fund
- 1% For the Planet

**Canadian Pacific Railway Bridge**
**Niagara, NY** Above and right

# Experienced. Certified. Licensed.

**All Vertical Access personnel conducting rope access work are third-party certified by either the Society of Professional Rope Access Technicians (SPRAT) or the International Rope Access Trade Association (IRATA).**

Vertical Access has been a member of SPRAT since 2000, and adheres to the SPRAT *Safe Practices for Rope Access Work* guidelines. Our partners and staff are active in the organization, serving on the Board of Directors and several committees, and often present papers at the annual meeting.

All of our rope technicians are SPRAT certified. Additionally, we are credentialed to train and conduct certification sessions for Level I (rope access worker), Level II (lead technician) and Level III (supervisor) candidates.

In addition to our membership and participation in SPRAT, VA personnel have been instrumental in the development of a consensus-based standard for rope access work through ASTM Subcommittee E-06, Task Force E06.55.08, which developed E2505-07, Standard Practice for Industrial Rope Access. We also serve on the American National Standards Institute (ANSI) Z359 Standards Committee for Fall Arrest / Protection and several Z359 subcommittees. We have testified to the safety records of the use of industrial rope access at the Occupational Safety and Health Administration (OSHA) hearing on proposed rules for Walking-Working Surfaces and Personal Protective Equipment. Vertical Access carries general liability, professional liability, and automobile liability insurance, as well as statutory requirements for worker's compensation and disability coverage. Since the founding of the company, we have not had a single incident that affected the safety of the general public, building occupants, or employees.

Vertical Access partners hold City of New York Special Rigger License Nos. 5824 and 6338 and we are qualified and bonded by the City of New York Department of Transportation to obtain sidewalk and street closure permits. Staff are experienced working with local, state, and federal agencies and hold federal letters of clearance for work on government projects.

**United States Capitol / Washington, DC**

# What is Industrial Rope Access?

**Industrial rope access (IRA) is a technique using ropes and specialized hardware as the primary means of providing both work-at-height positioning and fall protection for qualified workers. Vertical Access employs IRA techniques to reach areas of buildings and structures that are otherwise difficult to access, as well as areas where IRA is the most cost-effective and efficient means of gaining hands-on access.**

## Safe

In the rope access environment, worker safety is paramount. IRA techniques employ fully redundant systems based on the use of two independent ropes, each capable of sustaining OSHA-required ultimate loads far in excess of the specified 5000 pounds.

One of the independently-anchored ropes is the work positioning line and the other is the back-up or fall protection line. This two-rope system, including the selected anchors and hardware, are engineered so that every component meets a safety factor of at least 10:1. Site-specific engineering analysis is incorporated into the anchor selection and design process, and is included in the site-specific safety plan created for each project. Worker training, regular equipment inspection, and record keeping are all essential parts of our company safety plan. The system provides integrated fall protection and work positioning capabilities, and has an extraordinary safety record after millions of worker-days of site time worldwide.

Vertical Access' work complies with applicable OSHA regulations, SPRAT guidelines, and ASTM and ANSI standards.

The IRA approach is extremely building-friendly—as a matter of course we install rope sleeves or padding at roof and cornice edges and projections wherever ropes come in contact with the building to protect the building as well as prevent abrasion of our ropes.

**Cathedral Basilica of Saints Peter and Paul**
**Philadelphia, PA**

### Cost-Effective

We are frequently called upon to provide IRA services during the pre-construction phase of a project, in order to assist with the preparation of construction documents. A close visual and hands-on inspection of a building greatly reduces the amount of uncertainty inherent in construction projects involving existing buildings. Our project deliverables are used to identify, locate, and quantify repairs and the result of our work is a marked decrease in the number and magnitude of change orders. All members of the project team benefit in this situation: the design team, because the accuracy of their scope of work, cost estimates, and construction or bid documents is improved; the contractors, because they know exactly what they are bidding on; and the owner, because the bid competition inherently tightens as contractors include fewer contingencies in their bids. Projects typically come in at or below budget and on time, without unanticipated cost increases or delays.

### Efficient

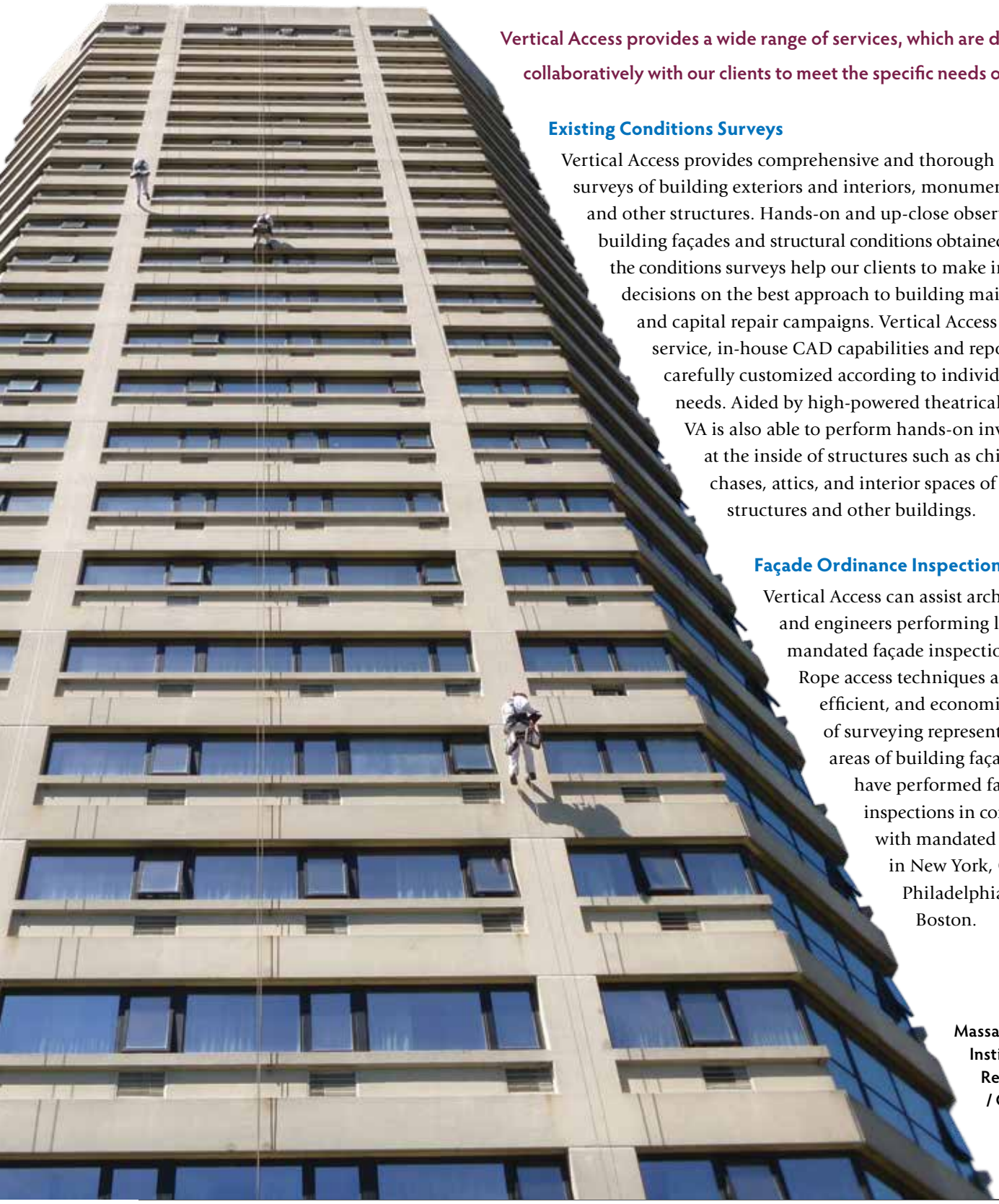
Unlike conventional means of access such as swing stages, pipe scaffolding, or aerial platforms, the lightweight rigging equipment used in IRA is very flexible, easily adaptable to site-specific conditions and can be installed and dismantled quickly, limiting disruption to building managers and occupants as well as minimizing downtime to move rigging. IRA rigging systems and equipment can be easily customized to provide safe, cost-effective rope access solutions to get to more areas of a building or structure than using other means of access, often at a significantly lower cost.

**St. Patrick's Cathedral**
**New York, NY**

**Hanging Flume**
**Uravan, CO**

**Philadelphia City Hall**
**Philadelphia, PA**

# Consulting Services



**Vertical Access provides a wide range of services, which are developed collaboratively with our clients to meet the specific needs of a project.**

## Existing Conditions Surveys

Vertical Access provides comprehensive and thorough condition surveys of building exteriors and interiors, monuments, bridges, and other structures. Hands-on and up-close observation of building façades and structural conditions obtained as part of the conditions surveys help our clients to make informed decisions on the best approach to building maintenance and capital repair campaigns. Vertical Access has full-service, in-house CAD capabilities and reports are carefully customized according to individual clients' needs. Aided by high-powered theatrical lighting, VA is also able to perform hands-on investigations at the inside of structures such as chimneys, chases, attics, and interior spaces of religious structures and other buildings.

## Façade Ordinance Inspections

Vertical Access can assist architects and engineers performing locally-mandated façade inspections. Rope access techniques are a safe, efficient, and economical means of surveying representative areas of building façades. We have performed façade inspections in compliance with mandated inspections in New York, Chicago, Philadelphia, and Boston.

**Massachusetts Institute of Technology Residence Halls / Cambridge, MA**

### Due Diligence and Prepurchase Inspections

Vertical Access can mobilize quickly and perform efficient due diligence and prepurchase inspections. Our deliverables help parties involved with asset management make informed decisions about the property, whether for acquisition, or development of financing.

### Cost Estimating

Vertical Access can provide cost estimates based on information about quantities collected during the inspection. The cost estimates can be used for project scoping, budgeting, and phasing.

### Materials Sampling

Because rope access techniques allow hands-on access to most areas of a structure, VA can perform sampling and in situ testing to assist in materials characterization and analysis. Using hand and power tools, including masonry coring drills, VA technicians can effectively remove material samples meeting the requirements of our architect, engineer, conservator, and testing laboratory clients.

### Unmanned Aerial Vehicle (UAV or Drone) Surveys

Using photogrammetric modeling based on imagery captured by our unmanned aerial vehicles (UAVs or drones), Vertical Access is able to quickly produce scaled background drawings to aid in the survey of buildings and structures. Our UAVs can also be used for visual inspection and documentation of conditions.

### Video Documentation

To provide clients and building owners with a firsthand view of conditions, VA can provide video documentation as part of a conditions survey. Vertical Access technicians performing the inspection often use high definition digital video cameras with a live-feed connection to an on-site monitor, communicating with teams on the ground via two-way radios.

**Confederation Building**
**St. John's, Newfoundland and Labrador**

**Edison Memorial Tower / Edison, NJ**

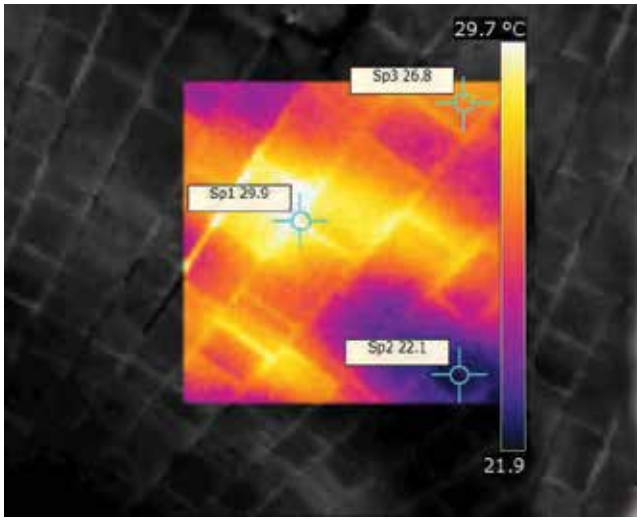
# Nondestructive Testing & Diagnostic Services

**When necessary or suitable to the project, Vertical Access utilizes nondestructive evaluation testing techniques to better understand as-built conditions and conditions of deterioration.**

## Infrared Thermography

Infrared thermography is a measure of the emitted and reflective heat coming from an object. This closely corresponds with the temperature of that object; the hotter it is, the more heat it will emit to its surroundings. Vertical Access primarily uses infrared thermography to locate areas of high moisture content in masonry walls. Because water has a heat capacity approximately five times that of stone and concrete, a wet masonry wall will take substantially longer to change temperature than a dry wall. Taking into account the interior and exterior air temperatures, solar loading, and convective cooling, a skilled VA thermographer can quickly find areas of possible water concentration, which can then be used to find likely areas of infiltration.

Infrared thermography also has the capability to show the location of structural steel behind masonry façades. Because steel is highly thermally conductive, it can often affect the temperature of nearby masonry. By capturing thermal images at a time of day that minimizes the masking effect of direct sunlight and maximizes the interior to exterior temperature differential, construction details are revealed that may not be apparent on the surface.




**Infrared thermography study**
**St. Thomas Church / New York, NY**

**Philadelphia Museum of Art / Philadelphia, PA**

## Ultrasonic Testing

Ultrasonics can be used to determine the thickness of solid, homogenous materials, such as a metal or plastic. An ultrasonic thickness gauge has a probe that couples acoustically to the material and sends an ultrasonic pulse that hits a boundary and gets reflected back to the probe. Based on specific material properties and the time delay between when the pulse is sent and then received, it is possible to determine the thickness of that material. Vertical Access uses a StressTel TM1-CD Ultrasonic Thickness Gauge in order to determine the existing thickness of solid materials such as copper cladding.

## Optical Investigations

A borescope is an optical device consisting of a rigid or flexible tube with an eyepiece on one end, and a lens on the other end linked together by a light source in between. Vertical Access utilizes a variety of borescopes with rigid and flexible tubes as well as ones with a 0° (straight ahead) and 90° direction of view. The borescope allows the user to see behind the façade and requires only a small hole to be drilled. A video camera can be attached to the borescope unit to provide recorded documentation of the conditions at cavity walls, plenums, and other hidden spaces.

Vertical Access owns and operates a fiber-optic tool called the SeeSnake® for the investigation of internal leaders, drain pipes, duct work, cavity walls, crawl spaces, and other locations where human access is not possible. This rugged device consists of a miniature video camera with a wide-angle lens and built-in light source attached to 200 feet of heavy duty fiber-optic cable. A portable monitor and digital video recorder are used on site to view and record the video feed and operator's narration. A built-in odometer records the total distance that the camera travels to assist in locating areas of deterioration.

## Wall Tie and Rebar Location

Vertical Access owns a Protovale Imp wall tie locator, which can be used to quickly find embedded steel, including both mild steel and some non-ferrous metals. This is very useful in detecting the presence or absence of wall ties, relieving angles, and other pieces of structural metal behind the façade. Vertical Access also owns a Proceq Profometer 5 and Hilti PS35 rebar locators. These are lightweight instruments specifically used for detecting rebar in concrete, measuring cover depth, and determining the bar diameter.

## Instrumentation Installation

Vertical Access works with instrumentation providers to install monitoring equipment and sensors on buildings and structures. This may include ground penetrating radar antennas, crack gauges, and other instrumentation at remote locations.

## In Situ Material Characterization

Vertical Access can perform in situ material characterization including water absorption (RILEM method) and depth of carbonation of concrete materials (phenolphthalein indicator). This testing performed as part of the investigation helps the project team make informed decisions about potential treatments.

From top:

**Dulles State Office Building / Watertown, NY**

**Buffalo City Hall / Buffalo, NY**

Thurgood Marshall US Courthouse / New York, NY

Tablet PC with TPAS software

## TPAS® provides:

- direct-to-digital collection of information to streamline the preparation of design documents, condition reports, preliminary scopes of work, cost estimates, construction documents
- cataloging of photographs hyperlinked to AutoCAD drawings to assist with determining failure mechanisms
- graphical representation of existing condition data in AutoCAD, to facilitate diagnosis of fault patterns
- collection of numerical data pertaining to faults, including amount and severity
- customizable condition blocks for unique client needs or requirements
- updating of previous survey information and comparision of surveys across time
- variety of deliverable formats that permit evaluation of data and viewing of drawings without the need for AutoCAD
- online project portal for interactive viewing and sharing of project data, drawings, and photographs

Visit
**vertical-access.com/tpas.html**
and
**tpasllc.com**
for more information and demos.

# Tablet PC Annotation System

**Vertical Access is in the Information Business.**

tpas® Direct-to-Digital Documentation

**The best repair or renovation design documents are based on accurate, detailed data about the existing building collected at the earliest stages of a project. Critical to the project's success is the delivery of this data in a format that can be easily used by the entire project team including design professionals, building owners, and contractors.**

Vertical Access has developed a sophisticated method of collecting survey data called TPAS® (Tablet PC Annotation System). TPAS® software is used in conjunction with AutoCAD to document existing conditions directly into tablet computers in the field during investigations of buildings and structures.

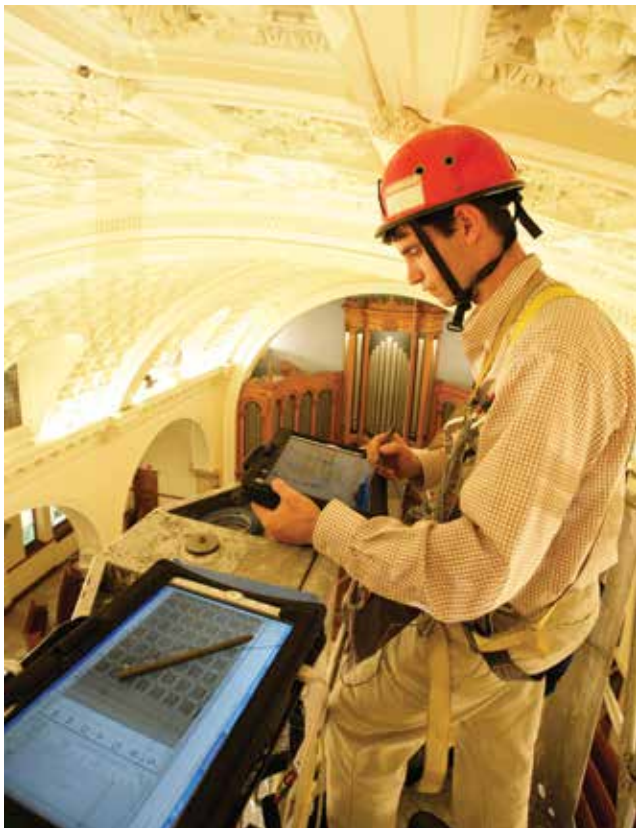
TPAS allows for the input of graphical, photographic and numeric data into AutoCAD drawings using pre-defined block libraries of material conditions and digital cameras, facilitating the interpretation and diagnosis of fault patterns and failure mechanisms.

TPAS combines the utility of AutoCAD used by architects, engineers, and other design professionals, with customized programming to streamline quantity measurements and photographic documentation. Among the features employed using TPAS that are native to AutoCAD are block libraries, blocks with attribute tags, AutoCAD design center, selective display of layers within viewports, and attribute extraction to spreadsheet or database programs. To improve TPAS functionality, VA has integrated several customized tools into AutoCAD.

Custom programming provides enhanced automation to the process of visually documenting and cataloging conditions. Lengths and areas of conditions drawn are calculated and inserted into the AutoCAD drawing along with links to digital photographs. Vertical Access continually upgrades TPAS and can customize blocks for specific projects to meet clients' unique needs.

Vertical Access' partners frequently deliver presentations at conferences about TPAS and have published articles in peer-reviewed industry journals *(see below)*. For more information and demos visit **vertical-access.com/tpas.html** and **tpasllc.com.**


- James V. Banta, Kent Diebolt, and Michael Gilbert, "The Development and Use of a Tablet PC Annotation System for Conditions Surveys." *APT Bulletin* 37 (2006): 39-45.
- Kent Diebolt, James V. Banta, and Charles Corbin, "Direct Digital Input of Façade Survey Data Using Handheld Computing Devices." *Building Façade Maintenance, Repair and Inspection* (ASTM STP 1444), J.L. Erdly and T.A. Schwartz, Eds. ASTM International, West Conshohocken, PA, 2004.
- Kelly Streeter, PE, "Information Technology for Building Documentation." *APT Bulletin* 41 (2010): 33-38.
- Kelly Streeter, "Technology Meets History." *Applicator* 35 (2013): 6-12.

**First Presbyterian Church / Ithaca, NY**

# Project Deliverables

**The end result of Vertical Access' investigation of buildings and structures is a detailed and comprehensive Condition Survey Report that documents existing conditions using digital color photographs that are keyed to annotated drawings.**

To record existing conditions, Vertical Access has developed the Tablet PC Annotation System (TPAS®) that allows on-site annotation directly in AutoCAD. TPAS® allows VA to input both graphical and numerical data directly into AutoCAD drawings, on site, using tablet computers and digital cameras, and hyperlinks images to specific condition notes in the AutoCAD drawing.

The Condition Survey Report is delivered in two formats: 1) a hard copy report with a report narrative, color photographs, spreadsheets of extracted data, and annotated drawings; and 2) digital files of all the deliverables. Vertical Access' Condition Survey Report is customized to the needs of the project and client, and typically contains the parts as follows.

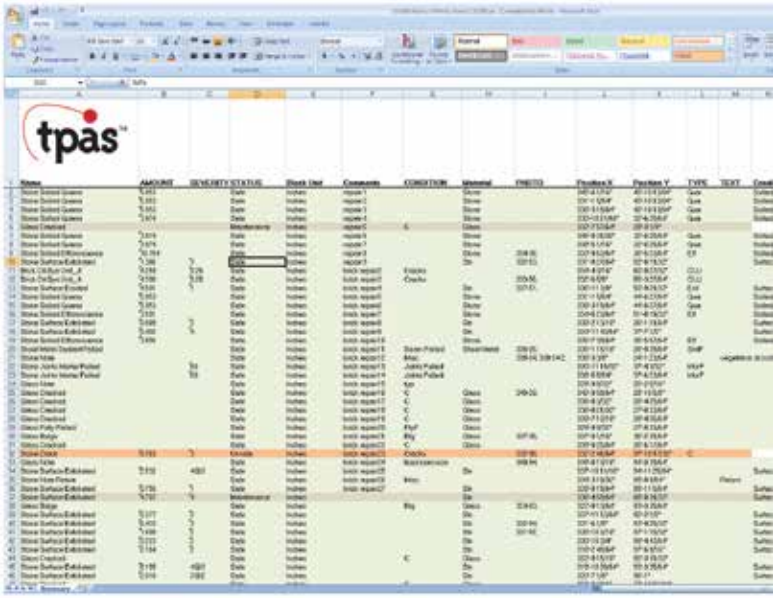
## Report Narrative

The Report narrative is a detailed written narrative that describes the findings of the survey and investigation. Typically, it is divided into the following sections: 1) executive summary; 2) description of the deliverables; 3) scope of work; 4) general observations, including a brief historical and architectural description of the structure; 5) description of specific conditions, with photographs of conditions referenced; and 6) conclusion. The report narrative is submitted in hard copy and digitally in PDF format.

## Photographs

During the survey, VA takes high resolution photographs of representative conditions and other notable conditions using digital cameras. These photographs are included in a photographs section of the report, typically six photographs per 8½" x 11" sheet of paper. Each photograph is named with a unique numeric nomenclature (x-y coordinates), material type, and condition type that correspond to the location and annotation in the AutoCAD drawing. In the digital

AutoCAD drawing annotated during site investigation using TPAS block libraries




Spreadsheet of data extracted from TPAS

**Building inspection with condition photos / Washington, DC**

format, the photographs are hyperlinked to the AutoCAD drawing so that they can be accessed from the drawing and viewed easily as digital files. The photographs meet the Secretary of the Interior's Standards and Guidelines for Architecture and Engineering Documentation.

### Spreadsheet of Extracted Data

Vertical Access includes in the hard copy report, a spreadsheet containing the numerical survey data such as crack length and area of soiling that are recorded in the annotated AutoCAD drawings. The spreadsheet is also submitted digitally as an XLS file that can be further formatted according to the various needs of the project.

### Drawings

During the field survey and investigation, VA annotates elevation and plan drawings in AutoCAD using a library of pre-defined graphics and code blocks for each material present. The severity and amount of each condition is recorded in the field as attributes of the block so that the drawings are used to both document and quantify the existing conditions. With the bound report, VA includes a 24″x36″ base set of drawings as well as a reduced-scale 11″x17″ set. The digital AutoCAD DWG and plot style files and PDF files of the drawings are submitted with the final report as part of the project deliverables.

### Video Documentation

VA can provide digital video documentation as part of the project deliverables. The high-definition video provides our clients with a detailed view of conditions.

### Cost Estimates

Quantities collected during VA's investigations are easily converted into cost estimates for budgeting, scoping and phasing of projects.

### Web Portal

The annotated drawings, conditions photographs, and quantities, are uploaded onto a web-based report portal. The web-based TPAS® portal allows users to interactively search, view, and format all project data and photographs.

# Partner Profiles

## Kent Diebolt, FAPT

Founding Partner

Kent founded Vertical Access LLC in 1992, after being introduced to the concept of utilizing lightweight rigging systems for conducting condition surveys in Brighton, England. At that time he worked on a large masonry inspection project and learned the basics of rigging, inspection, nondestructive testing, and report preparation.

Since the first VA project in 1992, Kent and his team have inspected hundreds of historically significant buildings and examined a wide variety of materials, including brick and stone masonry, terra cotta, concrete, architectural sheet metals, and cast iron.

While most of the firm's work is on historic buildings, including the United States Capitol and Independence Hall, other projects include contemporary buildings, bridges, smokestacks, towers, monuments, and sculptures.

Kent is active in the preservation community, having served as the President of the Board of Directors of the Association for Preservation Technology International (APTI), and Historic Ithaca. He also served as APTI liaison to the US/ICOMOS Board of Directors.

Kent has also served on several conference planning committees, including the Roofing Conference and Exposition for Historic Buildings in 1999, Preserving Historic Guastavino Tile Ceilings, Domes and Vaults Symposium in 1999, State of the Art Techniques for Monitoring and Protecting Historic Building Symposium in 2004 and the APTI Annual Conference in San Juan, Puerto Rico in 2007. Kent was inducted into the APTI College of Fellows in 2006.

Kent holds City of New York Special Rigger License No. 5824.

**Kent Diebolt in Trinidad de Cuba**

**Photographers**
(all photos not listed are by Vertical Access staff)

**Jon Reis** (main photo of St. Francis de Sales, pg. 2; Chrysler Building, pg. 4; NJ State House, Independence Hall, St Thomas Church, pg. 5; Canadian Pacific Railway Bridge, pg. 6; US Capitol, pg. 7; Cathedral Basilica, pg. 8; Philadelphia City Hall, pg. 9; Philadelphia Museum of Art, pg. 12)

**Harry Littell** (Liberty Pole, pg. 5)

**Shan Wu** (Kent Diebolt, pg. 18)

**Timothy Schenck** (Back cover)

## Evan Kopelson, AIC

Partner, Architectural Conservator

Evan joined Vertical Access in 2005, after gaining experience in the documentation and investigation of historic buildings and materials working in architecture and conservation firms.

Since receiving a Bachelor of Arts in Archaeology in 1994 and a Master of Science in Historic Preservation in 1996, Evan's professional experience has focused on the preservation of historic buildings. This work includes conducting field investigations, writing conditions reports, preparing construction documents, and performing construction administration services.

Evan manages VA's field projects and building investigations. He is a professional associate of the American Institute for Conservation of Historic and Artistic Works (AIC) and is the past secretary/treasurer of the AIC's Architecture Specialty Group.

Evan is certified by the Society of Professional Rope Access Technicians (SPRAT) as a Level II Rope Access Lead Technician. Evan holds City of New York Special Rigger License No. 6338.

**Evan Kopelson at SUNY Albany Water Tower / Albany, NY**

## Kelly Streeter, P.E.

Partner, Professional Engineer

Kelly received her Bachelor of Science degree in Structural Engineering in 1997 from Cornell University, at which time she also began her association with Vertical Access.

Kelly worked as a structural engineer with Silman in NY from 1997 to 2000. She received her Master of Science in Structural Engineering concentration in nondestructive evaluation from the University of Colorado in 2002. While in Boulder, Kelly worked with Atkinson-Noland & Associates on design projects, lab work, and nondestructive evaluation projects.

With VA, Kelly has continued to design and implement nondestructive evaluation projects and manages the firm's access consulting projects. Kelly also leads the ongoing development of VA's documentation services.

Kelly is a Professional Engineer (NY, PA, MA, CT) and is certified as a Level III Rope Access Supervisor by the Society of Professional Rope Access Technicians (SPRAT).

Kelly is also a Qualified External Wall Inspector (QEWI) with the New York City Department of Buildings.

**Kelly Streeter at the United States Capitol / Washington, DC**

VERTICAL access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