



DEVELOPMENT
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COSENTINI ASSOCIATES

...Leading By Design

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ONDEO NALCO
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AURORA ELECTRIC

Four Times Square, NYC



COSENTINI ASSOCIATES

Newport Center Office Tower

...LEADING BY DESIGN

By Robert D. Greenberg, AICP

Jack Whelan of Fisher Brothers described them as "very pragmatic engineers...their designs work both on and off the drawing board." "They're seasoned, practical and look out for the owner's best interests" says Trevor Davis of Davis & Partners. "They're innovative and responsive," says Tom Hardardt of Craven Management, "and they always come up with a creative solution." "For projects large and small, their approach is the same...the right solution for the right place at the right value," is the way Mel Kaufman of Sage Realty/William Kaufman Organization summarized his decades of working with them.

It is fairly common to hear an engineering firm use the phrases 'innovative, responsive, attentive to the client's needs, creating the curve, principal involvement, creating value, etc.' when describing their firm's philosophy. It is altogether rare to hear these phrases repeated over and over again by the developers, landlords, architects and clients that hire that firm. Yet, in interviews with a wide variety of their clients, that is exactly what we did hear. Cosentini Associates (CA) has grown to be one of the most well respected and best-known MEP engineering firms in the country and their reputation was built and continues to grow by always thinking of their client's best interests and the ideal solution for each issue they encounter.

The firm was founded in 1951 by William R. Cosentini, Jr. under the name of W. R. Cosentini and

Associates. Marvin Mass, who joined the firm in 1951, was precluded by state law to be a partner due to his age. Mr. Mass, now chairman of the organization, recalls "that you had to be at least 25 years old in order to be a partner of an engineering firm in New York back in the 1950s." Cosentini has grown from a six-person firm to "become a totally integrated, turnkey provider of MEP, IT, specialty lighting, security, A/V and commissioning services" he continued, and "we can provide any and all of these services under one roof. This has a great appeal for our clients since we can deliver these services faster and more economically than our competition." Now with over 350 employees in offices in New York, Cambridge, MA, Chicago, Orlando, Newark and Freehold, NJ, and King of Prussia, PA the firm has extended its reach and influence nationwide and overseas.

Tom Farrell, Senior Managing Director of Tishman Speyer Properties, described this far-reaching ability. "I have worked with Cosentini for over twenty years on projects located throughout the United States, Europe, and Latin America. Partnering with them has been invaluable. Their proven ability to collaborate successfully with the local project teams in places like Mexico City, London, and Sao Paulo has allowed us to develop buildings to an international standard of quality."

Adding to the worldwide resources of Cosentini is their relationship with Tetra Tech, Inc. a Pasadena, CA-based global provider of environmental engineering services and a leader in homeland security.

Tetra Tech, Inc. (TT) acquired Cosentini Associates in July of 1999 with the stated goal of adding specialized engi-

neering services while leaving its successful management team in place. The combination has created a powerful advantage for both entities.

Tetra Tech, Inc. (TT) is a \$1.5 billion firm with over 250 offices worldwide and over 8,000 employees. Their security clients include NASA's Kennedy Space Center, the Security Command Center for Capitol Hill in Washington, DC and Vandenberg Air Force Base. Their environmental clients include the South Florida Water Management District and other coordinating agencies in an ambitious plan to restore The Everglades.

"Tetra Tech has the exclusive rights to the Alpha model of the Sandia Labs Threat and Vulnerability Certification standards," explains Doug Mass, President. "In addition, their extensive environmental experience made Tetra Tech the logical choice to conduct the cleanup of the Anthrax attack on the U. S. Senate Office Building in the fall of 2001." With Cosentini providing MEP

diverse network of experts."

Change is the natural state of things in this world and it is a concept that Cosentini Associates embraces with open arms. CA has spent the past ten years transitioning itself to a new generation of firm leadership in its long established offices in New York and Cambridge and Chicago. "We are maintaining our tradition of designing for our clients and not for ourselves," explains Doug Mass, "while constantly reinventing ourselves to meet the needs of our clients and the marketplace."

For the first 35 years, their practice focused on Mechanical, Electrical & Plumbing design and it remains their core business. In 1985, CA expanded beyond its tradi-



Mars Restaurant, NY

tional MEP engineering services and began a major lighting design practice. As Steve Margulies, Director of the Lighting Design Studio puts it "We design a lot of things that you feel...this is the

worlds of data, telephone and the burgeoning Internet began to merge, the firm founded Cosentini Information Technologies (CIT). By 1996, the firm added Audio-Visual consulting to its service offerings and began providing Systems Integration Coordination to tie all of these interrelated disciplines together. In 1999, the Security Consulting practice group was added and the LEEDS Commissioning group was formalized in 2001 as the U. S. Green Building Council published its standards and guidelines.

"In each of these markets, we are one of the leaders," Doug Mass continued, "and the size, talent and challenging nature of our assignments has kept us in the forefront of the industry. We never lose sight of the 'business side' of engineering, meaning that we will always look for ways to improve building/system performance, reduce costs, and find money-generating opportunities at every turn for our clients."

THE STUDIOS

To further strengthen this position, in 2000, the firm evolved into a studio format that concentrates expertise in particular market sectors to maximize their experi-

Financial Services/ Residential Studio Commercial Projects:

- ABN-Amro Bank
- Bloomberg Financial headquarters (Owner's representative: Ferzan Robbins, General Contractor/Shell & Core: Bovis Lend Lease, General Contractor/Interiors: StructureTone, Structural Engineer: Thornton Thomasetti)
- Financial Square at 32 Old Slip (Developer: Craven Management)
- JP Morgan Chase (HVAC Equipment: Air of New York/Acutherm)
- Metropolitan Transit Authority-2 Broadway (HVAC Equipment: Nelson Air Device Corp.)
- 90 Church Street (Structural Engineer: Gilsanz.Murray.Stefick)
- One Exchange Plaza (Developer: Craven Management)
- SAC Capital (Owner's representative: Ferzan Robbins)
- 77 Water Street, ongoing renovations (Developer: Sage Realty/William Kaufman Organization)
- Shearson Lehman American Express (Food Service Consultant: Beer Associates)
- Société Générale (Owner's Representative: Ferzan Robbins. Architect: Ted Moudis Associates)
- TD Waterhouse (Architect: Ted Moudis Associates)
- 33 Whitehall Street (Developer: Craven Management)
- 335 Madison Avenue (Structural Engineer: Gilsanz.Murray.Stefick, Elevator Consultant: Van Deusen Elevators)
- 222 East 41st Street, New York (Developer: Tishman Speyer Properties)
- UBS headquarters (Structural Engineer: Thornton Thomasetti)
- Ziff Davis Headquarters (Owner's representative: Ferzan Robbins, General Contractor: Plaza Construction, HVAC Equipment: Air of New York/Acutherm)

Firm founded as W. R. Cosentini & Associates

1951 | 1952 | 1953 | 1954 | 1955 | 1956

Marvin Mass named partner

engineering services and experts in the critical areas of port and water district safety, paired with TT's expertise in environmental engineering and their 250 offices worldwide this powerful combination "allows us to cross-



ABN-Amro Bank

pollinate services, expertise, clients and manpower" notes Charles Buscarino, Jr., Director of Cosentini Information Technologies (CIT). "In every major city in America and around the world we have Tetra Tech project managers and engineers working in concert with Cosentini's 'design engine' to provide a

only thing that you see." The lighting practice proved so successful that additional service offerings were added. In 1987, the firm began a service that is now known in the industry as Building Commissioning and formalized that practice group by 1993. In 1992, as the



77 Water Street

ence and talent. The New York office of CA features four MEP design studios as well as an Information Technology Studio and Lighting Studio.

Financial Services/ Residential Studio

The Financial Services/Residential Studio is led by Ed Barbieri, Senior Vice President. This practice group has been responsible for the design of the headquarters and

(continued next page)

Financial Services/ Residential Studio Residential Projects:

- The Chatham, 3rd Avenue at 86th Street (Developer: The Related Companies)
- Columbia University Student & Faculty Housing (Architect: Beyer Blinder Belle)
- Fourteenth Street Armory (Developer: The Related Companies)
- One Union Square South (Developer: The Related Companies)
- 101 West End Avenue (Developer: Tishman Speyer Properties)
- "The Solaire" (Battery Park City Site 18a for Albanese Development, Structural Engineer: Cantor Seinuk)
- 330 West 86th Street (Barry Rice Architects)

Cultural Studio Projects:

Museums

- U.S. Holocaust Museum, Washington, DC
- Museum of Jewish Heritage, New York (Program Manager: Sciamé, Structural Engineer: Cantor Seinuk, HVAC Equipment: Nelson Air Device Corp.)
- Rodin Museum, Seoul, Korea
- Guggenheim Museum, Bilbao, Spain
- Museum of Tolerance, Jerusalem, Israel
- National Museum of the American Indian, Washington, DC
- Corcoran Museum of Art, Washington, DC

Libraries

- Pierpont Morgan Library, New York (Architects: Beyer Blinder Belle, Renzo Piano)
- Abraham Lincoln Library, Springfield, Illinois
- Princeton Research Library

Performing Arts Centers

- Atlanta Symphony Orchestra, Atlanta, GA
- Bard College PAC, Annandale-on-Hudson, NY
- Metro-Dade Performing Arts Center, Miami, FL

(continued next page)



Phillip Ennis

Ziff Davis conference room

major support facilities of some of the world's largest financial services companies including Bloomberg Financial, JP Morgan Chase, ABN-Amro Bank, Shearson Lehman American Express, TD Waterhouse, and UBS. The UBS Headquarters in Stamford includes what is recognized by many to be the largest trading floor in the world. The studio also completed another major trading floor for Bank of America in Charlotte, North Carolina. Mr. Barbieri summarizes the three critical design factors inherent in these projects: "The challenge is to blend the functionality and redundancy requirements of a financial service firm's critical systems—all of which must be cloaked in world class architecture."

The design of new residential towers, continuing to rise up all around Manhattan, came naturally to this group of experts.

Albanese Development, Davis & Partners, Forest City Ratner, Manchorian Development, Avalon Bay Properties, and Eichner Development. Robert Puddicombe, Vice President of The Related Companies, who has selected CA for a series of current and recent projects including the new AOL Time Warner Center, Mandarin Hotel and Residential Tower, states the reasons for his decision to use the firm on so many of his organization's most important projects: "Cosentini has been a tremendous team member on our development projects, proposing engineering strategies which are both innovative and reliable." As described further in this article, CA is bringing the most modern design solutions to this highly competitive market sector.



Jack Pottler/Esto

AOL Time Warner Center

1957 | 1958 | 1959 | 196



David Heald

Guggenheim Museum

Their client list is a virtual 'Who's Who' list of the New York City's most prominent developers including Tishman Speyer Properties, The Related Companies,



Timothy Hursley

U.S. Holocaust Museum

Cultural Studio

Igor Bienstock, Senior Vice President, leads the Cultural Studio; specializing in museums, performing arts centers, and library projects both domestically and around the world. Their prestigious project list includes some of world's most famous structures.

The challenges of these projects are recognized on three levels. First, they are geographically diverse and require close coordination with local experts featuring many languages. Second, these projects are often designed by some of the world's most renowned architects (including Pei Cobb Freed, Gehry & Partners, Santiago Calatrava, Beyer Blinder Belle, HOK, Kevin Roche John Dinkeloo and The Renzo Piano Building Workshop) whose goal is to make each of these prestigious buildings unique, so a single 'standard solution' is generally out of the question. "Two or three parallel solutions for each MEP system must be created," says Mr. Bienstock, "working collaboratively with the architects to ensure that there is no compromise to the intent of the architect's vision." Thirdly, and perhaps most importantly, "the inte-



Timothy Hursley

Rodin Museum

gration of the MEP systems and the building must achieve the critical demands of the special environmental conditions (temperature, humidity) required for both the visitors and the priceless objects in museums and libraries". And in performing arts centers, Mr. Bienstock continues "the acoustical challenges set forth by world-renowned acousticians is our top priority, followed by unique requirements in electrical support systems, specialty voice, lighting and rigging systems and very close

coordination with the theater consultants to create the ideal performance environment. Redundancy of backup systems, integration, and coordination among the experts on the team are essential for the success of our projects."

Healthcare Studio



Peter Vandervorker

**Cornell University,
College of Veterinary Medicine**

Jonathan Michaeli, Executive Vice President, Mario Carmicino, Sr. Vice President, and Jack Dwyer, VP, lead Cosentini's Healthcare Engineering practice. They have presided over the design of an impressive portfolio of hospital and research projects for many of the City's most prominent healthcare providers. "Healthcare is constantly evolving," Mr. Michaeli explains, "and the emphasis in

ing flexibility in the infrastructure are the major goals. CA has implemented new technologies and approaches to address these issues. "We have introduced 'modular floor design' (flexible and changeable components) to reduce the time and expense of renovations and expansions and we build in redundant systems to permit continuous operation during maintenance and repair cycles. Our approach is now centered around a participatory process, not just with the architect, user groups and administration, but includes the operation staff who will actually be running the facility. This ensures a



Roswell Park Cancer Institute

successful outcome on day one and years down the road."

CA's success is represented in their roster of significant, recent projects including a



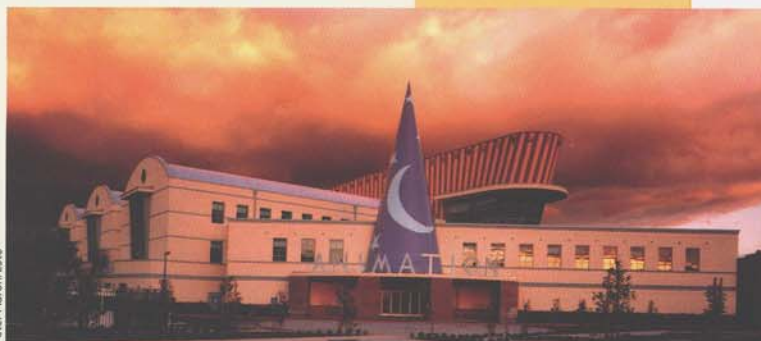
Lenox Hill Hospital

new 500,000 sq. ft. 24-story cancer research laboratory for Memorial Sloan Kettering Cancer Center (as well as an off-site virarium), a new 113,000 SF cancer center for New York University Medical Center, major modernization projects at Kings County and Bellevue Hospitals, as well as ongoing projects for Bronx-Lebanon, Lenox Hill and Beth Israel Hospitals.



Fred George

Chelsea Piers



Peter Aaron/Esto

Disney Feature Animation Studio

Mixed Development & Tenant Fitup Studio

The Mixed Development & Tenant Fitup Studio is led by Michael Maybaum, Executive Vice President and Edward Martinez, Sr. Vice President. This practice

group has been responsible for some of the region's most prestigious projects in the office, hospitality, and educational markets. In discussing the office market in Manhattan, Mr. Martinez points out that "Cosentini designed many of the midtown office towers over the past thirty years and we still have the original drawings in our archives. We know the building systems intimately. And as these buildings age the landlords (including Fisher Brothers, HRO, Park Tower Realty, Kaufman Organization, Hines and Sheldon Solow) often call us back to modernize these buildings to meet today's office environmental standards."

The studio also takes on some unique specialty projects, including the new 336,690 SF Forensic DNA Laboratory for New York City's Office of the Chief Medical Examiner; a project made even

Mixed Use/Office Facilities:

- AOL Time Warner Center, NY (Developer: The Related Companies, Structural Engineers: Cantor Seinuk and Gilsanz.Murray.Stefick, HVAC Equipment: Carrier Corporation)
- Scandinavia House, NY (General Contractor: Skanska USA Building Inc.)

Healthcare Studio Projects:

- Memorial Sloan Kettering Hospital Cancer Research Building (General Contractor: Turner Construction, HVAC Equipment: Nelson Air Device Corp., Carrier Corporation)
- Bronx-Lebanon Hospital (General Contractor: T. Link Associates, Inc.)
- Bellevue Hospital (General Contractor: Turner Construction)
- NYC Emergency Medical Services, various facilities (Architect: Beyhan Karahan)
- Kings County Hospital (HVAC Equipment: Carrier Corporation)
- Lenox Hill Hospital (Elevator Consultant: Van Deusen Elevators)
- Cornell University, College of Veterinary Medicine
- St. Vincent's Comprehensive Cancer Center
- Rockefeller University
- Roswell Park Cancer Institute, Buffalo, NY

Mixed Development & Tenant Fitup Studio

Corporate Projects

- American Stock Exchange (General Contractor: Turner Construction, HVAC Equipment: Nelson Air Device Corp.)

(continued next page)

Chicago office opens



Bronx Lebanon Hospital

the market has been a shift from in-patient care to out-patient care. Greater patient and patient family comfort, improving energy efficiency and maintain-

1963 | 1964 | 1965

1967 | 1968 | 1969

- Bank of America, Charlotte, NC (HVAC Equipment: Carrier Corporation, Elevator Consultant: Van Deusen Elevators)
- Bausch & Lomb Headquarters (Architect: Fox & Fowle)
- Disney Feature Animation Studio (Architect: Robert A.M. Stern Architects)
- Four Times Square, New York (Developer: Durst Organization, Architect: Fox & Fowle, Food Service Consultants: Beer Associates, Structural Engineer: Cantor Seinuk)
- 9 South at Metrotech (Developer: Forest City Ratner)
- NASDAQ (General Contractor: Skanska USA Buildings Inc., HVAC Equipment: Nelson Air Device Corp.)
- Newport Center Office Tower (Structural Engineer: Thornton Thomasetti)
- NYC Human Resources Administration IT Facility
- One Metro Center, Washington, DC (Developer: Tishman Speyer Properties)
- Random House Office Tower & Residence (General Contractor: Plaza Construction, Structural Engineer: Thornton Thomasetti)
- Reuters (Architect: Fox & Fowle)



Gaylord Palms



Peter Aaron/Esto

American Stock Exchange



Peter Aaron/Esto

Brooklyn Law School Library

Cambridge office opens

Leading the Curve

One cannot describe Cosentini Associates without using the word 'innovation'. When faced with a challenge the firm never accepts the 'standard solution'. When the Time Life Building was

being designed in 1967, the occupant load was going to severely test the capacities of the vertical circulation systems in use at that time.

- Double deck elevators (Time Life Building, New York, 1968)
- Chilled water cooling storage system in New York (101 Park Avenue, 1972)
- Geothermal design utilizing a wellwater-cooled system (Corning Glass, 1975)
- Separate metering and floor-by-floor HVAC system (499 Park Avenue, 1978)
- Ice storage power plant (Alabama Power & Light, 1980)
- Multi-million gallon chilled water storage systems (Southland Corporation and Allied Bank, Dallas, TX 1985-1988)
- Design of world's largest shopping mall, Mall of America (Bloomington, MN, 1995)
- Underfloor air distribution systems (Owens Corning World Headquarters, Toledo, Ohio, 1997 and Federal Express World Headquarters, Memphis, Tennessee, 2002)
- Wireless headquarters building (AOL Time Warner Center, New York, scheduled for completion in 2005)

Hospitality Projects

- The Omni, Orlando, Florida (HVAC Equipment: Carrier Corporation)
- Lucayan, Grand Bahama Island
- The Mandarin Hotel and residences at the AOL Time Warner Center, New York (Construction Manager: Bovis Lend Lease)
- Residence Inn by Marriott (at 30th Street)
- Gaylord Palms, Nashville, Tennessee
- Milford Plaza (Elevator Consultant: Van Deusen Elevators)

Residential Projects

- 425 5th Avenue (Developer: Davis & Partners)
- 455 Central Park West (Developer: Rothside Kaiserman, Architect: Perkins Eastman)

(continued next page)

1970 | 1971 | 1972 | 1973 | 1974 | 1975

more essential in the aftermath of the World Trade Center disaster.

CA has also been leading the way in developing the most modern educational facilities in the New York region. In the early 1990s, the firm designed the first high-tech high school in New York City, Stuyvesant High School. The firm is currently working with renowned architect Polshek Partnership Architects LLC to develop the new standards and specifications for the 'classroom of tomorrow'. "Our mission," states Mr. Martinez "is to provide out-of-the-box thinking and value engineering that will achieve the technological and environmental goals and drive down the cost of construction for years to come."

At 499 Park Avenue, this new office tower was going to require a significant overtime cooling for multiple tenancies. A new set of approaches was needed. Cosentini responded by designing for the Time Life Building the first double deck elevators and for 499 Park Avenue the firm introduced the first packaged water source free cooling systems; now standards in the industry. The firm has also pioneered new technologies for notable, innovative projects including:

- Eutectic Salts/Solar House at the University of Delaware (1960)
- Ductless underground ventilated garage (Boston, 1964)
- Atrium office building (Ford Foundation, New York, 1967)

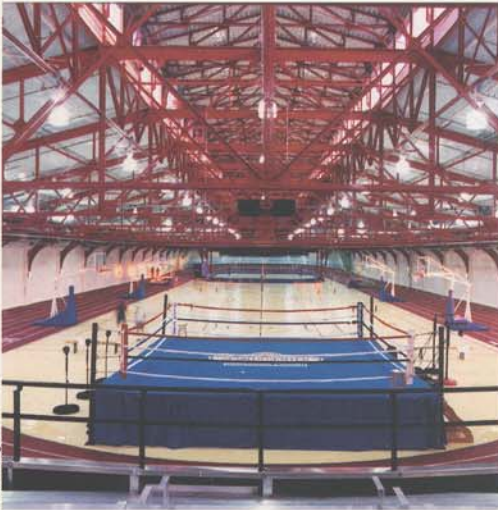
The firm has also designed one of the largest conditioned atriums (within Orlando's 17-acre Gaylord Palms Hotel and Resort, completed in 2001) and the largest mixed-use entertainment/sports complex in the country (the \$100 million



Bob Perzel

Mall of America

Chelsea Piers on the Hudson River). As Larry Marnar, principal of Butler Rogers Baskett and the architect for Chelsea Piers described it, "Cosentini's creative vision of how to integrate much of the mechanical system as exposed ductwork became an integral part of the aesthetics.



Fred George

Chelsea Pier track

For a project of this size and scope, we needed the MEP engineer to become a true collaborator in the design process and they succeeded. They are among the most capable engineering firms we know."

cutting edge of this emerging new set of standards and approaches. Cosentini "continually does research," says Randy Duke, vice president, "and not only on new green building technologies, but also as to the ROI and payback period of each new system or material we propose.

"First cost" should not be the sole consideration in weighing the integration of sustainable design features." Adds Doug Mass, "Green design is not a fad at Cosentini—it is a part of our culture."

The firm has been involved in some of the first 'Green' projects in the U. S. over the past 40 years. Since CA designed the first solar house back in the 1960s they have continued and deepened their commitment

to environmentally friendly design initiatives—never more apparent than their current projects will demonstrate.

The first 'totally green' high-rise residential building is rising on Site 18A in Battery Park City. "The Solaire", a 293-unit rental residence is being developed by the Albanese Organization. Russell

Albanese, principal, offers "Cosentini has made an invaluable contribution to the success of the project by introducing systems and technologies not found in any other residential buildings in New York." The firm is also working in close cooperation with Skidmore, Owings & Merrill on the design of what will be the first LEED-certified research center—the new 24-story research laboratory building for the Memorial Sloan Kettering Cancer Center.

At The Durst Organization's new Condé Nast Building at Four Times Square, CA's contribution of the use of photovoltaic panels on the upper façade (versus roof mounting), fuel cells, low-emission CFC-free chillers for heating and air conditioning and a specially designed ventilation system that provides for superior indoor air quality (at a rate 50% greater than required by current code) is setting a new standard for green building technology applications. As the project's architect, Bruce Fowle of Fox & Fowle states, "we made history together in designing the first environmentally responsible high-rise building in the country. The project remains a benchmark for buildings of its type." Each floor of the building has tenant-controlled individual air-handling units to ensure the efficient use of the base building's central system.

- 201 East 87th Street (Structural Engineers: Gilsanz, Murray, Steficek)

Specialty Projects

- Forensic DNA Laboratory for the New York City Office of the Chief Medical Examiner at Bellevue Hospital (Architect: Perkins Eastman)
- George Washington Bridge renovations (Elevator Consultant: Van Deusen Elevators)
- Holland Tunnel renovations (Elevator Consultant: Van Deusen Elevators)
- Princeton University Friends Center Library
- Manhattan School of Music (Architect: Beyer Blinder Belle)

Colleges and Universities

- Baruch College (HVAC Equipment: Air of New York/Acutherm)
- Brooklyn Law School (Architect: Robert A.M. Stern Architects)
- Packard Collegiate (General Contractor: Lehr Construction)
- Arvin Gymnasium at West Point Military Academy
- College of New Jersey Library
- Lehman College (General Contractor: Skanska USA Building, Inc.)
- NYSCA High School of Law Enforcement
- NYSCA Stuyvesant High School (General Contractor: Skanska USA Building, Inc.)
- NYSCA West Queens High School
- NYSCA Capital Improvement Program 1A (General Contractor: Skanska USA Building, Inc.)

Retail and Entertainment Facilities

- Chelsea Piers (Architect: Butler Rogers Baskett, Structural Engineer: Thornton Thomasetti, HVAC Equipment: Nelson Air Device Corp., Plumbing: Pace Plumbing)
- Equinox (Plumbing: Pace Plumbing)
- Harlem USA
- Thomas Keller Restaurant (Plumbing: Pace Plumbing)
- Ferragamo (Elevator Consultant: Van Deusen Elevators)

1976 | 19

It's Easy Being Green

Bob Leber, principal of Cosentini's Boston office, explains, "Cosentini did Green Buildings before the term was created. We did it because it made sense for the environment, and if it's done right, for the owners of the building as well." The firm has LEED-certified engineers in every office and remains on the

*The Solaire,
Battery Park City*



| 1979 |

CA is also designing the nation's first 'super green' building in Winston-Salem, NC for the Sara Lee Corporation. The building will feature 'chilled ceilings' in addition to the use of other recent green building technologies and materials to achieve a high LEED certification designation.

The formal designation of a 'green' building with LEED certification is a goal being sought more and more frequently in recent years as protecting our environment and reducing our dependence on foreign oil has become increasingly important. In many jurisdictions, various levels of government are increasing-

ly demanding that new and renovated buildings are to be LEED-certifiable. And in the cases of the visionary developers, corporations and institutions described herein, the private sector is now also being to demand green buildings. It's becoming easier and easier to be 'green'.



AOL Time Warner Center

Mandarin Oriental hotel, 540,000 SF of retail and 150,000 SF of performing arts center space to be considered as the first totally pre-wired building. As Charles Buscarino, Jr. described it "Our philosophy was not to 'build it when they come' but plan for it if and when they come", meaning that traditional services such as voice and data, CATV and DSS service is joined together by a total wireless system that includes cellular telephones, pagers, walkie talkies, security and PC/internet access throughout the complex; a virtual 'plug and play' environment throughout all of the occupied spaces. The 'meet-me' rooms, rooftop satellite system and media delivery system for AOLTW's 32 broadcast studios interconnect all of the systems and allow hotel guests, residents and office workers to use their spaces to link into any technology within the complex and around the world. "Each space," says Mr. Buscarino, "can generate revenue for the owners (The Related Companies) while saving the occupants the great expense of installing and maintaining their own separate infrastructure and equipment. Everybody wins."

"They're Always There When We Need Them"

Responsiveness is another common phrase that CA's clients use to describe their performance.

panies must achieve in order to retain all of their market share after a disaster occurs. Anthony Amato, Facility Manager for Cleary Gottlieb, states definitively "that in a time of need, they're one of the first resources I would call upon."

JP Morgan Chase is another client where CA's speed made a significant contribution to the overall success of the project. With the merger of two major Wall Street institutions, the client needed to create a new 800,000 SF headquarters building at 277 Park Avenue in precisely 12 months; a very aggressive timetable for a project of this magnitude. As part of their commitment to the client, Doug Mass took charge personally, led the team through this extraordinary effort, and "made the client feel as if they were our only client." The deadline was achieved precisely on schedule.

As Mike Braitto, Sr. Vice President of Chelsea Piers Management said in summing up their performance, "A project of our size and scope has never been done before, both in scale (one million square feet) and in the complexity of the components. From both a creative

CA launches Lighting Design Studio

1980 | 1981 | 1982 | 1983 | 1984 | 1985

Chicago Office Projects

- 191 North Wacker Drive (HVAC Equipment: Carrier Corporation)
- Lucent Technologies, Naperville and Lisle, Illinois (HVAC Equipment: Carrier Corporation)
- Columbus Tower (HVAC Equipment: Carrier Corporation)
- 600 North Michigan Avenue (Architect: Beyer Blinder Belle)

Creating Value

Another unique approach that CA considers prime in its business philosophy is identifying and creating moneymaking opportunities for their clients; what Doug Mass refers to as "thoughtful engineering."

A perfect example is the new 2.8 million square foot AOL Time Warner Center at Columbus Circle. The project was designed utilizing CA's integrated MEP engineering and IT practice groups and is envisioned to set new standards for state-of-the-art systems as well as sustainable design. The complex of 865,000 SF of headquarters space for AOL Time Warner, 580,000 SF of luxury condominium space, a 270,000 SF

When Cleary Gottlieb's offices at One Liberty Plaza were rendered unfit for use in the aftermath of the World Trade Center disaster the firm's 1200 employees suddenly found themselves without a place to work. With only four days notice, CA quickly designed a unique network that carried voice and IT service over lasers and included an RF backup system to provide redundancies during that period of sporadic telecommunication outages as the infrastructure near Ground Zero was rebuilt. Working with great speed and all of their resources, CA was able to successfully link six separate buildings in midtown that Cleary Gottlieb had leased as their temporary facilities and helped get them up and running within eleven days---the critical juncture that research shows com-

engineering and cost perspective they did a wonderful job...they were always there when we needed them."

The Windy City

In 1964, it was the opportunity to participate in the design of what was briefly the tallest building west of Manhattan, the 2.8 million SF, 80-story Amoco Headquarters building, which served as the catalyst for CA's first expansion. Since that project was completed, the Chicago office of Cosentini has been responsible for the MEP designs for some of the Midwest's most prestigious buildings including:



Douglas Heid Fogelson Photography

600 North Michigan Avenue

- Illinois Center Complex, Chicago, multiple buildings between 1965 and 1985
- Blue Cross & Blue Shield of Illinois headquarters, Chicago
- Mall of America, Bloomington, Minnesota, completed in 1995, the world's largest shopping mall
- 191 North Wacker Drive, Chicago, a mixed use development of office, residential and hotels



Steinkamp/Ballogg Photography

Blue Cross & Blue Shield of Illinois

(vs. the standard of 55 degrees), which reduces primary fan energy, provides lower humidity levels (40% vs. the typical 50%), and overall greater comfort. The design also incorporated an ice storage system and utilized NH₃ as the coolant, thereby eliminating the use of harmful

directing sunlight into the interior while reducing direct solar gain, a major heat load in office buildings.

For Hines Interests, CA designed the recently completed two-building office complex known as Woodfield Preserves in nearby Schaumburg, IL. These speculative office buildings utilize a combination of cold air distribution and an underfloor air system—one of the first designs of its kind in the United States. The result is a highly energy efficient pair of buildings that provide greater comfort to the occupants than the standard spec office building.

Bud Spiewak, principal of the Chicago office, describes the advantage of being an integral part of the Cosentini organization. "We have been able to capitalize on the resources, innovations, and research and development capabilities of a world-class engineering firm while maintaining the hands-on, personalized service approach of a boutique firm. It's the best of both worlds for us and our clientele."

On the Banks of The Charles

It is not unusual for an engineering firm to open up a new office because a large

Cambridge Office Projects

- Harvard University CGIS and Graduate Student Housing (HVAC Equipment: Carrier Corporation)
- Custom House Tower (Mechanical Piping: Victaulic Company of America)
- Logan Airport Baggage Handling Facility (HVAC Equipment: Carrier Corporation)
- 10 St. James Tower (Mechanical Piping: Victaulic Company of America)
- Logan Airport Delta Terminal (HVAC Equipment: Alfieri Proctor Associates)
- International Place Building Two (HVAC Equipment: Alfieri Proctor Associates, Environmental Technologies, (Mechanical Piping: Victaulic Company of America)
- MIT Building 18-Dreyfus Chemistry Lab (HVAC Equipment: Alfieri Proctor Associates)
- Eric Carle Museum of Book Art (HVAC Equipment: Carrier Corporation)
- Millennium Place Ritz Carlton (HVAC Equipment: Carrier Corporation)
- Reebok World Headquarters (HVAC Equipment: Alfieri Proctor Associates, Environmental Technologies, Carrier Corporation)

The firm offers Building Commissioning; practice group formalized in 1993

1986 | 1987 | 1988 | 1989 | 1990 | 1991

- 55 East Erie Street, Chicago, a 55-story residential condominium tower

The office is now one of the top engineering firms in the city. They too have set new standards in 'sustainable', green building design. CA was one of the first firms to use thermal storage (ice) for a nuclear plant, Exelon Thermal Technologies District Cooling Plant P3.



David Snower

CFCs and HCFCs. The success of this project has led the firm's competitors to adopt these approaches throughout the region.

Another Cosentini innovation brought to the Chicago market was the firm's use of underfloor air distribution. Designed for the headquarters for Ha-Lo Advertising in Niles, IL, in collaboration with the architects of Murphy Jahn, the underfloor system coupled with a highly detailed perimeter wall system that includes automated solar control and 'daylight harvesting'. Simply stated, the louvers in the curtain wall glass are programmed to follow the sun—

Ha-Lo Advertising

project in a distant city comes along. It is rare, though, that the impetus is from three of the leading architects who simply



World Plaza

Assassi Productions



Reebok World Headquarters

The firm has designed some of the region's largest projects as well as some challenging small projects and has collaborated on the renovation of some of Boston's most historic landmark buildings and most modern structures.

Trinity Church had a low basement level with the original dirt floor and a desperate need for additional meeting room space. Excavating the floor to create the necessary ceiling height was relatively simple, but how do you cool this 25,000 SF space when rooftop cooling towers or units placed on grade were not

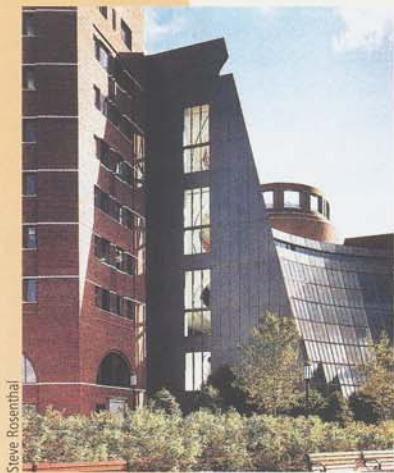
permitted?

The solution was to apply the most modern technological equipment in the form of a geothermal cooling system comprised of

wells for ground source heat pumps. The exterior remained unaffected. The project was a complete success and highly cost efficient as well.

completed in 1998, is a 500,000 SF building that featured high efficiency centrifugal refrigeration machines that supply low temperature water to a series of ice storage tanks. Utilizing an ancient concept of 'thermal shift', or the transfer of heat loads from day to night and night to day depending on the season, in modern terms, the system takes advantage of lower nighttime energy rates and excess power plant capacity to generate, store and slowly release cooling. This approach increases comfort, saves energy, and reduces the need to continue to build new power plants in the region.

Other significant current and recent projects include the new 150,000 SF Boston College Administration Building and Emory University Schwartz Center for the Performing Arts, both featuring an under-floor air distribution system, and the new mixed use Millennium Place residential, hotel, entertainment, and retail complex. The Cambridge office is also quite proud of its innovative design solution for the new 800,000 SF building known as the 10 St. James Avenue Tower. Dick Leber explained that "we designed, in coordin-



Steve Rosenthal

Steve Rosenthal



Federal Courthouse, Boston

Cosentini Information Technologies is founded

Audio-Visual Studio created; Systems Integration Coordination offered

1991 | 1992 | 1993 | 1994 | 1995 | 1996



Millenium Place

want you nearer to them because they enjoy working with you so much. In 1971, Cambridge 7 Architects, the Architects Collaborative, Sert Jackson and other leading area firms asked Cosentini to open up a Boston-

area office. CA sent Dick Leber, Executive Vice President to open CA's Cambridge office. Now, thirty-two years later, Dick's son Bob Leber, Sr. Vice President, shares in the leadership of this 60-person office. Their history of prestigious and innovative projects is rich and fascinating.

At the other end of the spectrum is the design of the new 155,000 SF Federal Courthouse in Springfield, MA. The heating and air conditioning systems for the building are being designed with an open loop 120-ton geothermal system that will incorporate a ductless underfloor air distribution system with floor diffusers for greater comfort and efficiency. Since the occupants utilize the lower six feet of each floor, energy is not wasted treating the air space above their heads. The geothermal system includes six, 1,500 foot deep wells and offers an "invisible" air conditioning system without the typical rooftop equipment; ideal for a predominately residential area.

The Federal Courthouse in Boston,

ation with the structural engineer, a unique 50" x 14" duct system that was fitted through the reinforced beams and thereby reduced the floor-to-floor height. This achieved a bonus for the owner of two additional floors totaling over 45,000 SF."

And as a testament to the many years of quality, innovative design, and customer service, the firm has completed the design of four major renovations and expansions of the South Station Terminal between 1979 and 2001. Working with Cesar Pelli, the project architect, the latest phase will utilize the air rights over the station to allow for the creation of a 400 plus room hotel, a high-rise office tower, structured parking and the expansion of the bus terminal.

Born to Run: The New Jersey & Philadelphia Offices

Cosentini Associates' newest office opened in Newark, NJ in October 2002. It has grown rapidly and provides MEP engineering services to schools, corporations,

pharmaceutical firms and an expanding list of hospital clients. Coupled with the Cosentini Information Technologies offices (opened in 2000 and 2001 respectively) in Freehold, NJ and King of Prussia, PA, the firm now covers all of the New Jersey, Philadelphia, eastern Pennsylvania and Delaware markets with a combined staff of 40 engineers and a unique blend of innovation, emphasis on green building technologies and personalized service.



Princeton Library



Johnson & Johnson Headquarters

Elementary School and North Burlington County Middle School projects, CA has converted

old electricity-based heating and cooling plants with new geothermal heat pump and high efficiency gas boiler plants, effectively tapping the earth's consistent 55-degree temperature to reduce energy consumption and increase comfort.

Cosentini Information Technologies has quickly become a leader in the New Jersey schools market. The combined offering of IT, audio-visual and security

work. "The payback period," Mr. Fox reports, "will be only three years." Mr. Fox explains the firm's impressive growth in the New Jersey/Pennsylvania/Delaware area. "The market was ripe for a firm with a combination of local offices, all of these cutting-edge capabilities and the support of the larger organization's resources."

Greetings from the Happiest Place on Earth: Orlando

The Florida office was established in 1997 to extend CA's coverage to the southeastern United States. The impetus was the MEP design of City Walk at Universal Studios, a 500,000 SF entertainment, and retail complex. The office has also grown quickly, with its emphasis on hospitality and tourism projects, along with a blend of airport and commercial assignments.



City Walk, Universal Studios

Orlando, Florida office established

Orlando, Florida office established

Tetra Tech Inc. acquires Cosentini Associates in July

Cosentini Information Technologies office opens in Freehold, NJ

Cosentini Information Technologies office opens in King of Prussia, PA

1997 | 1998 | 1999 | 2000 | 2001 |

Jordan Fox, Director of the Newark office, explains their rapid expansion in these marketplaces. "We are currently designing 30 schools as part of New Jersey's School Construction Corporation's \$9.6 billion new and renovated schools program. With a mandate from the governor that all of the new construction meet the U.S. Green Building Council LEED standards, we have been awarded a significant amount of work applying our creative approaches to these projects." CA has designed innovative heat recovery systems using outside air recovery systems for high occupancy spaces such as gymnasiums and auditoriums; thereby downsizing the heating and chiller plants while ensuring greater energy efficiency and comfort. For the Mansfield Township

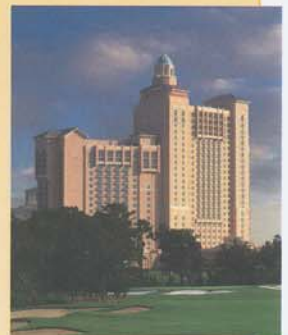
Security Consulting practice group formed

New York office forms four MEP design studios: Financial Services/Residential, Cultural, Healthcare, and Mixed Development & Tenant Fitup

LEEDS Commissioning group formed

system design for "smart classrooms" has resulted in awards for the development of WAN and fiber optic networks for the Elizabeth, Trenton, Asbury Park, and Neptune school districts. In Franklin Township, CIT is now designing a unique private fiber network for a dozen schools, providing low cost Internet access by tapping into the community's existing cabling infrastructure.

For the West Windsor-Plainsboro School District, CIT is presently designing and implementing a 17-mile private fiber net-



Grand Lakes Resort



Gaylord Palms

The firm's client list now includes:

- The Mandarin Oriental, a 320,000 SF 320-key five star hotel in Miami
- Fort Lauderdale/Hollywood International Airport's new Terminal One
- Shades of Green Resort, U.S. Army Office of Family & Community Services, a 300-room expansion of this vital R&R facility for active and retired service personnel scheduled for completion in 2004
- Seminole County Criminal Justice Center, a 225,000 SF facility in Sanford, Florida
- Walt Disney Imagineering, a continuing service agreement

Following the client's initiative toward 'sustainable design':

- Citigroup Call Center, a 500,000 SF corporate office building, featuring a high-efficiency cooling plant and a very high efficiency lighting (designed by CA's Lighting Studio) with fully automated lighting controls. The building was designed to promote indoor air quality, with a 100% air purge capabili-

18-hole, Greg Norman-designed golf course and clubhouse.

The office's diversity is reflected in their design of some of the region's largest projects as well as significant smaller projects such as the Temple Israel, a 40,000 SF building in Longwood, Florida and many retail and office fitup assignments in the 5,000 to 10,000 SF range.

Scott Ceasar, Director of the Orlando office and a LEED-certified engineer, summarizes the reasons why they have been awarded such prestigious projects, both large and small. "We provide the knowledge base, resources, and experience of a large firm with a hands-on level of service only available through a local office."

The Road Ahead...

When asked recently to describe the keys to the success of the firm, Doug Mass points to the firm's unique structure. "We are very focused on strong senior management," he explains, "but in addition to Executive and Senior Vice

Moudis Associates states, "It takes a lot to last this long in an industry that is extremely demanding. Cosentini Associates obviously knows what it takes." Trevor Davis sums up his relationship with the firm this way, "They've worked on every project I have developed, including The Impala, The Seville, 425 Fifth Avenue, and Century Tower, and they will continue to do so." In discussing the future, Doug Mass



10 St. James Avenue

Newark, NJ office opens

New York's first 'totally green' residential building, "The Solaire", Battery Park City

First wireless headquarters building, AOL Time Warner Center, NY

2002 | 2003 | 2004 | 2005 | 2006

Design of U.S.'s first 'super green' building, Sarah Lee Corporation, Winston-Salem, NC

Design of first LEED-certified research center, Memorial Sloan Kettering Cancer Center, NY

ty and CO2 monitoring to control the percentage of outside air required based upon the level of occupancy; thereby promoting greater energy efficiency and comfort. And what may be known as the office's signature project, CA's Orlando office designed the recently opened two-building Grand Lakes Resort, comprised of a 1,000-key JW Marriott hotel with a large conference center, a 580-key Ritz Carlton with conference center and a 40,000 SF Ritz Carlton Spa and an

Presidents who are responsible for overseeing all of the work we do, we also have a studio configuration which pulls together engineers from each of the disciplines we offer to focus on specific project types. Each Cosentini studio is comprised of approximately 40 people--a size that allows for optimal client service on projects of all sizes." "This approach has proven its value over time," for as Marvin Mass recalls, "Tishman Realty was our first client 52 years ago and we are still working with them." As Ted Moudis, president of Ted

summarized the new generation of the firm's leadership by saying, "We're respectful of our long history of success and we remain very entrepreneurial... we are always open to new ideas. We are always reinventing ourselves but we will never lose the tradition of client service."

Cosentini's world class list of loyal clients, represented by an extraordinary 98% client retention record, will be pleased to know. ■



Random House

Brennan Beer Goiman