
GO
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50
YEARS

Engineering is people

CELEBRATING 50 YEARS OF INNOVATION

Reflections on half a century of building the future, from the inside out

GOLDMAN COPELAND
CONSULTING ENGINEERS

INTRODUCTION

Charles C. Copeland, PE, LEED AP

Most people think that engineering is a purely technical discipline.

Although we work with math, physics, and, often, practical common sense, to us, engineering is largely about human beings. Our staff is family and we see our clients as both professionals and friends.

This is part of our statement of values. When we design the infrastructure of our clients' buildings, we recognize that people will use them many years into the future. This is why we emphasize the importance of preservation, sustainability, and ease of maintenance.

The connections we have made with our clients, many of these relationships spanning decades, are the pride of our firm and the culture we have created.

We're dreamers too. We can express our work in light; in the curvature of an arch that tens of thousands of people pass under each day; in systems that bring clean, fresh air to the deepest parts of a building; and in structures that produce energy instead of merely consuming it.

To engineers, there is both a science and art of doing work of the caliber our clients—and our communities—deserve. We are most proud when we find the correct balance of vision and practicality that suits our client's needs, no matter the size of the project.

Goldman Copeland began half a century ago based on one simple truth: that the integrity of the substructure of a building determines the success of all the systems that work together to make it alive and habitable.

We believe that what's behind the building's walls, underneath its floors, on top of its roof—the many intricate connections that are often invisible to the thousands, even millions of people traversing or occupying a structure—are what fully define its legacy. Our clients entrust us with their most valuable properties and some of the world's most iconic buildings.

Since our inception, we've worked hard to balance state-of-the-art design techniques with managing long-term operating and maintenance costs. Today we are a firm of over 60 people with a 50-year legacy of doing just that.

As we enter our next 50 years, we're already looking ahead and anticipating what's possible beyond the services that formed our foundation as consulting engineers.

We will continue building the future, from the inside out.

Charles C. Copeland, PE, LEED AP
President and CEO

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Our beginnings

Carried on a wave of British Invasion music, pop culture, and Day-Glo colors, the 1960s in New York were a legendary time of financial growth and innovation. Fueled by the post-war 50s, the city's booming economy resulted in a number of iconic skyscrapers that now help define the New York skyline.

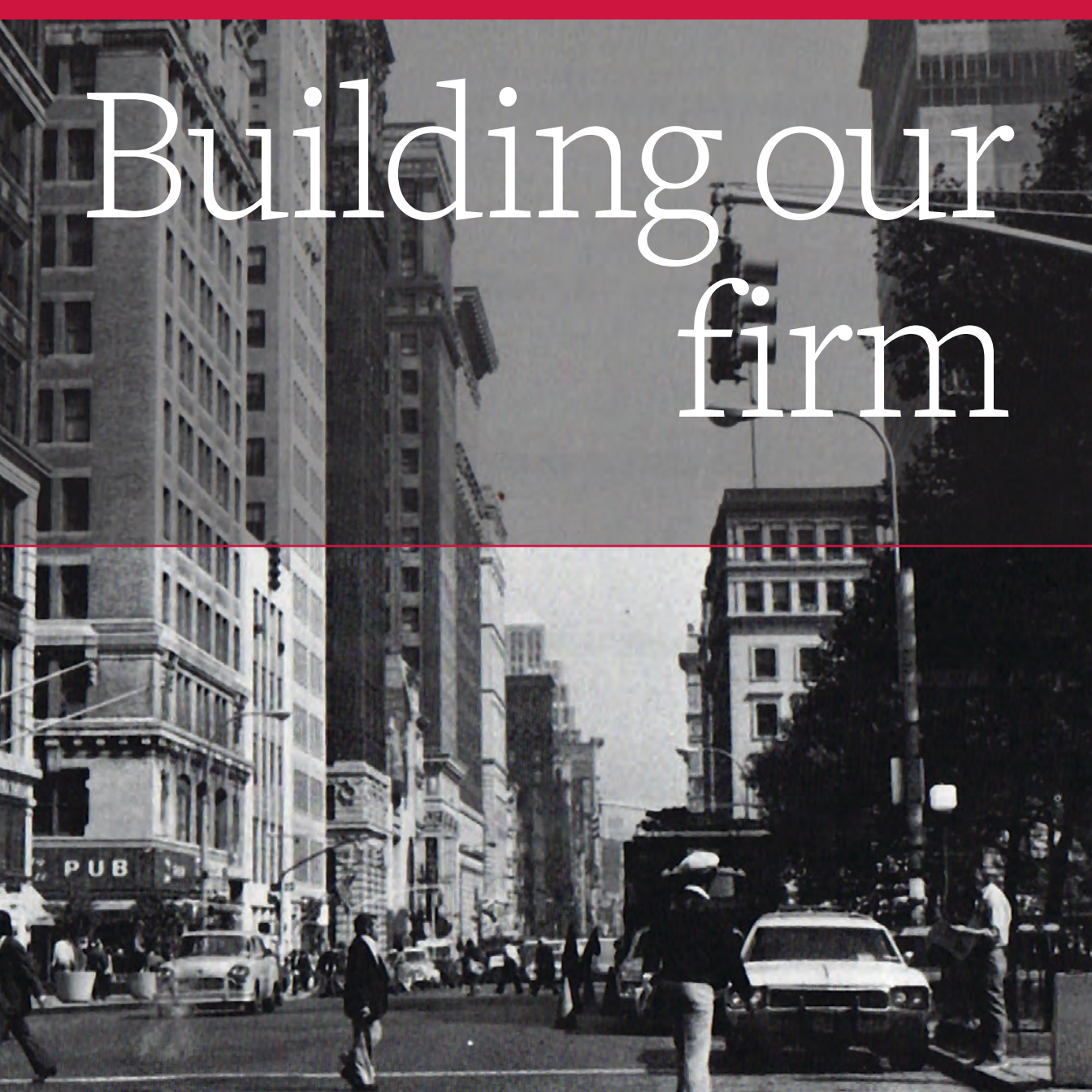
Charlie Copeland in 1968

In 1963, Charlie Copeland landed his first job at Jaros, Baum & Bolles, a firm that was celebrating its own half century around the time he joined them. Richard Baum, one of the firm's senior partners, interviewed him for a position. Charlie worked long hours, six days a week, earning a master's degree in engineering and his Professional Engineer (PE) license at night. Meanwhile the partner-in-charge gave him more and more responsibilities, often delegating the management of whole projects to him.

The wave of prosperity of the 60s had led to a generation of buildings full of flash and modernist aesthetics—curtain walls of glass, sharp planes of adventurous new materials, stylish lobbies full of stone and metal. The structures approached energy usage with the assumption that everyone would keep using fossil fuels like they were going out of style.

They were. An energy crisis loomed a mere decade away. Energy efficiency had been a special interest of Charlie's ever since he learned about entropy in a thermodynamics class in college. He had watched the trends in energy usage of the 60s buildings with great interest, already certain that the halcyon days of cheap energy would end.

Building our firm



In the spring of 1968, in what was already a very different city and a very different time, Marty Goldman and Irv Sokolow opened the doors to a small company that, fifty years later, would be known as one of New York's premier engineering consulting firms. In 1970, having been at JB&B for seven years, Charlie joined them.

The prosperous 60s were drawing to a close at a time of social upheaval. The city was already seeing a trend of residents leaving. Starting up a new firm as New York City was beginning a slide into financial bankruptcy required Marty and Irv to take whatever projects they could. This included upgrading abandoned residential buildings in the South Bronx, in Mott Haven and Crotona Park, funded by a federal program to improve housing in depressed areas of the city, as well as other challenging jobs.

Martin Goldman

Around 1975, the federal housing subsidy program was cut, making projects even more scarce. The partners realized they'd need a new vision to survive. Among Charlie's contributions throughout the firm's first two decades was to diversify our portfolio of clients and transform the business model, introducing energy as a top priority.

Charlie remained concerned in those early years by the lack of thought in the engineering field about energy waste. As he established himself as a partner at the new firm, improving energy efficiency became a central goal and has remained one since.

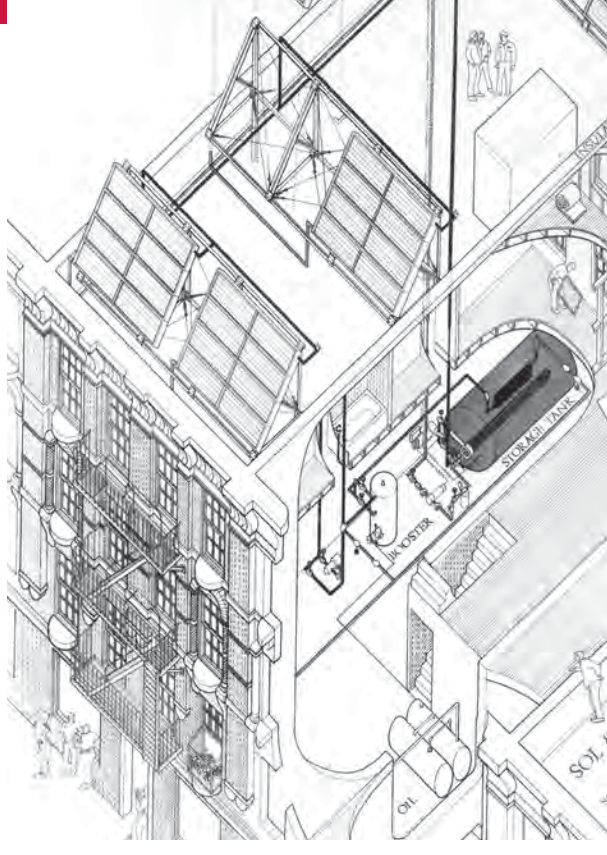
Investing in the future

The city's efforts to stem the tide of people leaving due to soaring housing costs—by that point, 30,000 apartments were being abandoned each year—created an urgent need to provide low income housing. New York City developed a sweat-equity program, allowing prospective tenants to buy apartments for as little as a dollar, if they agreed to fix them up. Future residents of one building on Manhattan's lower east side also chose to improve energy efficiency. The tenement had been abandoned, vandalized, and had survived 15 fires before work began on it. In 1974, Charlie designed an early solar collector thermal application for this building.

By necessity, the city started to catch up quickly to the new realities of the energy crisis. Already ahead of the curve, Charlie was able to fully practice engineering that was oriented toward energy conservation. One of his first and largest energy studies was for a number of VA hospitals around the country.

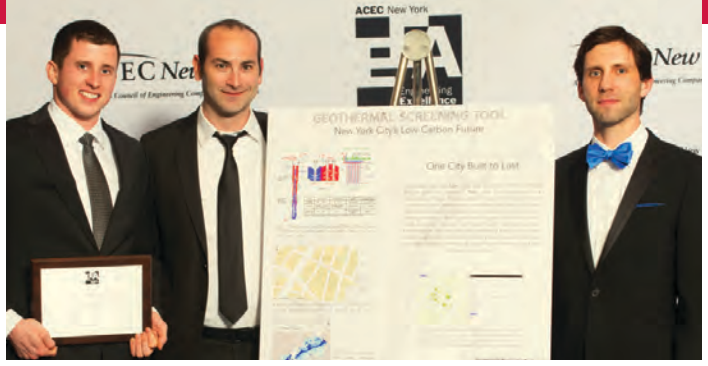
Innovation in energy continued its long arc in Charlie's career, continuing through an award in recent years of a patent through Con Edison for a control sequence to reduce peak utility steam demand by storing thermal energy in building hydronic systems.

In 1990, Howard Holowitz joined the firm, bringing with him a whole new collection of skills and expertise. His industrial engineering background and rigorous planning experience were the product of running complex projects for healthcare institutions and large public commissions. Howard's managerial skills proved to be a valuable addition given the rapid growth of our firm's staff. Almost three decades of working together show that Charlie and Howard fit together temperamentally and philosophically, as they train and mentor the firm's next generation of leaders.



A detail from Charlie Copeland's plans for one of the first solar collectors in New York, installed in a tenement building in 1974

Our work



Tom Banks (left), Tristan Schwartzman, and Dan Colombini (right) accept the ACEC Platinum Award for Goldman Copeland's Geothermal Screening Tool

Goldman Copeland was an early promoter of computer modeling to analyze the use of energy in existing buildings. Up until the 80s, computer simulations were generally only used for new construction. By fine tuning and calibrating to actual energy consumption, these models more accurately determined projected savings in existing structures, a practice that is now standard in the industry.

Because of this type of conservation-oriented and practical innovation—a hallmark of the culture set from the early days at Goldman Copeland—our firm won management of New York City's energy conservation program, the largest in the country. Most recently, we developed an online prescreening tool that allows developers to assess the feasibility of geothermal heating and cooling for every lot in New York City. It includes a map of the entire city and assembles data from multiple sources, highlighting sites with the best potential for energy efficient geothermal technology. The tool won a platinum energy award from the American Council of Engineering Companies of New York (ACEC).

As our firm continues to grow, so has our leadership. We have added the talents of Dan Colombini (Director of Plumbing and Fire Protection Engineering), John McBride (Director of Electrical Engineering), and Eric Mitchell (Director of Mechanical Engineering) to the team as principals.

Goldman Copeland has received many multi-region ASHRAE and other awards over the years, most of them for energy innovation. Charlie received both the coveted ASHRAE Fellow designation in the late 80s and the New York chapter's Distinguished Service award in 2013.

Looking to the future

1968-2018. Fifty years have brought a lot of change in New York and in the world: in technology, the economy, social issues, and more.

Our work has spanned decades—we've worked on office buildings, historic structures, medical centers, universities, and cultural buildings. What's next in the field of engineering, and where do we see our firm in the next 50 years? We think we're already on the right track: applying the latest advancements in our field to buildings in New York and beyond.

It's difficult to remain nimble and responsive in a technology-driven field where landscapes shift, sometimes from one week to the next. What has never changed is our deep commitment to delivering the best possible engineering solutions in an increasingly complex world.

We are the firm you can count on as we look forward to embracing an exciting future in the next fifty years.

Leadership

Charles C. Copeland, PE, LEED AP is the President and CEO of Goldman Copeland. He joined the firm shortly after its founding in 1968. He is a Professional Engineer with over 50 years' experience in the engineering and design of mechanical and electrical systems for institutional and commercial buildings.

Howard R. Holowitz, PE, LEED AP is a Senior Vice President at Goldman Copeland. He started his engineering career as an industrial consultant and worked in the smoke stack industries for almost 10 years before changing over to commercial and institutional facility engineering.

John P. McBride, PE is the Director of Electrical Engineering at Goldman Copeland. He has more than 30 years of experience in the electrical engineering field and overall responsibility for the firm's electrical design projects.

Eric Mitchell, PE is the Director of Mechanical Engineering at Goldman Copeland. He brings more than 26 years of experience to his role as a lead designer and head of our mechanical engineering department, where he draws on his extensive experience in HVAC system analysis, life cycle cost analysis and energy utilization studies to provide effective energy solutions.

Daniel Colombini, PE, LEED AP is the Director of Plumbing and Fire Protection Engineering at Goldman Copeland. As a specialist in fire code analysis, fire dynamics, egress systems, and fire modeling, Dan has developed creative fire protection and sustainable design solutions for major New York City properties and some of the city's most iconic, historic buildings.

Awards and recognition

2018 **ACEC Platinum Award** (Energy Category) Geothermal Screening Tool

2015 **Patent** Controlling Steam Demand in NYC Buildings, Charles C. Copeland, P.E. via Con Edison

2014 **Boston Society of Architects Design Award** (Housing Design) Common Ground, The Hegeman Housing Project

2013 **ASHRAE NYC Chapter Distinguished Service Award**, Charles C. Copeland, P.E.

2010 **New York Landmarks Conservancy** (Lucy G. Moses Preservation Award) Restoration of the Empire State Building Lobby

2006 **US Green Building Council Design Competition,** Common Ground, Pitt Street Housing Project

2006 **AEE Energy Engineer of the Year Award** Charles C. Copeland, P.E.

2005 **New York Construction Best of 2005** (Renovation Project of the Year) Fifth Avenue Presbyterian Church

2005 **ASHRAE Region 1 Technology Award** (First Place) Fifth Avenue Presbyterian Church

2005 **AEE NYC Chapter Energy Engineer of the Year Award** Charles C. Copeland, P.E.

2004 **ASHRAE Region 1 Technology Award** International Plant Science Center at New York Botanic Garden

2004 **AIA NY Chapter Public Project of the Year Award** The Williamsburg Community Center

2004 **New York Construction Best of 2004** (Renovation Award of Merit) 640Fifth Avenue

2004 **Business Week/Architectural Record Awards** Museum of Modern Art (MoMA) Queens, NY

2001 **MTA Bridges and Tunnels Recognition for Professionalism & Commitment to Excellence** Queens-Midtown Tunnel Rehabilitation Project (QM-14)

2001 **New York Landmarks Conservancy** (Lucy G. Moses Preservation Award) Courtroom and Lobby of the Fire Department

2000 **New York Construction Best of 2000** (Renovation Award of Merit) American Airlines Theater

1999 **New York Landmarks Conservancy 1999** (Lucy G. Moses Preservation Award) Grand Central Terminal

1998 **New York Construction Best of 1998** (Project of the Year Award) The Revitalization of Grand Central Terminal

1997 **Buildings Magazine Modernization Awards Competition,** Alexander Hamilton – U.S. Customs House

1989 **ASHRAE Energy Awards** NYU Medical Center/ Chilled Water Plant Interconnection

1985 **HFA Expert Engineer** Resolved First Mitchell Lama Construction Defects Program at Coop City

1981 **Urban Rooftop Solar Greenhouse Award**

1980 **Largest US DOE-2 Building Energy Simulation User**

1974 **Lower East Side Solar Collector Thermal Installation**

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