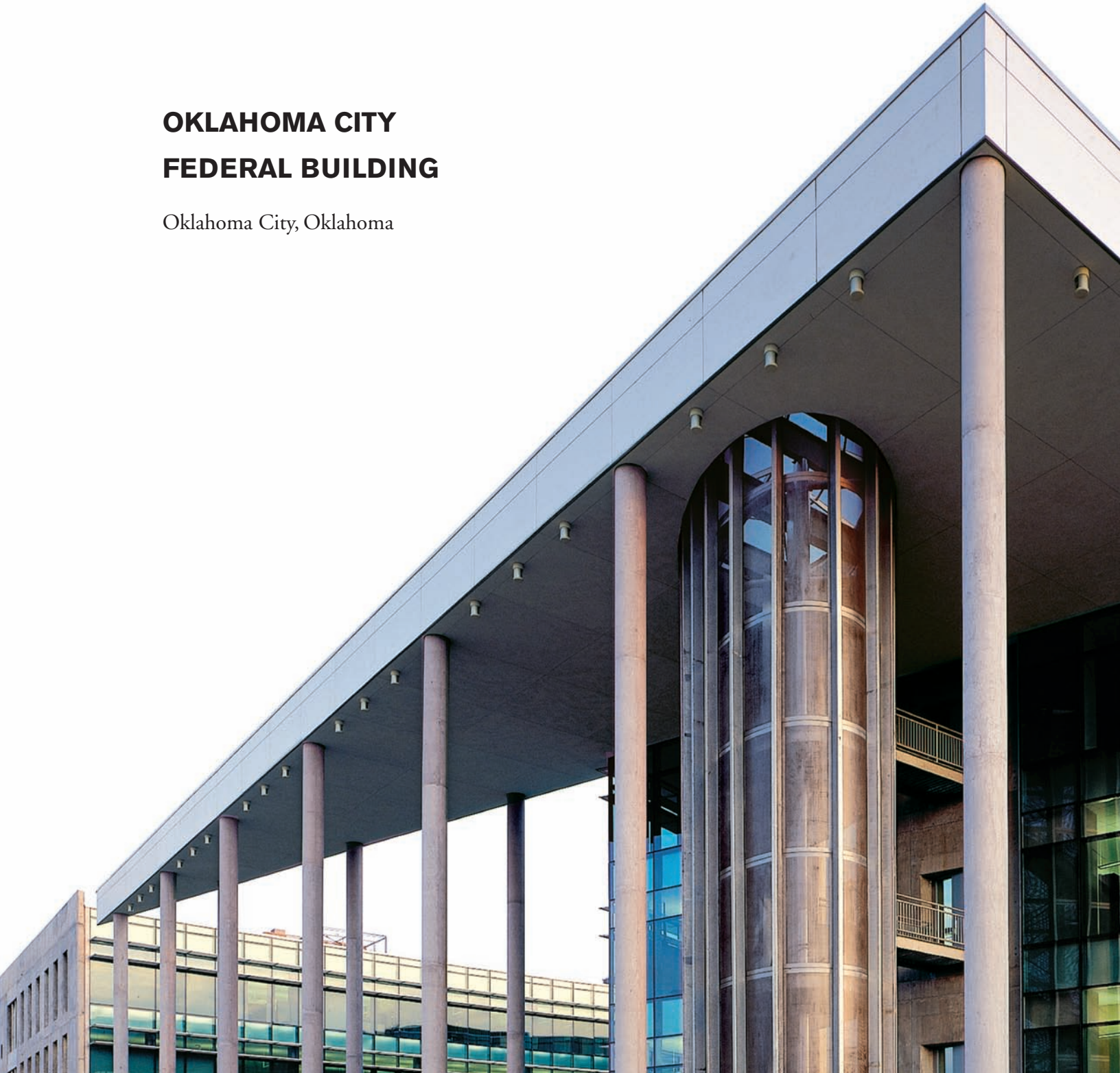
OKLAHOMA CITY FEDERAL BUILDING

Oklahoma City, Oklahoma



The Oklahoma City Federal Building in Oklahoma City, Oklahoma, was designed and constructed under the U.S. General Services Administration's Design Excellence Program, an initiative to create and preserve a legacy of outstanding public buildings that will be used and enjoyed now and by future generations of Americans.

May 2004

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The design challenge was to create a strong and beautiful presence. We decided to let the materials do that. We believed that if we used them honestly, relating how and why the building was made, it would be breathtakingly beautiful.

Carol Ross Barney
Architect, Ross Barney + Jankowski Architects

A NATIONAL SYMBOL OF STRENGTH AND RENEWAL

The Oklahoma City Federal Building is a national symbol of strength and resilience. Born of tragedy, the 181,000-square-foot office building, replaces the Alfred P. Murrah Federal Building, a nine-story structure that was destroyed by a truck bomb on April 19, 1995, killing 168 people. This tragedy led the U.S. General Services Administration (GSA) to develop new security guidelines for federal buildings, many of which are introduced within the Oklahoma City Federal Building campus. While ensuring safety, GSA also required that the public architecture of the new Federal Building be open, accessible, and inviting in keeping with our nation's democratic principles.

Meeting the seemingly contradictory demands of security and openness was the challenge set before Chicago architect Carol Ross Barney of Ross Barney + Jankowski Architects, who carefully struck the balance by creating architecture that is both substantial and approachable. The urban-sensitive design integrates security measures while respecting the city, the street, and the pedestrian. Far from being an impenetrable fortress, the three-story concrete Federal Building embraces an adjacent tree-lined park spread across a city block. At its heart, a glassy, elliptical courtyard curves inward to welcome the public and promote a sense of openness.

Planning of the new Federal Building began in the aftermath of the 1995 bombing. Within three months of the attack, Congress appropriated $40 million for a new structure to replace the Murrah Federal Building. The National Endowment for the Arts, in partnership with GSA and other federal agencies, quickly organized a three-day planning workshop to help develop strategies for rebuilding and revitalizing downtown Oklahoma City.

From that effort, the site of the demolished Murrah Federal Building was designated for a national memorial to commemorate the tragedy. To the north and west of the site, three city blocks were identified for a new federal campus with offices for government agencies previously housed in the Murrah Federal Building.

Over the next few years, initial plans for constructing a federal campus on three city

blocks were scaled back to two when GSA was unable to purchase the northernmost parcel. The current site's paired blocks are bordered by Northwest Sixth and Eighth Streets, and Harvey and Hudson Avenues within a transition zone between the city's Central Business District and north downtown neighborhood. The original concept of three related buildings was revised to one structure, which occupies the southern half of the site nearest the memorial.

On the northern block, a grassy, tree-lined park, designed by Stuart O. Dawson of Sasaki Associates, provides a landscaped frontispiece to the building and extends its geometry through the site. A small, landscaped parking area is accommodated on the eastern side of the park. Supplying this downtown area with a public amenity, the park provides enough space for an additional building in the future.

In developing the architecture of the new Federal Building, Carol Ross Barney researched the history of Oklahoma City and Native American settlements to devise a strategy that ties the new Federal Building to its place. Of particular importance to the city, she discovered, is the urban grid of streets and blocks that originated with the 1889 Oklahoma land rush, when the city's population grew to 10,000 residents in a single day. Once vibrant and dense, the urban fabric is now fractured with surface parking and empty lots. That led the architect to reinforce the city grid by extending the building to the boundaries of the block rather hiding it behind a plaza.

Significant, too, was the incorporation of a park in an area of downtown Oklahoma City that has none. Ross Barney worked with landscape architect Dawson to integrate a landscaped commons on the north block as an integral part of the building design. The park incorporates a curved, concrete retaining wall to complete the elliptical geometry established in the building's courtyard, a U-shaped, open space inspired by Indian stomp grounds. The courtyard, in turn, extends the open space of the park into the center of the building and provides a communal place for public gatherings.

Placed within the park are 46 benches created by San Francisco artist Doug Hollis

that symbolize Oklahoma's entering the Union as the 46th state. The benches incorporate five-pointed stars that allude to the United States flag as well as the five major Native American tribes of Oklahoma.

Rather than facing the center of the park, the courtyard is designed so that its elliptical shape tilts to the west to create a dynamic, asymmetrical curve on the building face. On the site's northern block, facing the courtyard, the elliptical shape of the building facade is extended into the landscape by a curved concrete retaining wall. This encircling geometry serves to connect both building and park.

Cut through the retaining wall's top curve is a concrete stair that descends from the northwest corner of the site into the oval space of the park. The diagonal orientation of the ellipse is reinforced in the park through alternating strips of stabilized gravel paving and grass to create a town common used for ceremonies and parades.

Inside the courtyard, a wide concrete staircase and ramp are placed to the east side of a long, angled retaining wall that continues the diagonal axis of the landscape into the courtyard to direct the public to the entrance. On the west side of this stone wall, Dallas artist Brad Goldberg created an art installation composed of native granite boulders and the same river rock as incorporated into the wall. Water flows over the stones to provide a tranquil setting suggestive of local creeks. On the lowest level of the building, a curved platform projects over the rocks to provide an outdoor dining area.

The new Federal Building is not only designed to embrace the landscape and its urban site but to conserve energy. Most of the curtain wall and windows face north, northeast or northwest and are shaded by vinyl-coated fiberglass canopies stretched over aluminum tube frames, which are supported by steel outriggers and brackets projecting from the building face. These shading devices lessen the impact of summer sun and redirect daylight onto ceilings inside the building.

Windows oriented to the southeast are protected by vinyl-coated fiberglass sun-shades and, nearest the corner entrance, the

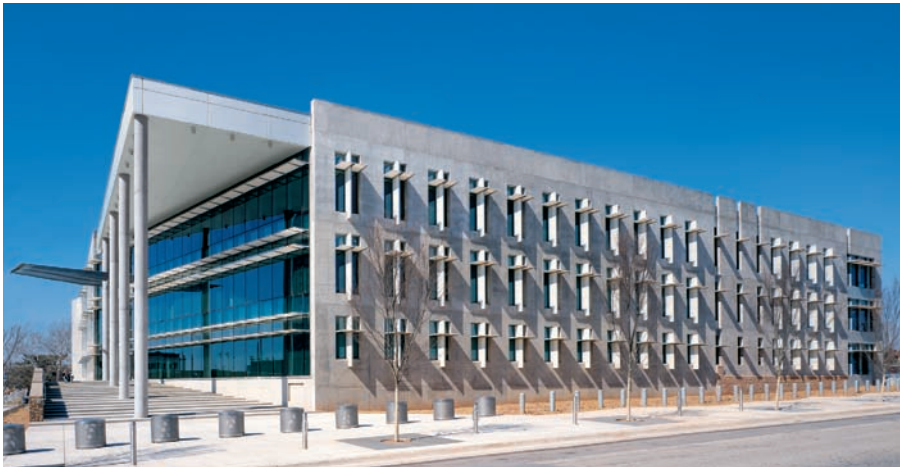
curtain wall is recessed behind a colonnade and deep roof overhang to reduce heat gain. Floor plates are sized to maximize daylighting of office workstations, which are located no more than 59 feet from a window.

East, west and south facades are constructed of one-foot-thick, poured-in-place concrete walls that insulate the building. Within the street frontage and courtyard facade, concrete- and metal-enclosed fire stairs are treated as sculptural elements that project from this taut building envelope. Large, angular windows at the building corners, which provide city views from the interior, also inject the facades with a sense of movement. In contrast to the rough concrete facades, the sweeping curve of the interior courtyard is lined in a smooth skin of low-E-coated, insulated glass.

Federal architecture's longstanding classical tradition is also respected with monumental colonnades that stretch across the southeast corner and the front of the courtyard to mark the entrances. At the southeast corner, the glass facade angles back from street to make way for a triangular-shaped staircase and ramp, which rise to the entrance.

The building's two entries open into the same four-story lobby, which incorporates separate security checks, to reduce vulnerability. Extending across this tall space at the second and third floors are walkways connecting the east and the west sides of the building that offer views across the courtyard and to the city skyline. The steel bridges are fitted with glass floor planks and balusters to allow daylight to filter from a skylight to the lobby floor below.

Offices for federal agencies are arranged so that open workstations are placed nearer the courtyard exterior and enclosed spaces arranged around the service cores and perimeter. Clerestories, glass walls, and sidelights allow offices at the perimeter to share daylight with interior spaces. Light shelves above the windows direct sunlight onto ceilings to provide indirect illumination and prevent glare on computer screens. Instead of being channeled through a conventional mechanical system, air is supplied from under the floors to allow warm, stale air to rise above the work zone. This underfloor system boosts comfort for employees, who can easily redirect or relocate diffusers in the floor.



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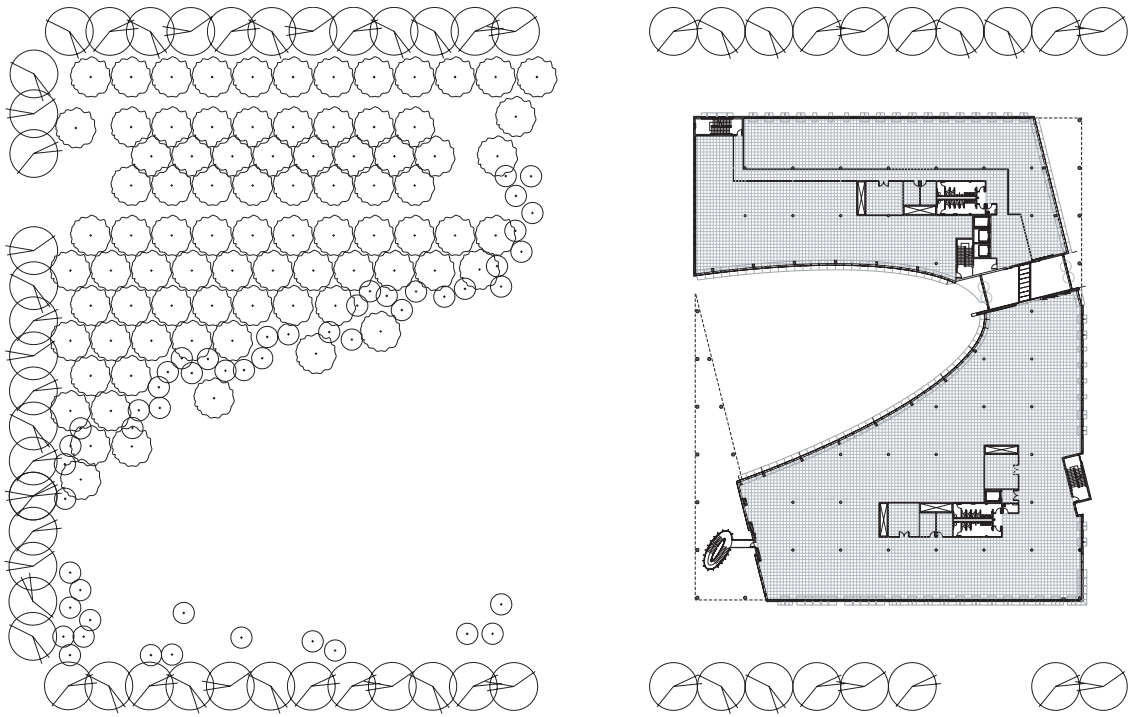
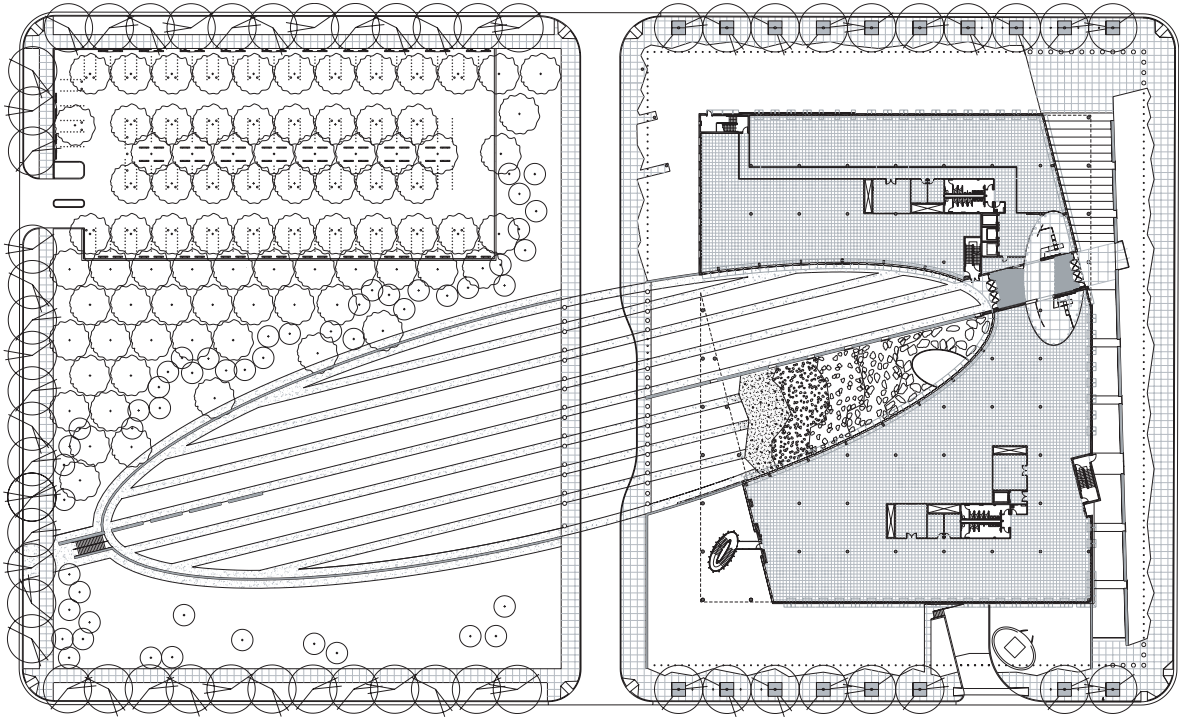
The years have passed. Our journey done.
The road wound back where we'd begun.
Where hope and courage would not fall,
we plant our feet. Survivors all.

Robert Roddy
HUD Employee Survivor
Poem written on occasion of moving into
new Oklahoma City Federal Building on
March 15, 2004

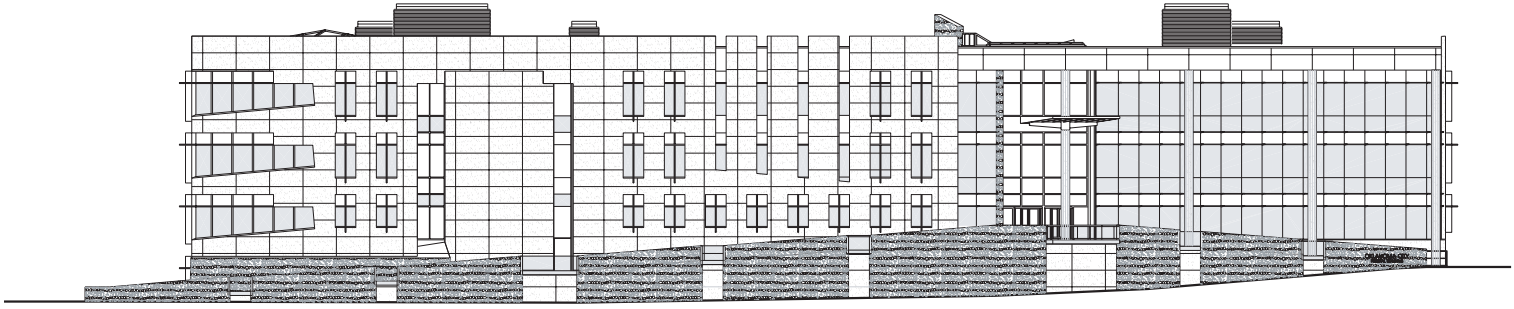


Typical Floor Plan



First Floor Plan

West Elevation



South Elevation

The Oklahoma City Federal Building is one of the first public structures in the U.S. to follow new architectural guidelines for blast resistance that were adopted by GSA in January 1997 after the Murrah Federal Building bombing. Most of the safety features are integrated into the architecture and are invisible to people visiting and occupying the building.

The Federal Building is set 50 feet back from the street and takes advantage of the sloping site, which rises 10 feet from the southwest corner to the northeast corner of the block. This allows the east wing to rise three stories above ground and the west wing to extend four stories above grade, and the slope to form a protective barrier along adjacent streets. On the site's northern block, the park is landscaped and contoured to establish natural obstacles for vehicles. Parking is restricted to a 76-car lot in the northeast corner of the campus, not under the building. Drop-off traffic lanes are no closer than 20 feet from the building.

Bollards, some hidden by prairie grasses, encircle the perimeter and concrete walls on the east, south, and west frontage to further prevent vehicular access from surrounding streets. Conveying an image of both strength and familiarity, the protective walls also extend into the building's elliptical courtyard and along the monumental staircase at the south entrance to act as orientation devices. They are constructed from a structural concrete core covered in a veneer of local creek stone, which symbolizes bedrock foundations while creating textural interest. The veneer is bonded to the concrete core with a tinted, high-strength grout according to details researched and developed by the architect.

The public lobby is separated from adjacent private offices by three-story concrete walls to create a secure yet open atrium. The lobby's east wall is constructed of one-foot-thick, cast-in-place concrete, while its west wall repeats the 22-inch-thick stone veneer construction of the exterior perimeter walls. Magnetometers and X-ray machines are located outside the lobby within a separate space near the elevator lobbies.

Structural redundancy is built into the cast-in-place concrete building so that the

removal of any major support member will not cause the rest of the members to fail. Floor slabs are securely fastened to concrete support beams to prevent a progressive collapse of floors falling on top of one another in the event of an explosion or a natural disaster.

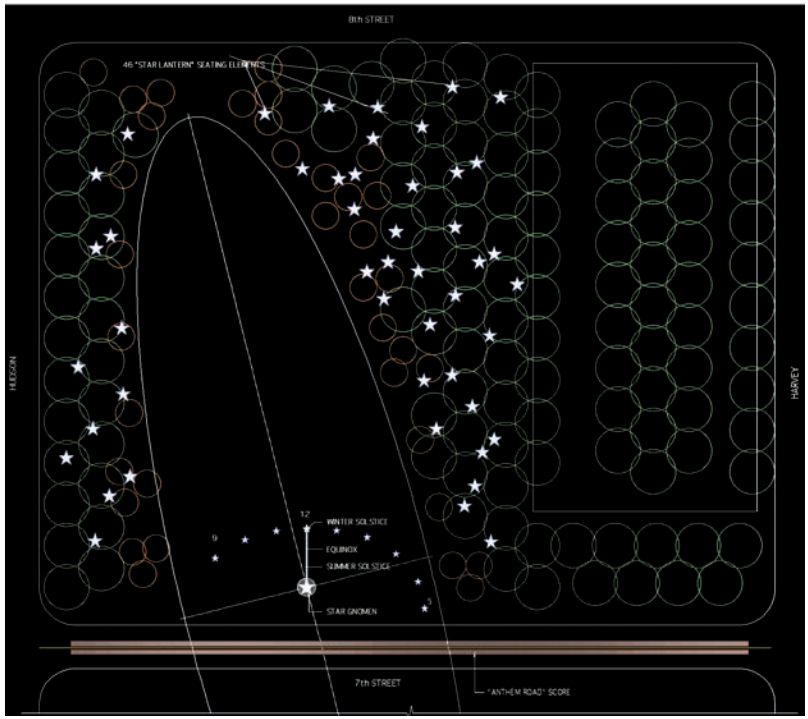
Windows are fitted with insulated glazing units, which are comprised of an exterior pane of heat-strengthened glass, a ½-inch air space, and an interior pane of laminated glass. Steel angles, bonded with structural silicone adhesive to the interior panes, secure the glazing units to the steel tubes of the curtain wall framing and steel window frames. During an explosion, this assembly allows the glass to push inward and transfer vibrations to the concrete building frame. Laminated glass on the interior face of the windows is bonded so it will fracture but not become dislodged from the frame. Within the curtain wall, spandrel panels consist of glass units backed with sheets of galvanized steel to conceal the anchorage of the panels to the structure. The window design complies with GSA Design Guidelines and is equivalent in performance to the requirements for federal courthouses.

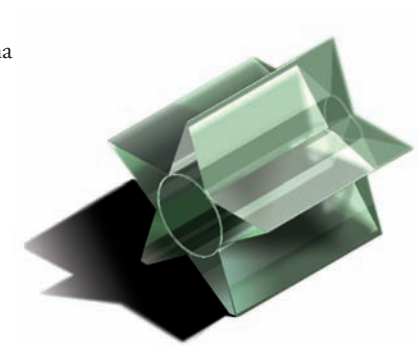
EXIT

Art has always been an important feature of great architecture. For the Oklahoma City Federal Building, two works were commissioned.

Star Field
Tree-lined Park Surrounding Ellipse
Douglas Hollis

Star Field is a constellation of robust stainless steel benches that march across the building's park. The bold, star-shaped silhouettes and all-over perforation of the benches cast dramatic shadows, which shift throughout the day. The emblematic use of stars by Doug Hollis was inspired partly by the history of the U.S. flag, with its own field of stars that multiplied and were rearranged as the nation grew. The forty-six benches that constitute *Star Field* allude to Oklahoma entering the Union as the forty-sixth state. The five-pointed star is also featured prominently in the state's seal, on which each point represents one of the major Native American tribes of Oklahoma (the Cherokee, Choctaw, Chickasaw, Creek, and Seminole Nations). The humble yet sturdy park bench has long been an iconic feature of American cities





and serves as a type of stage where people perform the familiar daily rituals of their lives—like waiting for an appointment, eating a sandwich, or reading a newspaper. With *Star Field*, Hollis has transformed this familiar perch into a new form that is as delightful as it is evocative.

Foundation
Elliptical Courtyard
Brad Goldberg

The elliptical forecourt of the new Oklahoma City Federal Building is bisected by a stonewall that delineates the central axis of the building and its site. This wall runs from the exterior to interior of the building and serves as a dramatically textured feature of its atrium. Brad Goldberg's *Foundation* borrows and magnifies this geological motif. The artist juxtaposed the massive scale and solidity of the stone (approximately 1,000 tons of stone in a space measuring 80 feet by 300 feet) with the delicate sound and sight of rippling water. The roughly textured Wichita Mountain granite boulders and Pecan Valley river rock, both quarried from elsewhere in Oklahoma, also contrast with the smooth and rectilinear glass surfaces of the building. The river rock in *Foundation* is the same that is used in the axial wall. This shared material binds together the art and architecture to produce a pleasing and coherent space.

Art in Architecture Program
GSA's Art in Architecture Program commissions artists, working in close consultation with lead designers and their project teams, to create artwork that is appropriate to the diverse uses and architectural vocabularies of new federal buildings. These permanent installations of contemporary art for the nation's civic buildings afford unique opportunities for promoting the integration of art and architecture, and facilitate a meaningful cultural dialogue between the American people and their government. A panel composed of an art professional from GSA's National Register of Peer Professionals, an art professional from the city or region, the project's lead design architect, and individuals representing the federal client, the community, and GSA provides guidance in selecting the best artist for each project.

Within the elliptical courtyard, the water sculpture creates a sense of "foundation" for the building, a metaphor for the geology of Oklahoma, and exemplifies the solid, enduring spirit of the people.

Brad Goldberg
Artist

GENERAL FACTS

The Oklahoma City Federal Building occupies a two-block parcel of land in downtown Oklahoma City, bounded by Northwest Sixth and Eighth Streets, and Harvey and Hudson Avenues. The site is located one block west and one block north of the Alfred P. Murrah Federal Building, which was bombed and subsequently razed in 1995 to make way for the Oklahoma City National Memorial.

The 181,000-square-foot Federal Building is located at the south end of the site and opens to a courtyard fronting a park with a 76-car parking area at the north end. The east wing of the building rises three stories above grade and the west wing extends four stories above grade. Around the elevator core, the building extends partially below grade. The typical floor-to-floor height is 4.5 meters or about 14 feet 9 inches.

The cast-in-place structure has been designed to comply with the latest security standards for federal buildings. Bollards and structural concrete walls form a protective barrier around the perimeter. Windows are fitted with insulated glazing that is secured to steel window frames and steel tubes within the curtain wall framing. This assembly is designed so the glass on the inside of the windows will fracture, but not fly out, in the event of an explosion. The steel window frames are positioned behind the building's concrete facade and designed to bend in a blast, not blow out.

The east and west wings of the building are joined by a lobby that rises to 40 feet and is accessed by entrances on the south and the north sides. Steel bridges with glass floors cross the lobby at the second and third floors to connect these wings. Offices are a mix of open workstations and private rooms with conference and lounge facilities.

The Federal Building is occupied by over 350 employees, some of whom formerly worked in the Murrah Federal Building. Agencies currently located in the building include the Food and Drug Administration, Department of Housing and Urban Development, Small Business Administration, Department of Veterans Affairs, Department of Agriculture, Military Entrance Processing Station, Marine Corps Recruiting Headquarters, Army Recruiting Battalion, and the General Services Administration.

Harvey and Hudson Avenues and Eighth Street are bordered with deciduous trees creating an urban landscape image that is integral to the civic essence of the federal campus. In contrast, the "green" and adjacent park is planted with deciduous shade trees, groupings of flowering Redbuds, and the small parking lot is softened with a grove of Honeylocust. The great "green" space is cultivated lawn and the remaining areas of the park are planted with native prairie grasses.

Stuart O. Dawson
Landscape Architect, Sasaki Associates

Location

A two-block parcel of land located in downtown Oklahoma City, bounded by Northwest Sixth and Eighth Streets, and Harvey and Hudson Avenues.

Size

181,000 Gross Square Feet
Building Heights: Range from 53 feet at the northeast corner to 64 feet on the west elevation.
Three Floors Above Grade in East Wing
Four Floors above Grade in West Wing
Partial Floor Below Grade in West Wing

Time Frame

Funds Appropriated: 1995
Final Design Approved: September 1999
Construction Started: December 2001
Occupancy: December 2003
Dedication: May 2004

Parking

Above-Ground Lot: 76 Spaces

Foundation

Cast-in-Place Concrete

Structure

Cast-in-Place Concrete

Mechanical

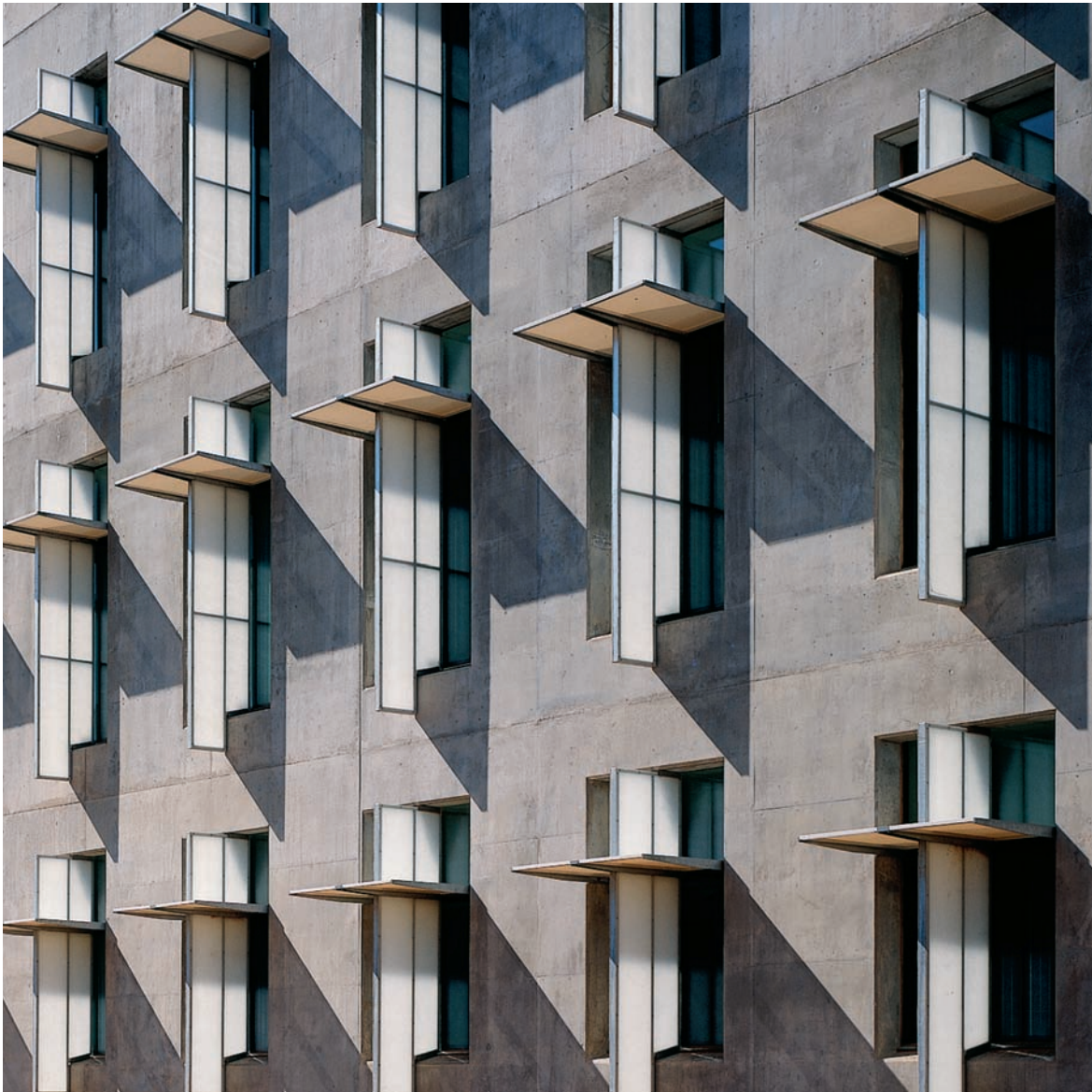
Underfloor Air Distribution

Exterior Walls

Exposed Cast-in-Place Concrete

Interior Finishes

Exposed Concrete
Ground-Face Block
Painted Drywall
Modular Carpet



Carol Ross Barney is founder and president of Ross Barney + Jankowski Architects in Chicago, Illinois, and is responsible for the design excellence of all projects undertaken by the firm. Over the past two decades, Ross Barney has built an international reputation for institutional and public architecture. Her designs for libraries, government buildings, transportation facilities, university and college buildings, and elementary schools have resulted in distinctively contemporary, sometimes surprising, structures that have become symbols of civic rejuvenation and pride. In addition to the Oklahoma City Federal Building, recent building commissions include a science laboratory building on the Duluth campus of the University of Minnesota and a U.S. Port of Entry in Sault Ste. Marie, Michigan.

Ross Barney's work has been honored with many prestigious awards, including a Federal Design Achievement Award from the National Endowment for the Arts and Institute Honor Awards from the American Institute of Architects. She has served as vice president of the American Institute of Architects Chicago and the first president of Chicago Women in Architecture. She is a former member of the Wilmette, Illinois, Plan Commission and Economic Development Commission, and served as chair of the Wilmette Appearance Review Commission for ten years. She currently serves on the Board of the Children's Home and Aid Society of Illinois, and the Illinois Institute of Technology School of Architecture Board of Overseers. Ross Barney is graduate of the University of Illinois at Urbana Champaign.

Douglas Hollis was born in Ann Arbor, Michigan, and now lives in San Francisco. As a teenager, he spent time living with Native American families in Oklahoma, and has stated that his experiences there persist as influences on his life and work. Hollis's earliest projects were highly collaborative and afforded the opportunities to work with musicians, dancers, film makers, engineers, and physicists. His sculpture and landscape installations often rely on the mercurial qualities of light, wind, and water. Hollis has completed many site-specific commissions, which include *Aeolian Harp* (1976) for the San Francisco Exploratorium; *A Sound Garden*

(1983) for the National Oceanic and Atmospheric Administration; *Singing Beachchairs* (1987) in Santa Monica, California; and *Watersongs* (1996), a GSA Art in Architecture commission at the Vincent E. McKelvey Federal Building in Menlo Park, California. Hollis has also collaborated with wife and fellow artist Anna Velentina Murch on several projects, including a GSA Art in Architecture commission for the new United States Courthouse in Fresno, California. For all of his public projects, Hollis states that he wishes to create "places which have an oasis-like quality, where people can pause to catch their spiritual breath in the midst of their everyday lives."

Brad Goldberg was born in Oklahoma City and now lives in Dallas. His career as an artist has focused on blurring the distinctions between the disciplines of sculpture, landscape design, and urban planning. Goldberg's work relies on careful consideration of archetypal forms, the cycles of nature, the evolution of technology, and geologic time. Within this framework, he seeks to enrich each project with a sense of belonging to its context. This is achieved through a sensitivity to scale, attention to craftsmanship, and use of simple materials. Goldberg has completed many commissions in America and abroad, including *Archetype* (1984) in Hachioji, Japan; *Water Sculpture* (1990) for the Dallas Arboretum and Botanical Society; *Bloomington Waters* (1996) for the new city hall of Bloomington, Indiana; *Spiral Study* (1997) for the Greenhill School in Addison, Texas; *Origin* (1998) for the Tech Museum of Innovation in San José, California; *Stone Carpet* (2000) in Phoenix; and both *Continuum* (2000) and *Planting Vessels* (2001) in Minneapolis.

THE DESIGN AND CONSTRUCTION TEAM

Owner
U.S. General Services Administration
Regional Office: Fort Worth, TX

Architects
Ross Barney + Jankowski Architects
Chicago, IL

The Benham Group
Oklahoma City, OK

Landscape Architect
Sasaki Associates
Watertown, MA

Artist
Doug Hollis
San Francisco, CA

Brad Goldberg
Dallas, TX

Design Excellence National Peers
Jim Olson
Olson Sundberg Kundig Allen Architects
Seattle, WA

Kate Diamond
RNL Design
Los Angeles, CA

Deborah K. Dietsch
Architectural Writer
Washington, DC

Construction Excellence Peers
Kenneth Grunley
Grunley Construction Company, Inc.
Rockville, MD

James C. Taylor
Centex Construction Company
Marietta, GA

Larry D. Hopp
Kiewit Construction Company
Omaha, NE

Construction Manager
Heery International
Houston, TX

General Contractor
Flintco, Inc.
Tulsa, OK

Engineers
The Benham Group
Oklahoma, OK

Security Design
Kroll Schiff Associates
Bastrop, TX

Blast Design
Weidlinger Associates
New York, NY

U.S. GENERAL SERVICES ADMINISTRATION AND THE DESIGN EXCELLENCE PROGRAM

Public buildings are part of a nation's legacy. They are symbolic of what Government is about, not just places where public business is conducted.

The U.S. General Services Administration (GSA) is responsible for providing work environments and all the products and services necessary to make these environments healthy and productive for federal employees and cost-effective for the American taxpayers. As builder for the federal civilian Government and steward of many of our nation's most valued architectural treasures that house federal employees, GSA is committed to preserving and adding to America's architectural and artistic legacy.

GSA established the Design Excellence Program in 1994 to change the course of public architecture in the Federal Government. Under this program, administered by the Office of the Chief Architect, GSA has engaged many of the finest architects, designers, engineers, and artists working in America today to design the future landmarks of our nation. Through collaborative partnerships, GSA is implementing the goals of the 1962 Guiding Principles for Federal Architecture: (1)producing facilities that reflect the dignity, enterprise, vigor, and stability of the Federal Government, emphasizing designs that embody the finest contemporary architectural thought; (2) avoiding an official style; and (3) incorporating the work of living American artists in public buildings. In this effort, each building is to be both an individual expression of design excellence and part of a larger body of work representing the best that America's designers and artists can leave to later generations.

To find the best, most creative talent, the Design Excellence Program has simplified the way GSA selects architects and engineers for construction and major renovation projects and opened up opportunities for emerging talent, small, small disadvantaged, and women-owned businesses. The Program recognizes and celebrates the creativity and diversity of the American people.

The Design Excellence Program is the recipient of a 2003 National Design Award from the Cooper-Hewitt, National Design Museum, and the 2004 Keystone Award from the American Architectural Foundation.

PHOTOGRAPHY: TIMOTHY HURSLEY PAGES 32-33: GSA / TIMOTHY P. THURY AND THOMAS R. HALL

U.S. General Services Administration
Public Buildings Service
Office of the Chief Architect
Design Excellence and the Arts
1800 F Street, NW
Washington, DC 20405

202-501-1888