2015 AIA Fellowship

Entry 61257

Nominee	Donald R. Horn
Organization	U.S. General Services Administration
Location	Seattle, WA
Chapter	AIA Seattle
Sponsor	Vivian Loftness FAIA
Organization	Carnegie Mellon University

Category of Nomination

Category Four - Government

Summary Statement

Don Horn is a leader in green building policy development and advocacy within the Federal government, impacting national standards and architectural practice to improve the efficiency and effectiveness of all buildings across the country.

Education

Georgia Institute of Technology, Atlanta, GA; 2 years 1986-1988; Master of Architecture
University of Virginia, Charlottesville, VA; 4 years 1975-1979; Bachelor of Science in Architecture

Licensed in: Virginia

Employment

U.S. General Services Administration, 1991-Present, 23 years; Donald R. Horn, AIA, Architect, 1989-1991, 2 years; Hodzic Architects, P.C., 1988-1989, 1 year; Center for Architectural Conservation, Georgia Institute of Technology, 1986-1988, 2 years; Hodzic Architects, P.C., 1983-1986, 4 years; William B. Dew, Jr., AIA, Architect, 1982-1983, 1 year

Institute Honors and Awards
Fellowship

THE AMERICAN INSTITUTE OF ARCHITECTS

Nomination Signature Sheet

Donald Horn

Candidate's Name

Component Nomination

Name of component organization: AIA Seattle

Signature of chapter president or secretary: _____

Name of chapter president or secretary: Sam Miller AIA, President

or

Nominated by any 10 AIA Members *or* any 5 Fellows in good standing:

1. Signature/date _____
   Print/Type full name/chapter _____
2. Signature/date _____
   Print/Type full name/chapter _____
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10. Signature/date _____
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Note: It is the responsibility of the sponsor to notify the AIA component of a petition nomination.

Carnegie Mellon

Center for Building Performance and Diagnostics
School of Architecture
Carnegie Mellon University
Pittsburgh, Pennsylvania 15213-3890

October 8, 2014

John Castellana FAIA, Chair, 2015 Jury of Fellows
The American Institute of Architects
1735 New York Avenue, NW
Washington, DC 20006-5292

Dear Mr. Castellana and the 2015 Jury of Fellows,

Don Horn's sustainability leadership, advocacy and influence on practice have helped to transform the mission and accomplishments of GSA, and indeed the course of buildings for all federal agencies. Having worked with Don on both GSA and USGBC initiatives over 15 years, I am honored to be his sponsor.

Within the agency, Don has fused Sustainability and Design Excellence through two decades of effort with the iterative refinement of P100 standards; the conception and development of The Sustainable Facilities Tool (SFTool.gov) for planning projects, procuring products, and sharing best practices; and authoring and editing a series of publications from Sustainability Matters to the series assessing and quantifying green building costs and performance. His leadership in the early 2000's clarified comparative costs of green design from 0-9%, and his efforts a decade later established the measured performance of sustainably designed federal facilities - identifying 36% less carbon emissions, 25% less energy usage, 19% lower operational costs and 27% higher satisfaction than national averages.

These policies, standards and rigorous studies led the federal government to broaden GSA sustainability initiatives to all federal buildings. Don's leadership on the Interagency Sustainability Working Group led to the development of "The Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings" signed into Executive Order 13423 by George Bush in 2007, and tightened into Executive Order 13514 signed by Barack Obama in 2009. It is hardly surprising that he earned a Presidential Award for Leadership in Federal Energy Management early in his career.

The next frontier for Don is non-Federal building standards for sustainability. Don has been active in the refinement of LEED for New Construction, Existing Buildings and Commercial Interiors, and served as federal advisor to the USGBC National Board of Directors. He is an Executive Committee member and working group lead for Standard 189.1 developed by ASHRAE, USGBC and IES, and adopted by DOD for the Unified Facilities Criteria. Most recently, the AIA and the International Code Council have joined the 189.1 effort to ensure adoption into the International Green Construction Code. Don's leadership and advocacy is helping the U.S. to solidify its commitment to sustainability goals for all buildings.

Don's policy and advocacy contributions are matched by personal commitments to the highest level of professional practice. His work enabled building sustainability to be a centerpiece of the American Recovery and Reinvestment Act, generating projects across the US. Don has championed integrated project delivery and performance evaluation for a host of visionary facilities, including HOK's Denver Courthouse, ZGF's Federal Center in Seattle, and Cutler Anderson's Federal Building in Portland. While achieving high levels of measured sustainability, each of these projects remains architecturally breathtaking, with a long list of national awards. Don is an outstanding public sector architect, with an amazing record of accomplishment and I wholeheartedly support his elevation to AIA Fellow.

Yours Sincerely,

Vivian Loftness, FAIA, LEEDAP BD&C
Paul Mellon Chair & University Professor
1994-2004 Head of the School of Architecture
Carnegie Mellon University

SECTION 1 SUMMARY OF ACHIEVEMENTS AND NOTABLE CONTRIBUTIONS

Don Horn is a leader in green building policy development and advocacy within the Federal government, impacting national standards and architectural practice to improve the efficiency and effectiveness of all buildings across the country.

ADVOCACY

Don Horn's leadership, advocacy and influence have noticeably contributed to the extraordinary uptake of green building practices in the U.S. over the last 15 years. Mr. Horn is a nationally recognized subject matter expert in sustainable design promoting environmentally responsible decision-making related to buildings, and translating green building strategies and ideals into regulations and guidance to meet federal goals for building performance. He interacts with a diversity of customers, building disciplines and external stakeholders ranging from architects, to product manufacturers, to members of Congress. He speaks at major conferences throughout the U.S. about the successes, lessons and research on green buildings, and has worked with public real estate organizations from around the world to advance green building goals of conserving energy, water and resources, while improving the health and well-being of occupants.

As a mentor to others, Mr. Horn has inspired many to become sustainability leaders within the U.S. General Services Administration (GSA) and other agencies. Beginning in the early 2000's, Mr. Horn led multiple training sessions in each of GSA's 11 regional offices on all aspects of sustainable design and green leasing, reaching thousands of agency associates. He has been a leader and advocate for the U.S. Green Building Council serving as Federal Advisor to the Board of Directors and on Leadership in Energy and Environmental Design (LEED) development committees. His analysis of rating systems led to GSA's initial adoption of LEED in 2000. Today GSA has over 125 LEED certifications in its government-owned inventory and over 200 more in buildings it leases from the private sector.

GREEN BUILDING POLICY DEVELOPMENT

Mr. Horn is shaping the development of national codes, standards and legislation in multiple capacities –

- serving in a leadership role in developing Standard 189.1, Standard for the Design of High-Performance Green Buildings,
- developing the Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings,
- analyzing green building certification systems for use by the federal government,
- strengthening GSA's Facilities Standards to reflect leading green building practices,
- articulating federal sustainability concerns to congressional leaders and responding to their inquiries, and
- engaging in research to improve processes to achieve net-zero energy buildings and improve our knowledge of the relationship between health and buildings.

IMPACTS ON ARCHITECTURAL PRACTICE

Mr. Horn's continued policy development and advocacy efforts brought sustainability literacy to GSA and positioned the agency to respond to the challenge of the American Reinvestment and Recovery Act, which gave GSA $5.5 billion to create high-performance green buildings within its inventory. Mr. Horn adapted the federal Guiding Principles into Minimum Performance Criteria for GSA's Recovery Act projects, setting high expectations for the project teams across the country. Mr. Horn's early training workshops and development of a network of regional champions enabled GSA to be successful in defining and implementing sustainability improvements in 250 buildings identified through the Recovery Act within the time constraints. His direct influence prepared the agency for this unprecedented challenge.

Mr. Horn's work in advancing sustainable design objectives in federal practices has had an indelible impact on the practice of architecture in the U.S. At GSA, he has redefined design excellence and improved building performance in its inventory of over 370 million square feet of government owned and leased space. His advocacy of sustainable design has impacted architectural practice in the U.S., most noticeably through the influential role of GSA's standards and practices on both public and private real estate markets, and the work of architecture firms throughout the county – those that design, construct and renovate government-owned facilities, as well as private sector development teams that lease to, or want to lease to, the Federal government.

SECTION 2.1 SIGNIFICANT WORK

ADVOCACY

GSA and LEED

Mr. Horn's recommendations and supporting justification led GSA to require LEED certification in January 2000 and to become the first federal agency to join the USGBC in January 2001. His advocacy through these two actions paved the way for other agencies and the private sector to follow GSA's lead in embracing LEED and advancing the green building movement.

Green Building in North America: Opportunities and Challenges

Mr. Horn was a member of the Advisory Committee for the Commission for Environmental Cooperation in North America (CEC), a component of the environmental branch of NAFTA, which resulted in this 2008 report. He participated in a series of public workshops presenting GSA's green building certification system review and U.S. government use of the LEED rating system.

USGBC and Greenbuild

From 2002 through 2006, Mr. Horn assisted in planning USGBC's annual Federal Summit and frequently presented sessions regarding the close connection between LEED and federal green building requirements. He spoke at the first Greenbuild in 2002 and continues to participate in leadership roles – presenting sessions, moderating, and serving on session selection panels for this international conference.

Building Sustainability Network

Mr. Horn established a network throughout GSA to share green building questions and experiences in 1999 and continues to lead monthly conference calls with the Building Sustainability Network open to any individuals across the agency. This forum fosters creative thinking and collaboration to improve GSA's building performance.

Training

Mr. Horn presented sustainable design training to over 700 GSA employees in 2000, beginning GSA's journey to becoming an exemplary leader in the federal government. Six years later Mr. Horn supervised the development of another round of sustainable design training, which was again delivered nationwide.

International Green Building Activities

Mr. Horn served as an international ambassador for green building through the Worldwide Workplace Web, a coalition of public real estate organizations from 10 countries, collaborating and sharing best practices from an international perspective in Canada, Germany and The Netherlands. In 2006, Mr. Horn was invited by the Irish government to advise architects and engineers in the Office of Public Works in Dublin.

Sustainability Matters

To promote GSA's successes and best practices from its first 10 years of building green, Mr. Horn led the development of Sustainability Matters, the first comprehensive overview by a federal agency related to the issues of building, operating and maintaining facilities sustainably.

SECTION 2.1 SIGNIFICANT WORK

GREEN BUILDING POLICY DEVELOPMENT

Guiding Principles for High Performance and Sustainable Buildings

Mr. Horn and two colleagues developed a core set of sustainability requirements for federal projects to achieve. These became the Guiding Principles that were introduced at the first White House Summit for Sustainable Buildings in January 2006. Mr. Horn continued to champion the Guiding Principles as they became a federal mandate through Executive Orders of two administrations. The Guiding Principles are the primary measure for meeting federal sustainable building goals on agency scorecards issued each year by the Office of Management and Budget.

USGBC and LEED

Mr. Horn has advised USGBC regarding LEED development and implementation since 1999. He served on the core committees of both LEED for Commercial Interiors (CI) and LEED for Existing Buildings, as well as the Sustainable Sites Technical Advisory Group. He participated in visioning sessions and expert workshops for the development of LEED for Commercial Interiors and advised against too rapid change for LEED 2009 that might alienate federal agencies due to their funding cycles. He participated in resolving specific credit concerns from the CI pilot projects, setting precedence in interpretation for future LEED-CI projects. Mr. Horn also served as Federal Advisor to the USGBC Board of Directors for four years.

Facilities Standards for the Public Buildings Service

Mr. Horn revised the Facilities Standards for the Public Buildings Service to make sustainability an integral part of GSA's standard business practices rather than an added requirement. He identified key areas to include and align green building strategies to support federal mandates for energy efficiency and sustainable design. The document establishes design standards and criteria for new buildings, repairs and alterations, modernizations, lease construction buildings with government option to purchase, and work in historic structures for the Public Buildings Service of GSA.

Standard 189.1, Standard for the Design of High-Performance Green Buildings

Mr. Horn serves on the project committee of ANSI/ASHRAE/USGBC/IES Standard 189.1, leading the working group on materials and resources. The Standard serves as an alternative compliance path for the 2012 International Green Construction Code and is referenced by many jurisdictions, including the Department of the Army, throughout the U.S. as a baseline for achieving green building incentives. A new partnership among five major U.S. standard developers in the U.S., including the AIA, will harmonize ASHRAE 189.1, the International Green Construction Code, and the LEED rating systems with the aim of simplifying implementation of local green building regulations and incentive programs.

SECTION 2.1 SIGNIFICANT WORK

IMPACT ON ARCHITECTURAL PRACTICE

GSA's Sustainable Design Program

Mr. Horn originated GSA's Sustainable Design Program following the issuance of Executive Order 13123 requiring federal agencies to apply sustainable design principles to the siting, design and construction of facilities. He focused on delivering training and speaking to agency leadership to engage support for the new initiative. GSA's energy and sustainability team was recognized for its efforts with a Real Property Achievement Award for Best Innovative Policy in 2000 and a Presidential award for Leadership in Energy Management in 2002. Sustainability is now an integral part of GSA's Design Excellence program.

Green Leasing

Mr. Horn led a team of GSA realty professionals to develop model green lease clauses for GSA's leasing solicitations. Mr. Horn travelled to each of GSA's 11 regional offices to deliver training to nearly 500 realty professionals, introducing new resources that would reach thousands more through green leases executed with the private sector. Mr. Horn championed a requirement for federal agencies to give preference to leasing space in buildings with an EnergyStar label. He continues to improve GSA leasing clauses to raise the bar for government space in private sector buildings.

Green Building Research

Mr. Horn oversees demonstration research projects of GSA on net-zero energy, integrated project delivery, daylight, and health in buildings. Recent projects include high-performance features of the EPA Headquarters in Denver, CO; technology and behavior strategies for achieving net-zero goals at Ft. Carson, CO; and integrated project delivery and daylighting studies on three GSA Recovery Act projects. Mr. Horn assists in translating technical research into practical, implementable solutions to affect the practice of design and facilities management.

Sustainable Facilities Tool (SFTool.gov)

Recognizing the large quantity of small projects that are accomplished without the support of design specialists, Mr. Horn created an online tool to assist in sustainability decision-making for the facility managers, project managers and realty specialists that implement such projects. He developed the vision and scope for the project and led a team to create an innovative, interactive website for sustainability novices to learn, plan, evaluate and implement sustainable solutions in their daily work.

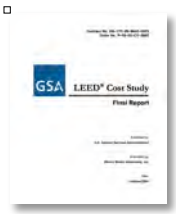
Building Performance Evaluation

Mr. Horn assisted colleagues at the Federal Energy Management Program to develop a whole building performance measurement protocol in response to questions about the actual performance and cost of green buildings. Mr. Horn provided leadership in applying the protocol to sustainably designed buildings at GSA, publishing *Assessing Green Building Performance* and *Green Building Performance: A Post-Occupancy Evaluation of 22 GSA Buildings*. Findings show that on average, buildings in the study have 36% fewer greenhouse gas emissions, 25% reduced energy use, 19% reduced operational costs, and 27% higher occupant satisfaction than industry averages.

Green Building Certification System Review

GSA is required, through legislation, to periodically review green building certification systems every 5 years for their ability to meet federal energy and sustainability requirements. Mr. Horn was an active participant in to these studies since the first analysis in 2006. Most recently, he co-led GSA's analysis of LEED v4 for alignment with federal goals. These studies influence the use of certification systems by federal agencies, as well as state and local governments.

LEED Cost Study



Mr. Horn assisted in the development of the first comprehensive study of the cost of developing a green building using the LEED certification system. The 2004 study provided a detailed review of both the hard cost and soft cost implications of achieving Certified, Silver, and Gold LEED ratings for two GSA building types, using GSA's established design standards as the point of comparison. The finding that the estimated construction cost impact falls below the 5% estimating accuracy, and well within the 10% design contingency, was significant. A LEED rating could be achieved within a standard GSA project budget. This study was frequently cited by organizations and jurisdictions across the U.S. Mr. Horn is now assisting in a study of the incremental costs of achieving LEED v4.

GSA's LEED Accomplishments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Since Mr. Horn initiated the requirement for LEED certification, GSA has earned 126 LEED certifications in its government-owned inventory, including 6 Platinum certifications and 41 Gold certifications throughout each of GSA's 11 regions. GSA also leases space in approximately 250 LEED certified buildings.

GSA LEED Platinum Certifications

- Hipolito F. Garcia Federal Building & U.S. Courthouse, San Antonio, TX - 1
- Wayne N. Aspinall Federal Building & US Courthouse, Grand Junction, CO - 2
- Edith Green – Wendell Wyatt Federal Office Building, Portland, OR
- 911 Federal Building, Portland, OR
- Department of the Interior Cafeteria, Washington, DC
- Department of the Interior Child Care, Washington, DC

A sample of GSA LEED Gold Certifications from each GSA Region

- J. W. McCormack Federal Building, Boston, MA
- U.S. Courthouse, Buffalo, NY – 3
- Robinson & Merhige U.S. Courthouse, Richmond, VA
- Tuttle U.S. Courthouse Annex, Atlanta, GA
- Birch Bayh Federal Building and U.S. Courthouse, Indianapolis, IN
- Christopher S. Bond U.S. Courthouse, Jefferson City, MO
- Donna – Rio Bravo Land Port of Entry, Donna, TX
- Byron G. Rogers U.S. Courthouse, Denver, CO
- U.S. Courthouse, San Diego, CA
- Wayne L. Morse U.S. Courthouse, Eugene, OR – 4
- NOAA Satellite Operations Center, Suitland, MD – 5

SECTION 2.1 SIGNIFICANT WORK – POSITIONS HELD

POSITIONS HELD

2010 – Present	Deputy Director, Office of Federal High-Performance Green Buildings, Office of Governmentwide Policy, U.S. General Services Administration, Washington, DC/Seattle, WA
2004 – 2009	Director, Sustainability Program, Public Buildings Service, U.S. General Services Administration, Washington, DC/Seattle, WA
1999 – 2004	Lead Architect, Sustainable Design Program/WorkPlace 20.20, Public Buildings Service, U.S. General Services Administration, Washington, DC
1991 – 1999	Architect, Leader-Facilitator, Historic Preservation Program, Public Buildings Service, U.S. General Services Administration, Washington, DC
1989 – 1991	Architect, Donald R. Horn, AIA, Architect, Arlington, VA
1988 – 1989	Architect, Hodzic Architects, P.C., Alexandria, VA
1986 – 1988	Graduate Research Assistant, Center for Architectural Conservation, Georgia Institute of Technology, Atlanta, GA
1983 – 1986	Architect, Hodzic Architects, P.C., Annandale, VA
1982 – 1983	Architectural Draftsman, William B. Dew, Jr., AIA, Architect, Middleburg, VA

SECTION 2.1 — SIGNIFICANT WORK – PROFESSIONAL AND SERVICE ORGANIZATIONS

PROFESSIONAL AND SERVICE ORGANIZATIONS

2014 – Present	Green Globes Consensus Body Member
2014 – Present	AIA Seattle Historic Resources Committee, Co-Chair
2013 – Present	Seattle Living Building & Deep Green Technical Advisory Group
2010 – Present	NSF/UL 440 *Health Based Emissions Standard for Building Materials*
2009 – Present	Pike Place Market Historical Commission, AIA Seattle Representative, 2014 Chair
2009 – Present	Pike Place Market Design Review Committee
2006 – Present	ASHRAE Standard 189.1 Project Committee, *Standard for the Design of High-Performance, Green Buildings Except for Low-Rise Residential Buildings*; Working Group Lead, Chapter 9 - *The Building's Impact on the Atmosphere, Materials and Resources*; Executive Committee; User's Manual Development Committee
2006 – Present	Cascadia Green Building Council
2006 – Present	AIA Seattle
2000 – Present	Whole Building Design Guide Sustainable Subcommittee, National Institute of Building Sciences
1989 – Present	American Institute of Architects
2001 – 2013	Primary Contact for the U.S. General Services Administration membership in the U.S. Green Building Council
2007 – 2012	U.S. Green Building Council Board of Directors, Federal Advisor
2008 – 2009	Seattle Mayor's Green Building Task Force
2006 – 2008	Green Building Advisory Group Member, Commission for Environmental Cooperation
2005 – 2008	Government Committee, U.S. Green Building Council
2002 – 2005	Federal Green Building Council, Office of the Federal Environmental Executive
2002 – 2005	LEED-EB Core Committee, U.S. Green Building Council
2003 – 2005	LEED-CI Core Committee, U.S. Green Building Council
2001 – 2003	LEED Sustainable Sites Technical Advisory Group, U.S. Green Building Council

SECTION 2.1 — SIGNIFICANT WORK – JURY EXPERIENCE

JURY EXPERIENCE

2014	Livable Buildings Award, Center for the Built Environment, UC Berkeley
2010	What Makes it Green? Top 10 Regional Awards, AIA Seattle
2009	15th Annual Heinz Awards, Nominator of recipient Bob Berkebile
2004	Environmental Trailblazers and Champions, Interiors & Sources Magazine
2003	Leadership Awards, CoreNet Global

SECTION 2.1 SIGNIFICANT WORK – INTERNATIONAL CONSULTATION ACTIVITIES

INTERNATIONAL CONSULTATION ACTIVITIES

2007	Asia Pacific Partnership for Clean Development and Climate, U.S. Department of State, Expert and Task Force Review Team, Grant Reviewer
May 1-2, 2007	Green Building in North America: International Symposium, Commission for Environmental Cooperation, Seattle, WA
February 20-21, 2007	Green Building in North America: A Mexican Perspective, Mexico City, Mexico
October 2007	Green Building Rating Systems in Mexico Workshop, Commission for Environmental Cooperation, Cuernavaca, Mexico
October 2006	Initial meeting of Green Building Advisory Group, Montreal, Canada
November 30, 2004	Presentation for Chinese Delegation, *Sustainable Design at GSA*, Washington, DC
June 13-18, 2004	Worldwide Workplace Web, *Innovative Workplaces – The New Mainstream*, Washington, DC
May 11-17, 2003	Worldwide Workplace Web, *Quality of Workplaces – From the Past to the Future*, Bonn, Germany
October 11-28, 2002	Office of Public Works, Dublin, Ireland, Expert Consultant
May 2001	Worldwide Workplace Web, *The Workplace of the Future,* Vancouver, Canada

SECTION 2.1 SIGNIFICANT WORK – INVITED PRESENTATIONS

AIA PRESENTATIONS

AIA Seattle, Seattle, WA, *Preserving the Market: An Intersection of Preservation and Urban Design,* Historic Resources Committee and Urban Design Forum, Planner & Moderator, 5/29/2014

AIA Seattle, Seattle, WA, *Green Contracts,* Beyond the Green Dream: Facing the Reality of Green Building Compliance, 6/12/2012

AIA Seattle, Seattle, WA, *The Integrated Façade: Climate, Envelope, Energy - The Owner's Perspective*, 10/28/2010

AIA Convention, San Francisco, CA, *Sustaining the Existing Building Stock: The Greatest Challenge of Architecture 2030*, 4/29/2009

AIA Convention, Boston, MA, *Implementing Sustainable Design Strategies*, AIA Public Architects Forum, 5/14/2008

AIA Convention, San Antonio, TX, *GSA's GSA (Green Solicitation for Architects)*, 5/4/2007

AIA Convention, San Antonio, TX, *Seeing Beyond the Metrics: Lessons Learned from Green Building Rating Systems and International Assessments*, 5/5/2007

AIA Convention, Las Vegas, NV, *Greening Historic Preservation*, 5/19/2005

AIA Denver/DBIA Design Build Conference, Englewood, CO, *Living Our Values: Sustainable Design at GSA*, Keynote, 9/23/2005

Northern Virginia AIA, Alexandria, VA, *Introduction to Sustainable Design*, 1/22/2003

AIA DC, Arlington, VA, *USGBC LEED Relative to Rehabilitation of Existing Structures and GSA Use of LEED Guidelines*, What's So Green About Historic Preservation? Conference, Historic Resources Committee and Committee on the Environment, 5/4/2001

USGBC PRESENTATIONS

Greenbuild, Toronto, ON, *Achieving High-Performance Federal Facilities, Building Performance Assessment for 50 Green Buildings*, 10/7/2011

Greenbuild, Chicago, IL, *High Performance Green Building Modernizations in the Public Sector*, 11/19/2010

Living Future, Portland, OR, *Building Capabilities for Transforming Action*, 5/8/2009

Greenbuild, Boston, MA, *Greening our Historic Legacy: Sustainability and Preservation Standards*, 11/21/2008

Greenbuild, Boston, MA, Moderator for Master Speaker Session with Richard Moe, 11/20/2008

USGBC Federal Summit, Washington, DC, *Working with GSA: Green Leases and Beyond*, 6/7/2007 – Presenter & Planning Committee Member

USGBC Federal Summit, Washington, DC, *Expanding Our Approach to Sustainable Design*, 5/24/2006 – Presenter & Planning Committee Member

USGBC Federal Summit, Washington, DC, *Leasing for a Green Future*, 4/5/2005

USGBC Chat Session panel, LEED CI, 7/30/2004

LEED for Commercial Interiors Training Workshop, Washington, DC, 5/3/2003

Greenbuild, Pittsburgh, PA, 11/12-14/2003

LEED for Commercial Interiors Training Workshop, Austin, TX, 11/13/2002

GreenBuild, Austin, TX,*Green Courthouse Design*, 11/14/2002

PRESENTATIONS TO GSA AUDIENCES

GSA Portfolio Directors Conference, Washington, DC, *High-Performance Green Buildings and LEED*, 1/25/2011

GSA Capital Construction Workshop, New Orleans, LA, *On Green: Minimum Performance Criteria*, 5/12/2010

GSA Capital Construction Workshop, New Orleans, LA, *Energy & Sustainability: Current GSA Requirements*, 5/12/2010

GSA Regional Historic Preservation Officers Workshop, Nashville, TN, *Sustainable Buildings and LEED: A Historic and GSA Perspective*, 10/16/2009

GSA Western Regions Conference, New Orleans, LA, *Sustainability Practices*, 10/21/2008

GSA Capital Construction Conference, Kansas City, MO, 3/21/2006

GSA Sustainable Design Training, Seattle, WA, *Lessons Learned*, 4/25/2006

GSA Boot Camp, Washington, DC, *Office of Applied Science: PBS's Competitive Advantage*, 7/17/2006

GSA Regional Property Management Conference, Kansas City, MO, 3/9/2005
GSA Capital Construction Conference, Miami, FL, *Integrating LEED for Effective Results*, 4/6/2005
WorkPlace 20.20 Visioning Session, MLK Federal Building, Atlanta, GA, 1/21/2003
Courthouse Charrette, Salt Lake City, UT, *Green Courthouse Design*, 1/23/2003
GSA Federal Supply Service, Ft. Worth, TX, *Why WorkPlace 20.20?*, 1/28/2003
Workplace Making: Innovation and Transformation, 5/20/2002
Training sessions for Public Buildings Service employees in each GSA Regional Office: Boston, New York, Philadelphia, Atlanta, Washington, DC, Chicago, Kansas City, Ft. Worth, Denver, San Francisco, Seattle, *Green Leasing*, 2001
Client Agency Sustainable Design Training, Washington, DC, 2001
GSA National Project Management Workshop, *PBS Building Green for the Next Century,* 2000
GSA Boot Camp, Washington, DC, *PBS Building Green for the Next Century*, 11/14/2000
Training sessions for Public Buildings Service employees in each GSA Regional Office: Boston, New York, Philadelphia, Atlanta, Washington, DC, Chicago, Kansas City, Ft. Worth, Denver, San Francisco, Seattle, *Introduction to Sustainable Design,* 2000

PRESENTATIONS TO OTHER GOVERNMENT AUDIENCES

Interagency Sustainability Working Group, Washington, DC, *Guiding Principles Update*, 7/27/2011
Interagency Sustainability Working Group, Washington, DC, *Standard for the Design of High-Performance Green Buildings, Optional Compliance Path to the IgCC*, 4/13/2010
GreenGov Symposium, Washington, DC, *Leasing Strategies for Green Building*, 10/6/2010 – Presenter & Planning Committee Member
GSA Expo, Anaheim, CA, *Project Planning Process*, 4/22 & 4/23/2009
GSA Expo, Anaheim, CA, *Successful High Performance Buildings*, 4/24/2009
Federal Environmental Symposium West, Bellevue, WA, *Go Green!*, 6/2/2009
Federal Environmental Symposium West, Bellevue, WA, *Working With GSA: Green Leases and Beyond*, 6/3/2009
Federal Green Challenge Webinar, *Implementing Sustainable Design Strategies*, 6/10/2009
CAO Forum, Department of Homeland Security, Washington, DC, *Expanding Our Approach to Sustainable Design*, 1/9/2007
GSA Expo, Orlando, FL, *Building and Managing Green*, 5/15-5/17/2007
Federal Environmental Symposium, Bethesda, MD, *Using Green Building Rating Systems*, 6/6/2007
White House Summit on Federal Sustainable Buildings, Washington, DC, *Sustainable Design Innovation at GSA*, 1/24/2006
Federal Environmental Symposium, Bethesda, MD, *Sustainable Design Innovation at GSA*, 5/2/2006

Frederick County Virginia Officials Meeting with FEMA, Winchester, VA, *Sustainable Design at GSA*, 6/20/2006

Energy 2006, Chicago, IL, *Practical Green: Building Green with GSA*, 8/7/2006

Energy 2006, Chicago, IL, *Underfloor Air*, 8/9/2006

Energy Efficiency in Historic Buildings, NREL, Washington, DC, *High Performance and Sustainable Buildings: A Historic Preservation Perspective*, 12/4/2006

Citizenship and Immigration Services, Department of Homeland Security, South Burlington, VT, *Leasing for a Green Future*, 4/2005

Department of the Interior Space Coordination Council, Omaha, NE, *Sustainable Design at GSA*, 6/8/2005

Energy 2005, Long Beach, CA, *The Cost of Sustainable Design: How Green Should We Be?*, 8/16/2005

Energy2004, Rochester, NY, 8/9/2004

Whole Building Design Guide Advisory Committee, Washington, DC, *Sustainable Design at GSA*, 8/19/2004

EPA Green Building in Government Day, Philadelphia, PA, *Sustainable Design at GSA*, 10/20/2004

Governmentwide Real Property Information Sharing Council Meeting, Kansas City, MO, *WorkPlace 20.20*, 6/4/2003

GSA International Products and Services Expo, San Antonio, TX, *Building & Managing Green*, 6/7-6/8/2003

National Oceanic & Atmospheric Administration Real Property Annual Conference, Seattle, WA, *Green Leasing*, 6/10/2003

Energy2003, Orlando, FL, *LEED: Introduction and Issues*, 8/19/2003

State of Texas Building & Procurement Commission, Austin, TX, *Sustainable Design at GSA*, 9/17/2003

U.S. Senate Environment and Public Works Committee Green Building Round Table, Washington, DC, *Federal Role in Green Building Design*, 4/24/2002

GSA International Products and Services Expo, San Diego, CA, *Green Lease: GSA's New SFO*, 5/21-5/23/2002

National Weather Service, Department of Commerce, Kansas City, MO, Alaska Region Facilities Team training workshop, 2002

National Park Service Environmental Conference, Albuquerque, NM, *Building Green at GSA*, 3/12/2001

Greening Government Buildings Conference, Atlanta, GA, 2001

Federal Real Property Association Annual Conference, Arlington, VA, *Smarter Solutions for a Better Environment*, 7/31/2001

PRESENTATIONS TO OTHER PROFESSIONAL ORGANIZATIONS

Bisnow, Seattle, WA, *Sustainability: The Green Building Revolution,* 8/27/2014

Society of American Military Engineers, Seattle, WA, Sustainability Training Forum, *Return to the Guiding Principles for Federal Buildings,* 3/13/2014

ASHRAE Winter Conference, Orlando, FL, *The Building's Impact on the Atmosphere, Materials and Resources, Standard 189.1P Overview*, 1/25/2010

28th West Coast Energy Management Conference, Seattle, WA, *ANSI/ASHRAE/USGBC/IES Standard 189.1 Overview*, 6/15/2010

Center for the Built Environment, Berkeley, CA, *Commercial Building Test Beds*, 10/21/2010

5th Annual National Veteran Small Business Conference and Expo, Las Vegas, NV, *Go Green! Federal Government Environmental Initiatives*, 7/23/2009

National Trust Preservation Conference, Nashville, TN, *Economic Recovery: Making the Case for Reinvestment and Sustainability*, 10/15/2009

Seattle Building Enclosure Council, Seattle, WA, *ANSI/ASHRAE/USGBC/IES Standard 189.1 Overview*, 11/19/2009

Ecobuild America, Washington, DC, *Experiences in Public Architecture and the Status of Sustainability*, 12/10/2009

ASTM International Symposium on Sustainable Building Standards, Washington, DC, Common Ground, Consensus Building, and Continual Improvement: Standards and Sustainable Building, *Review of Sustainable Building Rating Systems*, 4/20/2007

Green Building in North America: International Symposium, Seattle, WA, *Institutional Efforts for Green Building*, Moderator, 5/1/2007

Discover Brilliant, Seattle, WA, *Innovation in Federal Facilities*, 9/18/2007

Buildex Seattle, Construct Seattle and Design Trends Seattle Conference and Exposition, Seattle, WA, *Sustainability Roundtable: Visionary, Revolutionary, Necessary*, 9/27/2007

IIDA Sustainability Forum, Seattle, WA, 10/4

Green Building in North America: A Mexican Perspective, Commission for Environmental Cooperation, Cuernavaca, Mexico, *Application of Sustainable Building Rating Systems in the U.S. Federal Government*, 10/24/2007

Sustainable Facilities Summit, Craig Michaels, Inc., La Jolla, CA, *The Business Case for Going Green*, 8/13/2006

Drake University Graduate Class Presentation, Des Moines, IA, 3/10/2005

Ecobuild America, Orlando, FL, *Greening the Historic Preservation Process*, 6/22/2005

Society for Marketing Professional Services National Conference, New Orleans, LA, *You've Got to Be Green*, 8/12/2005

ArchFolio, Solutia Industry Share Event, Chicago, IL, *Federal Green Building Initiatives*, 10/7/2005

Worldwide Workplace Web, Washington, DC, *Sustainable Design in U.S. Federal Buildings*, 6/14/2004

National Facilities Management & Technology Conference, Baltimore, MD, *Green Buildings: Determining Value, Making the Decision*, 3/10/2004

Associated General Contractors of America Mid Year Meeting, Scottsdale, AZ, *Sustainable Construction*, 10/1/2004

Virginia Recycling Association Conference, Richmond, VA, *Green Building and Construction and Demolition Waste*, 10/27/2004

Corporate Real Estate Women, Washington, DC, *Sustainable Design at GSA*, 2/20/2003

National Facilities Management & Technology Conference, Baltimore, MD, *LEED for Existing Buildings*, 3/18/2003

Restoration & Renovation Exhibition and Conference, Baltimore, MD, *Historic Buildings/Green Buildings*, *Sustaining History: In Concert and Conflict*, 3/21/2003

Urban Land Institute Real Estate Forum, Aspen, CO, *What or Where Are the Opportunities for the Acceptance and Growth of Green Building and Sustainable Development?*, 8/24/2003

High Performance Building and Development Conference, Colorado Springs, CO, *Sustainable Design at GSA: Denver Arraj Courthouse & San Francisco Federal Building*, 11/6/2003

National Defense Industrial Association Environmental Conference, Charleston, SC, 2002

Smart Design Forum, Sustainable Washington Alliance, Washington, DC, 10/3/2002

International Development Research Council World Congress, Dallas, TX, *Sustainable Design at GSA: A Building Owner's Perspective*, 10/22/2001

National Recycling Congress, Charlotte, NC, 9/11/2000

SECTION 2.2 SIGNIFICANT AWARDS, HONORS, AND RECOGNITION

PROFESSIONAL ACCREDITATIONS

2009 – Present	LEED Accredited Professional BD+C
2003 – 2009	LEED Accredited Professional
1989 – Present	Licensed Architect, Commonwealth of Virginia

AWARDS, HONORS, AND RECOGNITION

2012 **LEED Fellow**
U.S. Green Building Council

2012 **Green Team Outstanding Service Award**
Seattle Federal Executive Board

2010 **Assistant Commissioner's Service Excellence Award**
U.S. General Services Administration

2002 **Presidential Award for Leadership in Federal Energy Management**
Office of the President of the United States

2000 **Achievement Award for Real Property Innovation: Best Innovative Policy**, Build Green Team,
U.S. General Services Administration

1999 **Special Citation from the Administrator: Contribution and support to the success of the rehabilitation and renovation of the U.S. Courthouse, Indianapolis, IN**,
U.S. General Services Administration

1995 **Honor Award: Excellence in Historic Preservation Technology**
U.S. General Services Administration

SECTION 2.3 BOOKS OR ARTICLES WRITTEN BY OR ABOUT THE CANDIDATE

BOOKS

2008 *Sustainability Matters*, U.S. General Services Administration, Government Printing Office, Washington. DC, 211 pages – Co-Author and Lead Editor

ARTICLES

2010 Cross J., VanGeem M.G., Horn D. *Choosing Materials Wisely*, ASHRAE Journal, June 2010

2008 Horn D. *GSA High Performance Building Efforts Lead the Way*, Closing the Circle News, Office of the Federal Environmental Executive, Spring 2008

2007 Horn D. *Greening the Government from the Top Down*, Environmental Design & Construction, October 2007

1999 Ramirez C., Horn D., Wolf B. *The Economics of Preserving Historic Federal Buildings*, Forum News, National Trust for Historic Preservation, Sept./Oct. 1999

1994 Horn, D. *Turbocharging Flat Files*, Building Renovation, Fall 1994

EXPERT CONTRIBUTOR TO MAJOR PUBLICATIONS

2014 *Green Building Certification System Supplemental Review of USGBC's LEED V4 Systems: BD+C: NC, O+M: EB and ID+C: CI*, U.S. General Services Administration

2014 *ANSI/ASHRAE/USGBC/IES Standard 189.1-2014*, *Standard for the Design of High-Performance, Green Buildings Except for Low-Rise Residential Buildings*, American Society of Heating, Refrigerating and Air-Conditioning Engineers

2014 *Facilities Standards for the Public Buildings Service*, U.S. General Services Administration

2011 *Re-Assessing Green Building Performance: A Post Occupancy Evaluation of 22 GSA Buildings*, Pacific Northwest National Laboratory/U.S. General Services Administration

2011 *ANSI/ASHRAE/USGBC/IES Standard 189.1-2011*, *Standard for the Design of High-Performance, Green Buildings Except for Low-Rise Residential Buildings*, American Society of Heating, Refrigerating and Air-Conditioning Engineers

2010 *New Visions for Green Building*, *Building an Emerald City: A Guide to Creating Green Building Policies and Programs*, Lucia Athens, Island Press, Page 149

2010 *ANSI/ASHRAE/USGBC/IES Standard 189.1-2009 User's Manual*, *Standard for the Design of High-Performance, Green Buildings Except for Low-Rise Residential Buildings*, American Society of Heating, Refrigerating and Air-Conditioning Engineers

2010 *Influence of Project Delivery on Sustainable, High Performance Buildings*, Charles Pankow Foundation and the Design-Build Institute of America

2009 *ANSI/ASHRAE/USGBC/IES Standard 189.1-2009, Standard for the Design of High-Performance, Green Buildings Except for Low-Rise Residential Buildings*, American Society of Heating, Refrigerating and Air-Conditioning Engineers

2008 *Assessing Green Building Performance: A Post Occupancy Evaluation of 12 GSA Buildings*, Pacific Northwest National Laboratory/U.S. General Services Administration

2008 *Green Building in North America: Opportunities and Challenges*, Commission for Environmental Cooperation

2008 *Moving Forward: The Challenges Ahead*, *Sustainability and Asset Management: The Future is Now*, Real Property Policysite Newsletter, Office of Governmentwide Policy, U.S. General Services Administration

2008 *Guide to Writing a Commercial Real Estate Lease, Including Green Lease Language*, Building Owners and Managers Association International

2006 *Sustainable Building Rating Systems Summary*, U.S. General Services Administration

2005 *Building Cost and Performance Metrics: Data Collection Protocol*, Pacific Northwest National Laboratory/Federal Energy Management Program

2005 *Leading By Example: A Demonstration Toolkit for Creating a GSA World Class Workplace*, U.S. General Services Administration

2005 *Facilities Standards for the Public Buildings Service*, U.S. General Services Administration

2005 *LEED-CI for Commercial Interiors Reference Guide*, Version 2.0 First Edition, U.S. Green Building Council

2005 *LEED-EB for Existing Buildings Reference Guide*, Version 2.0 First Edition, U.S. Green Building Council

2005 *GSA LEED Applications Guide*, U.S. General Services Administration

2004 *GSA LEED Cost Study*, U.S. General Services Administration

2003 *Facilities Standards for the Public Buildings Service*, U.S. General Services Administration

2000 *Facilities Standards for the Public Buildings Service*, U.S. General Services Administration

Reviewer for Major Publications

2011 *Reinventing Fire: Bold Business Solutions for the New Energy Era*, Amory Lovins and Rocky Mountain Institute

2011 *Roadmap to Green Government Buildings,* U.S. Green Building Council

2009 *Green Office Guide: Integrating LEED Into Your Leasing Process*, U.S. Green Building Council

2009 *Roadmap to Green Government Buildings,* U.S. Green Building Council

2006 *Expanding Our Approach to Sustainable Design: An Invitation*, BuildingGreen, Inc., U.S. General Services Administration

2004 *Progress Report on Sustainability*, Supplement to Building Design & Construction

2004 *LEED Green Building Rating System for Commercial Interiors*, Version 2, U.S. Green Building Council

2002 *The Pennsylvania Green Building Operations and Maintenance Manual*, Governor's Green Government Council, State of Pennsylvania

Interviews and Following Quotes

2012 *Net Zero Energy Design: A Guide for Commercial Architecture*, Tom Hootman, RNL Design, Wiley

	2012	*Becoming a Green Building Professional: A Guide to Careers in Sustainable Architecture, Design, Engineering, Development, and Operations*, Holley Henderson, Wiley
	2009	*The Green Workplace,* Leigh Stringer, HOK*,* Macmillan
	2009	*Don't Worry About the Government? The LEED-NC "Green Building" Rating System and Energy Efficiency in U.S. Commercial Buildings*, Energy Innovation, David M. Hart, MIT, March 2009
	2008	*The Green Building Revolution,* Jerry Yudelson, Yudelson Associates
	2008	*Q&A With Don Horn*, Green Quotient, Charles Lockwood, Urban Land, Urban Land Institute, July 2008
	2007	*How Green Is My Courthouse?*, The Third Branch, Newsletter of the Federal Courts, September 2007
	2004	*Buildings designed in cool shades of 'green'*, John Ritter, USA Today, March 31, 2004
	2003	*Concrete Builds the Sustainable Movement*, Building Design & Construction, Reed, 2003
	2003	*Tapping the Synergies of Green Building and Historic Preservation*, Nancy B. Solomon, Architectural Record, July 2003
	2003	*Green Buildings and Sustainable Development: Making the Business Case,* ULI Land Use Policy Forum Report, Anne Frej, Urban Land Institute, 2003
INFORMATION TECHNOLOGY TOOLS & VIDEOS	2011	*Sustainable Facilities Tool*, sftool.gov, Website, U.S. General Services Administration, Project Lead
	2008	*High Performance Building, Perspectives & Practice*, Video, Rocky Mountain Institute, Project Team
	2004	*WorkPlace 20.20*, Video, U.S. General Services Administration, Project Lead
	2000	*Leasing for a Green Future*, Video, U.S. General Services Administration, Project Lead
	1987	*Inventory Condition and Assessment Program*, Software program, National Park Service, Georgia Institute of Technology, Project Team

SECTION 3	EXHIBITS
ADVOCACY	
3.1	SUSTAINABILITY MATTERS
POLICY	
3.2	GUIDING PRINCIPLES FOR HIGH PERFORMANCE AND SUSTAINABLE BUILDINGS
3.3	STANDARD 189.1, STANDARD FOR THE DESIGN OF HIGH-PERFORMANCE GREEN BUILDINGS
3.4	FACILITIES STANDARDS FOR THE PUBLIC BUILDINGS SERVICE
IMPACTS	
3.5	SUSTAINABLE FACILITIES TOOL
3.6	ASSESSING GREEN BUILDING PERFORMANCE
3.7	ALFRED A. ARRAJ U.S. COURTHOUSE, DENVER, CO
3.8	FEDERAL CENTER SOUTH BUILDING 1202, SEATTLE, WA
3.9	EDITH GREEN – WENDELL WYATT FEDERAL BUILDING, PORTLAND, OR

SECTION 3.1 SUSTAINABILITY MATTERS

Completion Date: October 2008
Role of Nominee: Primary author and lead editor

"Sustainability in building design, construction and operation is fundamental to our agency core mission of providing superior workplaces at the best value for the American taxpayer. We want to be part of transforming the building industry so that "green" is the only way of doing business."

David L. Winstead, GSA Commissioner of Public Buildings, 2008

PROJECT DESCRIPTION

GSA was an early adopter of sustainable design practices and quickly became known as a leader in achieving results through its sustainability initiatives. Individual stories of specific building projects were presented in various venues but a compilation of best practices and results did not exist.

Mr. Horn envisioned a publication of GSA's sustainable design accomplishments and played a leading role in its realization. He was the primary author for three chapters and was the lead editor for the entire book. Mr. Horn developed the initial outline for the publication to best present the challenges and vision for sustainability from GSA's perspective. He then solicited individual staff members to draft chapters based on their expertise and provided assistance on technical aspects of GSA's accomplishments. Mr. Horn worked with professional editors to create a uniform voice and message throughout the book, providing expert knowledge of individual project experiences.

Sustainability Matters is a publication of case studies and best-practices that address GSA's sustainability initiatives and strategies at all stages of a building's lifecycle. Sustainability Matters is the first comprehensive overview by a federal agency related to the issues of building, operating and maintaining facilities sustainably. It demonstrates how to create sustainable buildings by intelligently integrating energy efficient and environmentally sound decisions and technologies into building designs. The publication was distributed widely in both print and electronic copies and referenced by several university sustainable building programs.

www.gsa.gov/graphics/pbs/Sustainability_Matters_508.pdf

DECLARATION OF RESPONSIBILITY

I have personal knowledge of the nominee's responsibility for the project listed above and that responsibility included: Primary author and lead editor

Kevin Kampschroer | Federal Director | GSA
Office of Federal High-Performance Green Buildings

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CASE STUDY: NOAA SATELLITE OPERATIONS FACILITY, SUITLAND, MARYLAND

118 Indoor Environmental Quality
CASE STUDY: ALFRED A. ARRAJ U.S. COURTHOUSE, DENVER, COLORADO

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CASE STUDY: JOHN J. DUNCAN FEDERAL BUILDING, KNOXVILLE, TENNESSEE

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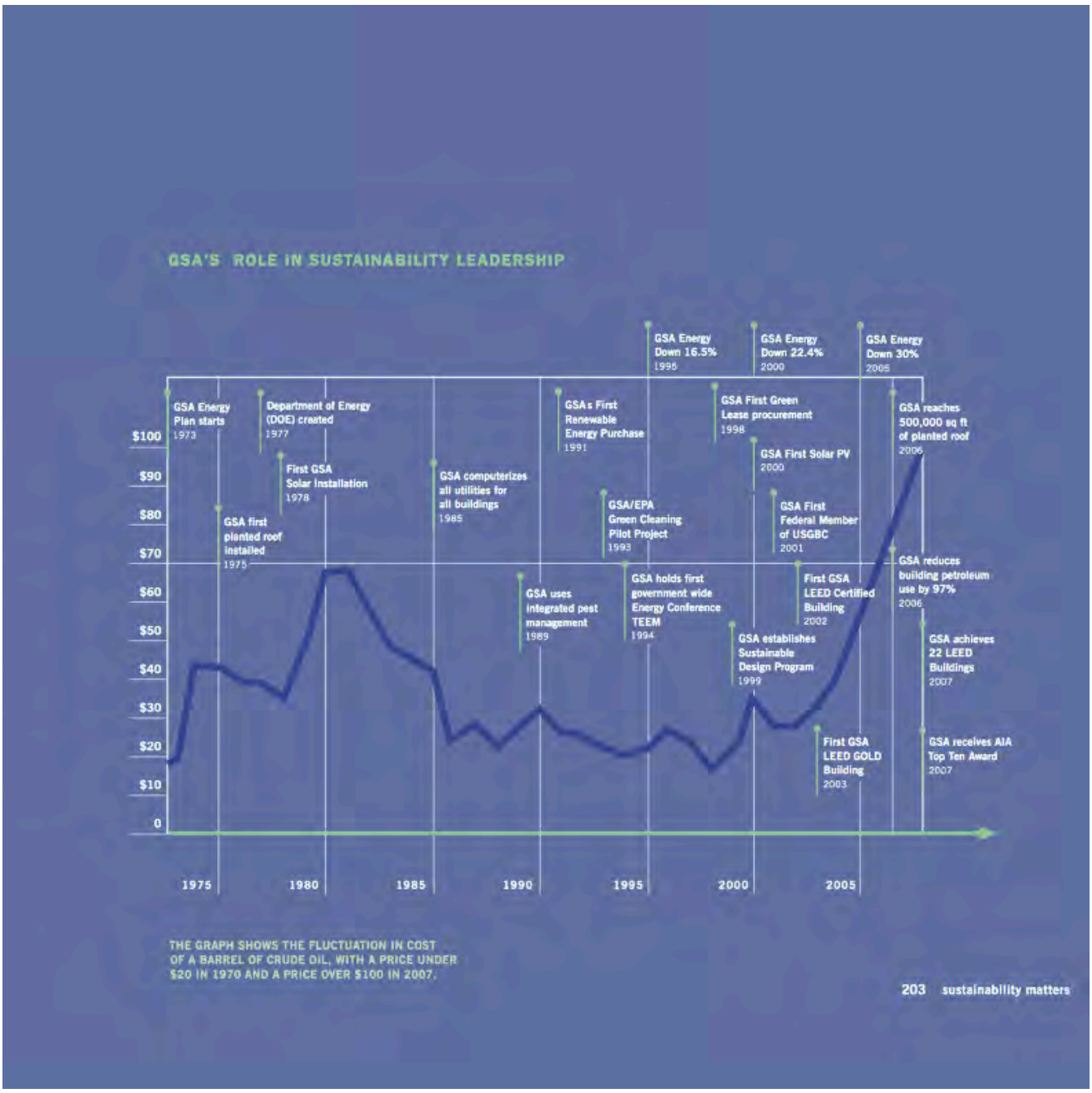


GSA's role in sustainability leadership from *Sustainability Matters*

SECTION 3.2 GUIDING PRINCIPLES FOR FEDERAL LEADERSHIP IN HIGH PERFORMANCE AND SUSTAINABLE BUILDINGS

Completion Date: 2006, 2008, 2011, 2013
Role of Nominee: Co-lead for development

I. EMPLOY INTEGRATED DESIGN PRINCIPLES

II. OPTIMIZE ENERGY PERFORMANCE

III. PROTECT AND CONSERVE WATER

IV. ENHANCE INDOOR ENVIRONMENTAL QUALITY

V. REDUCE ENVIRONMENTAL IMPACT OF MATERIALS

PROJECT DESCRIPTION

Federal agencies were directed to apply sustainable design principles to the siting, design and construction of their building projects beginning in 1999 with Executive Order 13123. The guidance provided to agencies was vague, leading to confusion about actual expectations.

Seeing the need to standardize basic expectations for federal projects, Mr. Horn teamed with two colleagues from the Department of Energy and the Navy to develop a core set of sustainability requirements that federal projects should be expected to achieve. The Guiding Principles began as a common set of minimum sustainable design requirements for federal agencies categorized under five main principles.

The Office of Management and Budget (OMB) and the White House Council for Environmental Quality (CEQ) embraced the principles and created a memorandum of understanding signed by 19 agencies at the first ever White House Summit on Federal Sustainable Buildings. One year later the principles were referenced as a requirement for all agencies in Executive Order 13423 (Bush - January 2007). They were subsequently included in Executive Order 13514 (Obama - October 2009) and have become the primary measure for meeting federal sustainable building goals on agency scorecards issued each year by the Office of Management and Budget.

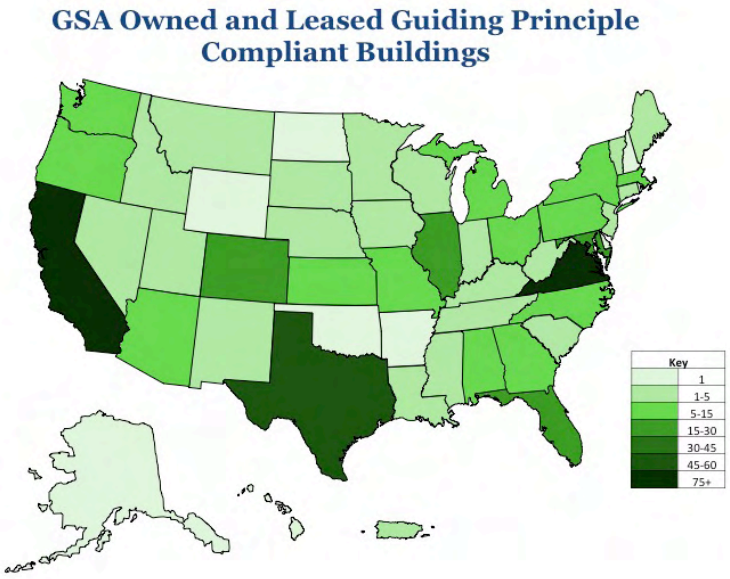
Mr. Horn has continued to lead interagency work groups in revising and re-envisioning the principles at the request of CEQ. In 2008, a set of principles for existing buildings was added along with reporting guidance from OMB. In 2011, Mr. Horn co-led an interagency team to create interpretations, documentation recommendations and new principles for leased space. The document provides useful guidance, though it was not issued by CEQ/OMB. In 2013, Mr. Horn co-led another work group to provide a vision for the guiding principles beyond the current target year of 2015. CEQ plans to release new principles and targets by the end of 2014 based on these recommendations.

DECLARATION OF RESPONSIBILITY

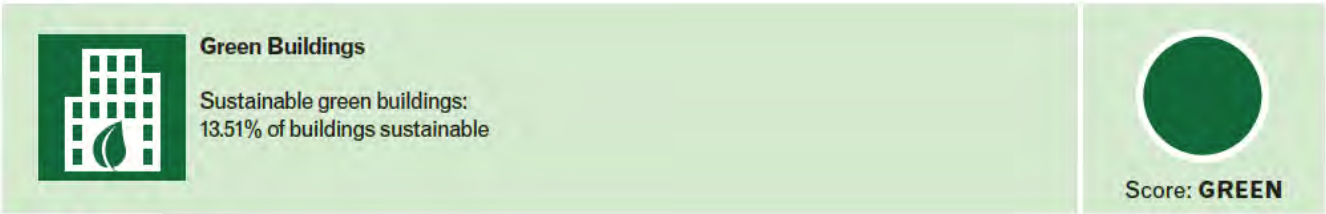
I have personal knowledge of the nominee's responsibility for the project listed above and that responsibility included: Co-lead for development

Kevin Kampschroer | Federal Director | GSA
Office of Federal High-Performance Green Buildings

Agency executives, including Bob Peck, former GSA Commissioner of Public Buildings, watch as President Obama signs Executive Order 13514.



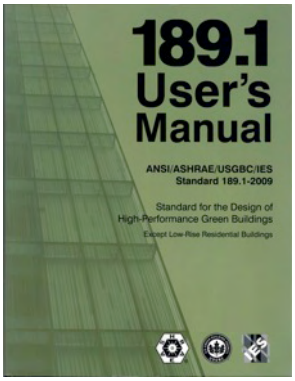
198 GSA Owned Buildings
746 GSA Leased Buildings
944 Total Buildings



From GSA's January 2014 OMB Scorecard on Sustainability/Energy

SECTION 3.3 STANDARD 189.1, STANDARD FOR THE DESIGN OF HIGH-PERFORMANCE GREEN BUILDINGS EXCEPT FOR LOW-RISE RESIDENTIAL

Completion Date: 2009, 2011, 2014
Role of Nominee: Committee Member, Working Group Lead, Executive Committee Member



www.ashrae.org/greenstandard

PROJECT DESCRIPTION

Standard 189.1, developed by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) in partnership with the U.S. Green Building Council (USGBC) and the Illuminating Engineering Society (IES), was the first comprehensive green building standard written in mandatory code language. The standard sets the foundation for green buildings by addressing site sustainability, water use efficiency, energy efficiency, indoor environmental quality, the building's impact on the atmosphere, materials and resources, and construction and plans for operation.

Mr. Horn was appointed to the original committee to develop Standard 189.1 in 2006 and has served as a voting member ever since. He is the chair of the working group for Section 9, The Building's Impact on the Atmosphere, Materials and Resources. He championed the inclusion of a full building life-cycle assessment as the performance path of Section 9, and the introduction of Environmental Product Declarations and multi-attribute standards in the 2014 version. As working group chair he is also on the Executive Committee that directs continuous maintenance of the Standard.

The Standard serves as an alternative compliance path for the 2012 International Green Construction Code (IgCC) and is referenced by jurisdictions as a baseline for achieving green building incentives. The Department of Defense has incorporated Standard 189.1 into their Unified Facilities Criteria and it is used for all Army new construction and major renovation projects. In 2014, the AIA, ASHRAE, USGBC, IES and the International Code Council signed a memorandum to collaborate on the development of Standard 189.1, the IgCC and the LEED green building program. This unprecedented cooperation aims to create a comprehensive framework for jurisdictions looking to implement and adopt green building regulations and codes.

DECLARATION OF RESPONSIBILITY

I have personal knowledge of the nominee's responsibility for the project listed above and that responsibility included: Committee Member

Andrew Persily | Chair of SSPC 189.1

SECTION 3.4 FACILITIES STANDARDS FOR THE PUBLIC BUILDINGS SERVICE

Completion Date: 2003, 2005, 2010, 2014
Role of Nominee: Subject matter expert

www.gsa.gov/p100

PROJECT DESCRIPTION

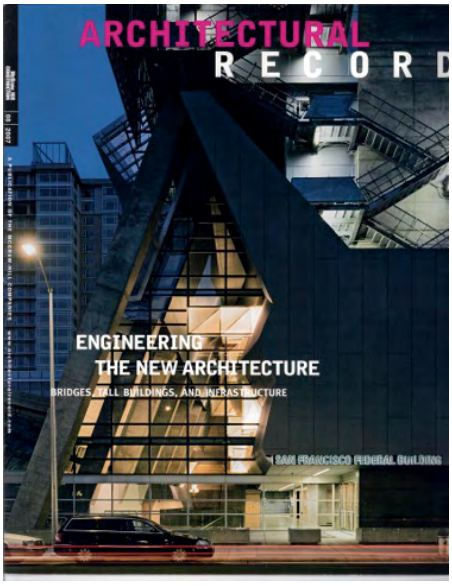
The Facilities Standards for the Public Buildings Service, frequently called the P100, provides design criteria for GSA new construction and major renovation projects. While developed for GSA projects it is frequently referenced by other agencies and influences the development of space leased to the Federal government. Sustainable design criteria, including a requirement for LEED certification, were added to the Standard in 2003.

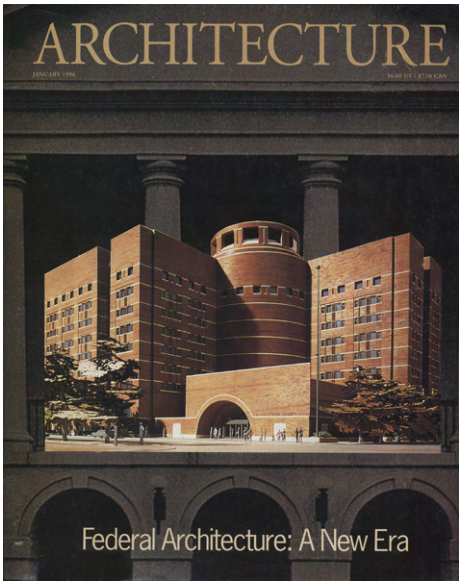
Mr. Horn has been actively editing GSA's Facilities Standards since 1991 and wrote the first sustainable design requirements in the 2003 version of the Standard. He identified key areas within the standards where green building strategies should be included and aligned the document to support federal mandates for energy efficiency and sustainable design, while also supporting GSA goals for LEED certification. He also mapped the guiding principles to the related LEED credits for inclusion in all projects. To date, GSA has 126 LEED certified projects, including 6 with Platinum certification.

DECLARATION OF RESPONSIBILITY

I have personal knowledge of the nominee's responsibility for the project listed above and that responsibility included: Author of sustainability requirements.

Martin J. Weiland | Facilities Standards Program Manager | GSA





GSA federal buildings designed to the Facilities Standards have been widely published.

1.8 Sustainability

Sustainability is the conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic, and other requirements of present and future generations. Sustainable design seeks to ensure that future generations are not disadvantaged by the depletion of natural or nonrenewable resources by the current generation. Sustainable designs follow an integrated, synergistic approach, in which all phases of the facility lifecycle are considered. Following sustainable design principles improves building performance, promotes the health and comfort of building occupants, minimizes environmental impacts, and supports natural resource availability. The result must be an optimal synergy of cost, environmental, societal, and human benefits while meeting the mission and function of the intended facility or infrastructure. Subsequent chapters of the P100 include requirements and recommendations to meet these objectives.

The essential principles of sustainable design and development are:

- Optimize site potential
- Minimize nonrenewable energy consumption
- Protect and conserve water
- Use environmentally preferable products and materials
- Enhance indoor environmental quality, and
- Optimize operations and maintenance practices

These principles must serve as the basis for planning, programming, design, budgeting, construction, commissioning, operation, maintenance, and disposal of all new facilities, major renovations, and existing building alterations. These principles must be applied as appropriate to every project scope. Applicable strategies and opportunities to improve sustainable performance must be included in all projects.

New construction and major renovations of GSA buildings, as well as applicable work in existing GSA buildings, must comply with the Guiding Principles for Federal

BEST PRACTICE
AIMING FOR TRUE SUSTAINABILITY

While Federal sustainability mandates establish minimum performance levels, designers can gain multiple benefits by maximizing environmental performance. For this reason, GSA has set a goal for Federal buildings of achieving a *zero environmental footprint*. High performance green buildings need not be more expensive when inspired design identifies creative solutions. For example, highly energy efficient buildings can save money by downsizing their HVAC systems to meet the reduced load. One green building system that promotes strategies and deeper systems thinking in pursuit of true sustainability is the Living Building Challenge (www.ilbi.org).

Another important strategy is *passive survivability*, which supports the ability of a facility to maintain life-support conditions for occupants if essential utilities are lost for an extended period. Passive design protects occupants and the public if events such as a natural disaster or terrorist act interrupt access to critical resources. Key passive design features include: cooling-load avoidance strategies, natural ventilation capabilities, a highly efficient thermal envelope, passive solar gain, and daylighting.

A third strategy to maximize environmental benefits is *design for deconstruction & reuse*— see the Lifecycle Building Challenge (www.lifecyclebuilding.org) for more information and ideas.

Leadership in High Performance and Sustainable Buildings. Strategies to meet the Guiding Principles are included in each appropriate chapter of the P100. For the latest guidance on implementing the Guiding Principles see www.wbdg.org/sustainableEO.

LEED Certification

Through integrative design and application of sustainable design principles, all new construction projects and substantial renovations must achieve, at a minimum, a LEED Gold rating through the Leadership in Energy and Environmental Design (LEED) Green Building Rating System of the U.S. Green Building Council. GSA's use of LEED is to measure and quantify building performance achievements in relation to our mandates and goals. Pursue LEED credits appropriate to the goals of GSA and to the type of project being designed.

For projects seeking LEED certification, the following prerequisites and credits must be achieved to comply with the Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings, unless specifically exempted from the project scope. Credits are listed under each Guiding Principle. Additional credits listed are interrelated and synergize with the Guiding Principles but are discretionary to achieve.

NOAA Satellite Operations Facility
Suitland, Maryland

The facility, featuring restored native and adaptive plants, earned a LEED Gold rating the year following its completion in 2006.

I. Employ Integrated Design Principles

Integrated Design

Innovation & Design:
LEED Accredited Professional

Commissioning

Energy & Atmosphere Prerequisite: Fundamental Commissioning of the Building Energy Systems

Energy & Atmosphere: Enhanced Commissioning

II. Optimize Energy Performance

Energy Efficiency

Energy & Atmosphere Prerequisite: Minimum Energy Performance

Energy & Atmosphere: Optimize Energy Performance—Improve by 30 percent for New Buildings or 20 percent below prerenovations 2003 energy use baseline for major renovations

On-Site Renewable Energy—interrelated discretionary credit

Energy & Atmosphere: On-Site Renewable Energy (solar hot water)

Measurement and Verification/Benchmarking

Energy & Atmosphere: Measurement and Verification

III. Protect and Conserve Water

Indoor Water

Water Efficiency Prerequisite: Water Use Reduction (20 percent reduction)

Outdoor Water

Water Efficiency: Water Efficient Landscaping—Reduce by 50 percent

Sustainable Sites: Stormwater Design—Quantity Control (Imperviousness)

Sustainable Sites: Stormwater Design—Quality Control (Best Management Practices)

IV. Enhance Indoor Environmental Quality

Ventilation and Thermal Comfort

Indoor Environmental Quality Prerequisite: Minimum Indoor Air Quality Performance

Indoor Environmental Quality: Thermal Comfort—Design

Daylighting

Indoor Environmental Quality: Daylight and Views—Daylight 75 percent of Spaces

Low-Emitting Materials

Indoor Environmental Quality: Low Emitting Materials—Adhesives and Sealants

Indoor Environmental Quality: Low Emitting Materials—Paints and Coatings

Indoor Environmental Quality: Low Emitting Materials—Flooring Systems

Indoor Environmental Quality: Low Emitting Materials—Composite Wood and Agrifiber Products

Protect Indoor Air Quality during Construction

Indoor Environmental Quality: Construction IAQ Management Plan—During Construction

Indoor Environmental Quality: Construction IAQ Management Plan—Before Occupancy

Environmental Tobacco Smoke Control

Indoor Environmental Quality Prerequisite: Environmental Tobacco Smoke (ETS) Control

V. Reduce Environmental Impact of Materials

Recycled Content

Materials & Resources: Recycled Content—10 percent (post consumer + ½ preconsumer)

Biobased Content—interrelated discretionary credit

Materials & Resources: Rapidly Renewable Materials

Materials & Resources: Certified Wood

Environmentally Preferable Products—interrelated discretionary credit

Consult the Federal Green Construction Guide for Specifiers at www.wbdg.org/design/greenspec.php

Materials & Resources: Materials Reuse—5 percent of total value of materials

Materials & Resources: Regional Materials—10 percent Extracted, Processed & Manufactured Regionally

Waste and Materials Management

Materials & Resources Prerequisite: Storage and Collection of Recyclables

Materials & Resources: Construction Waste Management—50 percent Recycled or Salvaged

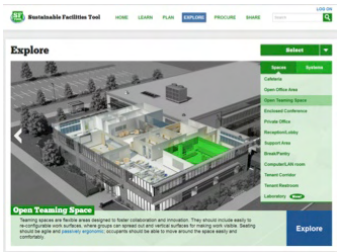
Ozone Depleting Compounds

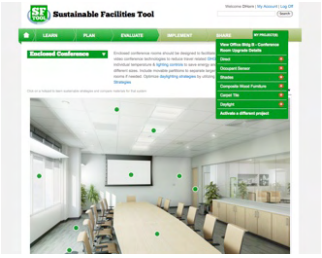
Energy & Atmosphere Prerequisite: Fundamental Refrigerant Management

Energy & Atmosphere: Enhanced Refrigerant Management

SECTION 3.5 SUSTAINABLE FACILITIES TOOL

Release Date: 2011
Role of Nominee: Conceived of project and led development





www.sftool.gov

PROJECT DESCRIPTION

The Sustainable Facilities Tool (SFTool.gov) is a free-to-use website for planning projects, exploring sustainable practices in whole building systems and interior spaces, procuring products, sharing knowledge and case studies, and learning sustainability terms and concepts. It engages facility managers, project managers, realty specialists and occupants in the process of creating cost-effective, high-performance workplaces. The interactive tool shares effective strategies to impact the large volume of everyday projects that typically lack involvement with design professionals, allowing users to engage in experiential learning regardless of their knowledge level or location. SFTool enables anyone to select sustainable materials, reference relevant government regulations, address occupant behavior, save water and conserve energy.

Recognizing the large quantity of small projects that are accomplished with the government without the support of design professionals, Mr. Horn created this online tool to assist in sustainability decision-making for the facility managers, project managers and realty specialists that implement such projects. He developed the vision and scope for the project, and led a team to create an innovative, interactive website for sustainability novices to learn, plan, evaluate and implement sustainable solutions in their daily work. SFTool was released for public use in February 2011 and now consists of over 2,000 webpages of useful tips, guidance and resources for improving facility sustainability. Mr. Horn continues to serve as project executive, as the tool has expanded to include whole building systems, green procurement and additional space types.

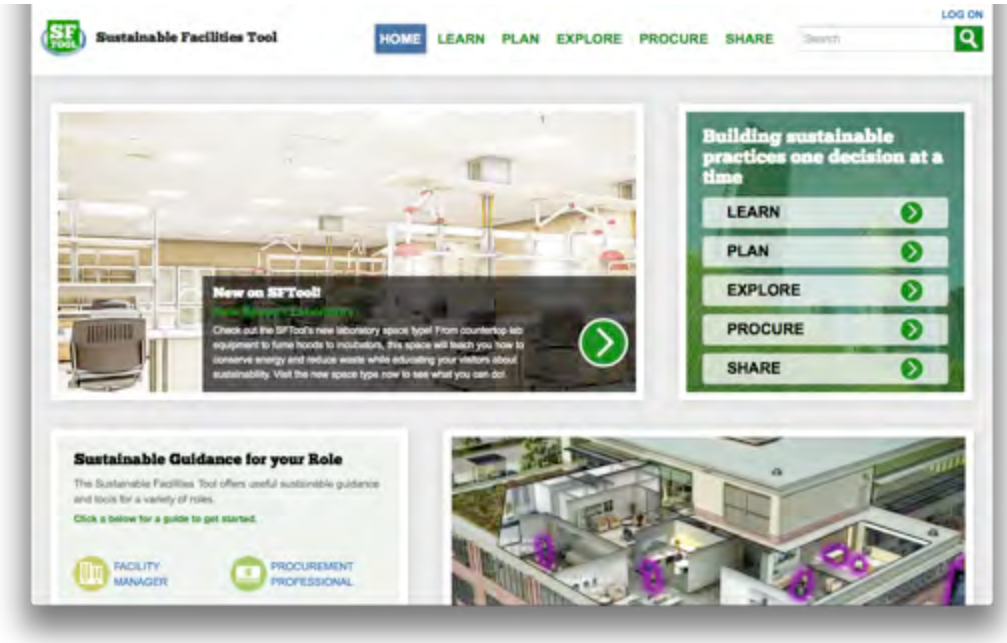
AWARDS

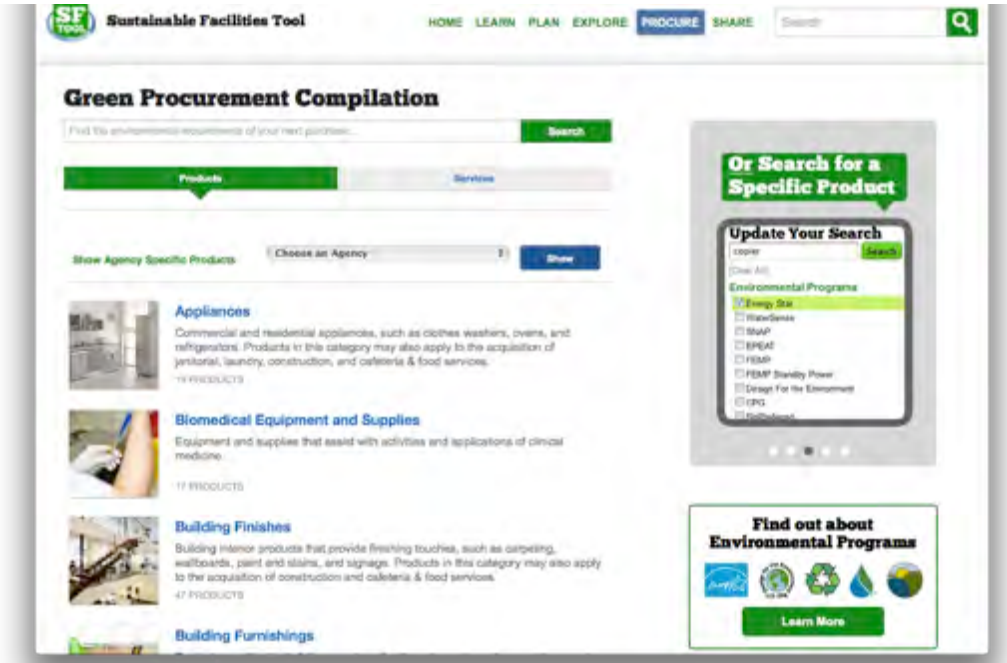
Leadership Award in Technology Innovation, AFFIRM Award, 2012

DECLARATION OF RESPONSIBILITY

I have personal knowledge of the nominee's responsibility for the project listed above and that responsibility included: Created vision and leading development.

Michael Bloom | Sustainable Design Expert | GSA


Sustainable Facilities Tool
HOME
LEARN
PLAN
EXPLORE
PROCURE
SHARE
LOG ON
New on SFTool!
Building sustainable practices one decision at a time
LEARN
PLAN
EXPLORE
PROCURE
SHARE
Sustainable Guidance for your Role
FACILITY MANAGER
PROCUREMENT PROFESSIONAL


Sustainable Facilities Tool
HOME
LEARN
PLAN
EXPLORE
PROCURE
SHARE
Green Procurement Compilation
Search
Products
Services
Show Agency Specific Products
Choose an Agency
Show
Appliances
Biomedical Equipment and Supplies
Building Finishes
Building Furnishings
Or Search for a Specific Product
Update Your Search
Environmental Programs
Find out about Environmental Programs
Learn More

SECTION 3.6 ASSESSING GREEN BUILDING PERFORMANCE

Completion Date: 2008, 2010
Role of Nominee: Subject matter expert, developed original protocol for evaluation

www.gsa.gov/graphics/pbs/Green_Building_Performance.pdf

PROJECT DESCRIPTION

To answer the question, "does sustainable design deliver?" GSA evaluated 12 sustainably designed buildings in its national portfolio in 2007. The evaluation of these buildings was comprehensive—measuring environmental performance, financial metrics, and occupant satisfaction. No previous analysis has taken such a holistic view. The buildings studied all incorporated sustainable design criteria to varying degrees, with seven receiving LEED ratings. The results of GSA's evaluation show that sustainably designed buildings outperform the national average for buildings of their type by a substantial margin. GSA's evaluation establishes a new benchmark for comprehensiveness using a protocol that others can follow, both in the federal and private sectors.

A follow up study in 2010 of 22 sustainably designed buildings, including the original 12, found 36% less carbon emissions, 25% less energy usage, 19% lower operational costs and 27% higher satisfaction than national average.

Mr. Horn participated in creating the original performance protocol with the Federal Energy Management Program. He then served as the subject matter expert in sustainable design as well as GSA's inventory of green buildings to direct, review and edit the research performed by DOE's Pacific Northwest National Laboratory for both reports.

DECLARATION OF RESPONSIBILITY

I have personal knowledge of the nominee's responsibility for the project listed above and that responsibility included: Subject Matter Expert

Kim Fowler | Research Director | PNNL

To achieve a representative sampling, GSA chose 22 buildings from 7 of its 11 national regions.

Northwest/Arctic
1 Seattle CT
2 Auburn FB
3 Eugene CT

Pacific
4 San Francisco FB
5 Fresno CT & FB
6 Santa Ana FB
7 Las Vegas CT

Rocky Mountain
8 Ogden FB
9 Lakewood FB
10 Denver CT
11 Denver FB

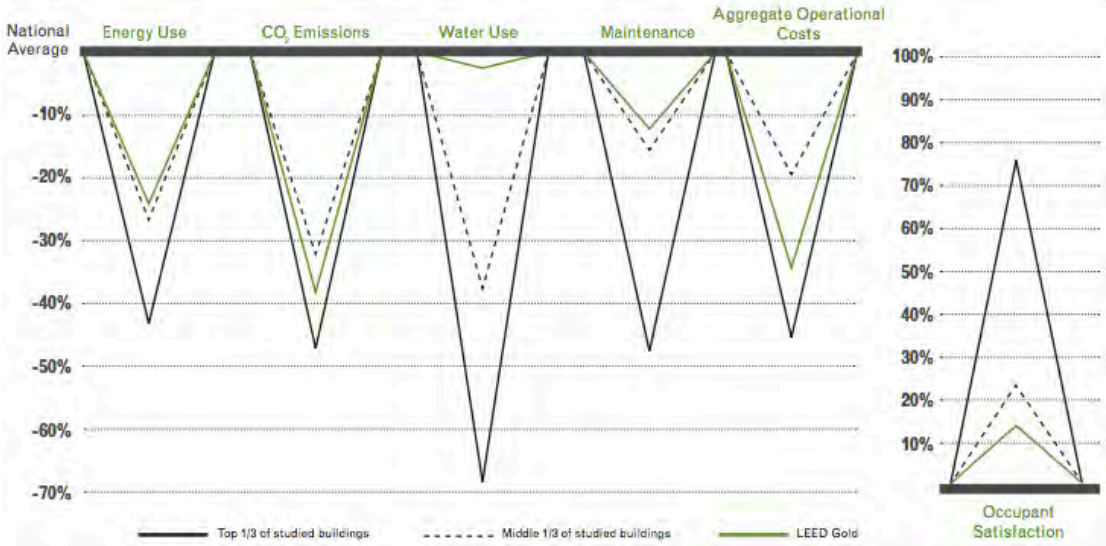
Heartland
12 Omaha DHS FB
13 Omaha NPS FB
14 Davenport CT
15 Cape Girardeau CT

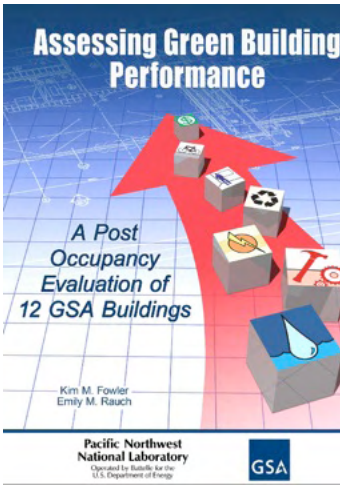
Great Lakes
16 Cleveland CT
17 Youngstown CT & FB

Southeast
18 Knoxville FB
19 Greenville CT
20 Jacksonville FB

National Capital
21 Suitland FB
22 Rockville FB

Figure 8: GSA Buildings Compared to the National Average





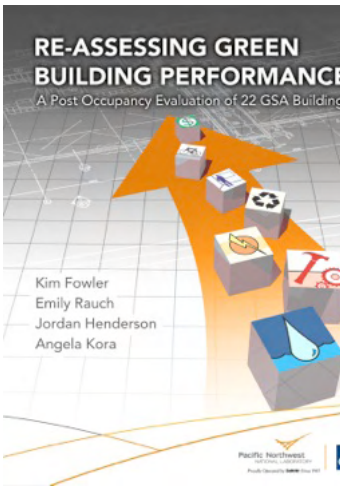


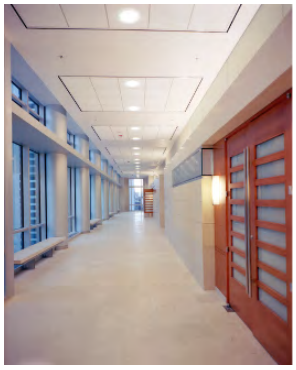
Table 3. Whole building performance metrics

Metrics	Performance Measurement	Reporting Metrics
Water	**Total Building Potable Water Use** $\frac{gal}{year}$ $\frac{\$}{year}$ **Indoor Potable, Outdoor, and Process Water Use** $\frac{gal}{year}$ $\frac{\$}{year}$	**Annual Domestic Water Use** $\frac{gal}{occupant}$ $\frac{\$}{occupant}$ $\frac{gal}{gsf}$ $\frac{\$}{rsf}$
Energy	**Total Building Energy Use** $\frac{Btu}{year}$ $\frac{\$}{year}$	**Annual Energy Use** $\frac{Btu}{gsf}$ $\frac{\$}{rsf}$ $\frac{Gkg\ CO_2}{year}$
Maintenance & Operations	**Building & Grounds Maintenance** $\frac{Service\ Calls}{year}$ $\frac{\$}{year}$ $\frac{Preventative\ Maintenance}{year}$	**Annual M&O** $\frac{Service\ Calls}{Preventative\ Maintenance}$ $\frac{Maint\ \$}{rsf}$ $\frac{Grounds\ \$}{rsf}$ $\frac{Janitor\ \$}{rsf}$
Waste Generation & Recycling	**Solid Sanitary Waste** $\frac{ton}{year}$ $\frac{\$}{year}$ **Recycled Material** $\frac{ton}{year}$ $\frac{\$}{year}$	**Annual Waste & Recycled** $\frac{lb}{occupant}$ $\frac{\$}{rsf}$ $\frac{\$}{occupant}$ $\frac{lb\ Recycled}{lb\ Sanitary\ Waste}$
Occupant Satisfaction	**Building Occupant Self-Reported Satisfaction** $\frac{Occupant\ Rating}{Survey\ Metric}$	**Building Occupant Satisfaction** CBE Baseline Percentile - Total Building Occupant Satisfaction
Transportation	**Regular Commute (from survey data)** $\frac{miles}{gallons}$ $\frac{miles}{week}$	**Annual Transportation Impacts** $\frac{Gkg\ CO_2}{year}$

11

SECTION 3.7 ALFRED A. ARRAJ U.S. COURTHOUSE

Architectural Firm of Record: Anderson Mason Dale P.C.
Design Firm: HOK
Completion Date: 2002
Role of Nominee: Elevated building to International Green Building Challenge, Created high-performance building brochure



PROJECT DESCRIPTION

The Alfred A. Arraj U.S. Courthouse in Denver, CO, consists of two structures – the pavilion building and the 10-story tower building, containing ten district courtrooms, four magistrate judge courtrooms, and one special proceedings courtroom.

The Arraj Couthouse became GSA's first model green courthouse after a challenge by the Commissioner for the Public Buildings Service in 1996 to create a showcase green building. The project included additional funding for specific cost-effective green features and to serve as a learning lab for future GSA projects. The project was thought to be equivalent to LEED Silver but certification was not pursued because the project had advanced too far without keeping documentation. Its energy efficiency – provided through key features such as the aggressive use of natural daylight and a highly efficient underfloor air distribution system – reduces utility costs.

In 2005, Mr. Horn orchestrated the evaluation of the Arraj Courthouse under the Green Building Challenge, an international effort to evaluate and improve the performance of buildings worldwide, and LEED version 2.0 as well as its presentation at the World Sustainable Building Conference in Tokyo as the only U.S. entry. Mr. Horn guided the U.S. Team to complete technical evaluations of both rating systems and created a four-page brochure for the Department of Energy describing the high-performance features of the courthouse. The Arraj Courthouse achieved LEED EB Silver certification in 2009.

AWARDS

AIA Colorado – Honor Award
AIA Committee on Architecture for Justice – Distinguished Building Honor Award
AIA Denver – Citation Award
Colorado Renewable Energy Society – Renewable Energy in Buildings Award
Environmental Design & Construction magazine – Excellence in Design, Honorable Mention

DECLARATION OF RESPONSIBILITY

I have personal knowledge of the nominee's responsibility for the project listed above and that responsibility included: Facilitated International Green Building Challenge Participation

Kevin Kampschroer | Federal Director | GSA
Office of Federal High-Performance Green Buildings

Alfred A. Arraj U.S. Courthouse

Denver, Colorado

A Model of Sustainability

On the northwest edge of downtown Denver a new Federal courthouse is the latest addition to a four-block district that exemplifies the Federal Government's presence in the Mile High City for the past 100 years. With each building in the district symbolizing the dignity and permanence of the government, each also reflects the unique time period in which it was designed. Completed in 2002, the Alfred A. Arraj U.S. Courthouse is a model of sustainability symbolizing a renewed environmental awareness that is becoming increasingly more important in the 21st century.

The courthouse was built by the U.S. General Services Administration's (GSA) Public Buildings Service, which has a tradition of promoting technical innovation and plays a leadership role in providing environmentally sensitive building design, construction, and management practices. Federal buildings must reflect the image and values of the United States and respond to the obligation of all citizens to be stewards of the environment.

The Arraj Courthouse, designed by HOK and Anderson Mason Dale Architects, houses the U.S. District Court for the District of Colorado and the U.S. Marshals Service. The 320,000 square foot facility includes a 10-story tower with 14 courtrooms and a 2-story pavilion housing the Special Proceedings Courtroom. The Arraj Courthouse is an example of GSA's continuing commitment to Design Excellence, a program to attract the best design talent available for creating outstanding facilities to serve the American public.

GSA's Public Buildings Service

The mission of GSA's Public Buildings Service (PBS) is to provide a superior workplace for the Federal worker and superior value to the American taxpayer. The vision is to be the best real estate organization in the world.

PBS is the landlord of the civilian Federal Government, with a total inventory of over 339 million square feet of workspace for one million Federal employees in 2,000 American communities. This includes over 1,600 government-owned buildings, or approximately 55 percent of GSA's total inventory. The remaining 45 percent is in privately owned leased facilities.

GSA is committed to incorporating principles of sustainable design and energy efficiency into all of its building projects. As a means of evaluating and measuring its green building achievements, GSA requires all new construction projects and substantial renovations to be certified through the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) rating system. Projects are encouraged to exceed basic certification and achieve the LEED® Silver Level.

A Showcase Green Courthouse

In November of 1996 a 20-member interdisciplinary panel of leading architects, engineers, environmentalists, planners and research scientists met to recommend green building technologies for GSA's multi-billion dollar courthouse construction program. The result was guidance for incorporating green building design objectives in a Denver courthouse expansion project, later to be known as the Alfred A. Arraj U.S. Courthouse. The project team then determined which sustainable design concepts were appropriate for the project, drawing upon a study that assessed the potential costs of incorporating each strategy. First costs and life-cycle costs were considered as well as intangible benefits such as improved workplace environment, productivity, flexibility, maintainability, and occupant health and safety. Throughout the project the sustainable design measures were continuously evaluated for appropriateness and viability. After an initial budget increase of nearly 7%, most sustainable features were retained through construction cost increases, value engineering and programmatic changes. GSA is proud to showcase its first green courthouse, a model of sustainability.

Project Goals:

- Reduce electrical demand by 50%
- Provide daylighting to all building occupants
- Maximize reusable products
- Maximize flexibility to accommodate change
- Minimize construction waste
- Provide a healthy and productive work environment

GSA

Contacts

U.S. General Services Administration
Public Buildings Service
Office of Applied Science
1800 F Street, NW
Washington, DC 20405
www.gsa.gov/sustainabledesign
www.highperformancebuildings.gov

U.S. General Services Administration
Rocky Mountain Region
W. 6th Avenue and Kipling Street
Lakewood, CO 80225

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Produced for the U.S. General Services Administration by the National Renewable Energy Laboratory, a DOE national laboratory

September 2005

Printed with a renewable-source ink on paper containing at least 50% wastepaper, including 20% postconsumer waste

Site Selection and Orientation

The building completes a four-block Federal district delineated by 18th and 20th Streets and Curtis and California Streets. It is adjacent to Denver's rapid transit system and multiple bus stops to enable public transportation access. A collaborative effort between GSA, Denver and public groups made this building compatible with development objectives for the central business district. The building meets the Judiciary's current space requirements allowing for future expansion needs and is designed for a 100-year life expectancy.

Landscape Features

The 2-story pavilion with the public entrance and Special Proceedings Courtroom is positioned on a southeast-oriented landscaped plaza and recalls a historic courthouse-in-the-square. The plaza paving of local stone is set in sand beds rather than concrete to absorb water and help control runoff. The plaza contains a xeriscape of hardy regional plants that are low maintenance and drought tolerant. A water feature runs from the sidewalk to the building entrance symbolizing nearby streams of the high desert.

Materials

Carefully selected building materials maximize the benefits of durability, local production, recycled-content and certified wood. Interior floors of Spanish limestone are light in color and durable. Local materials include exterior stone paving and pre-cast concrete elements. All paints and adhesives are low in volatile organic compounds and water-based. Steel and other recycled content products comply with the Comprehensive Procurement Guidelines for Federal agencies. Maple wood paneling from sustainably managed forests in Pennsylvania is used throughout the courtrooms and lobby. The courtroom flooring is cork, which is a renewable natural resource traditionally used in courtrooms in the 1920's and 30's.

Daylighting

The public corridors of the building are oriented to the southeast to maximize solar exposure. Oversized windows provide visitors with a connection to the outdoors and magnificent views of downtown Denver. Internal light shelves bounce daylight onto light-colored surfaces so that it reaches deep into the interior. Fluted glass panels bring diffused daylight into the interior courtrooms and other spaces. Automated shades can provide 50% or 100% opacity when needed. Overall, natural light is available throughout 75% of the building.

High-Performance Glazing

The original building design explored the possibility of a double glass curtainwall for the south-facing public corridors. After extensive analysis high-efficiency triple-glazed windows were selected. The initial cost was higher but the resulting reduction in heating and cooling load makes them an economical choice. Clear glazing is used above the light shelves and tinted glass is used below. Fritting is also applied in key areas to filter the sunlight entering the space.

Advanced Building Controls

The lighting system takes maximum advantage of the daylighting by incorporating electronic dimming ballasts, occupancy sensors, and low-level ambient lighting. The building automation and performance assurance system is state-of-the-art to optimize building systems within the top 20% of performance. The custom-designed energy management system monitors outside temperatures to optimize heating and cooling loads and neutralize the impact of weather extremes, weekend building closures, and other conditions that can compromise interior comfort.

Energy

The design was modeled with DOE 2.1 software to perform 46% better than a building designed to the Code of Federal Regulations energy baseline. Photovoltaic panels on the edge of the roof are projected to provide 2 to 3% of the building's electrical load, primarily reducing peak load demand. Evaporative cooling reduces the need for an electric powered chiller and is the major source for seasonal air conditioning. Variable speed fans and pumps also reduce energy usage during partial load conditions.

Underfloor Air Distribution

The courtrooms use displacement ventilation from an underfloor air system to provide thermal stratification throughout the 16-foot high space. Only the occupied area is required to be within standard temperature ranges. Air is delivered to the space at a low velocity, passing the breathing zone and exhausting near the ceiling of the space. This system is extremely quiet and provides high-quality air. A full-scale mockup and heat load test was performed to demonstrate the adequacy and proper balancing of the low velocity system before continuing with the remainder of the building. Underfloor air distribution is also used in the first three floors of offices allowing individual user control and flexibility for spatial reconfiguration.

SECTION 3.8 FEDERAL CENTER SOUTH BUILDING 1202, SEATTLE, WA

Architectural Firm of Record: ZGF Architects
Completion Date: 2012
Role of Nominee: Established Minimum Performance Criteria, Researching integrated project delivery and the effects of daylight on occupants

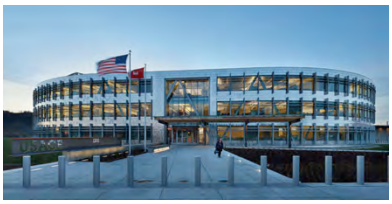


Photo credit: Benjamin Benschneider Photography

PROJECT DESCRIPTION

This project is a redevelopment of an existing warehouse for the Army Corps of Engineers. The building has a unique design suited to the tenant's mission of "build strong." The U-shaped floor plan is representative of the original course of the Duwamish waterway and maximizes daylight and flexibility. The building faces the water to reflect the Army Corps of Engineers work with our nation's waterways. Building features include:

- Target energy usage for all utilities of 28,200 BTU/GSF-yr
- Restoration of large areas of hardscape to green space
- Use of innovative integrated mechanical systems
- A rainwater collection system that captures water and stores it in a 25,000 gallon cistern for use in toilet flushing, irrigation, cooling, and landscaping
- Geothermal energy wells that extend 150 feet below ground and loop water for cooling and heating
- Thermal storage that 'stores' cold-energy for future use in the chilled beams to cool the office space
- An energy-efficient HVAC system using under-floor air distribution
- Reuse of nearly 200,000 board feet of structural timber and 100,00 board feet of wood decking salvaged from the adjacent decommissioned warehouse

Mr. Horn articulated the Federal Guiding Principles for High Performance and Sustainable Buildings into minimum performance criteria for GSA's Recovery Act projects. The criteria set the stage for the design team to aspire to even higher performance targets. Mr. Horn is co-leading research on the integrated project delivery process and the effects of daylighting on occupants in this and two other GSA buildings. The project is anticipating LEED Gold certification.

AWARDS

GSA Design Award, Citation, 2014
Innovative Design in Engineering and Architecture with Structural Steel Award (IDEAS^2), 2014
AIA COTE Top Ten, 2013
Beyond Green High-Performance Building Award, Honor Award, Sustainable Buildings Industry Council, 2012

DECLARATION OF RESPONSIBILITY

I have personal knowledge of the nominee's responsibility for the project listed above and that responsibility included: Established Minimum Performance Criteria, and Researching Performance

_
Dan R. Brown | Director, Design & Construction | GSA Region 10

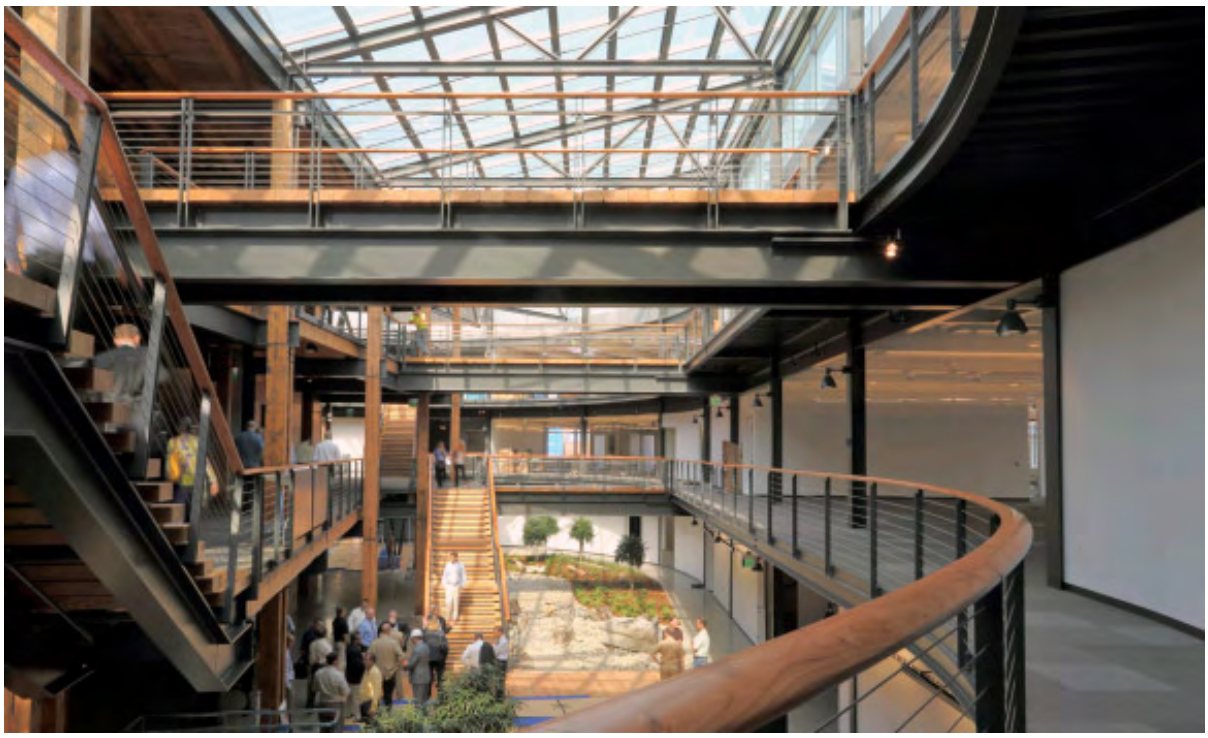


Photo credit: Benjamin Benschneider Photography

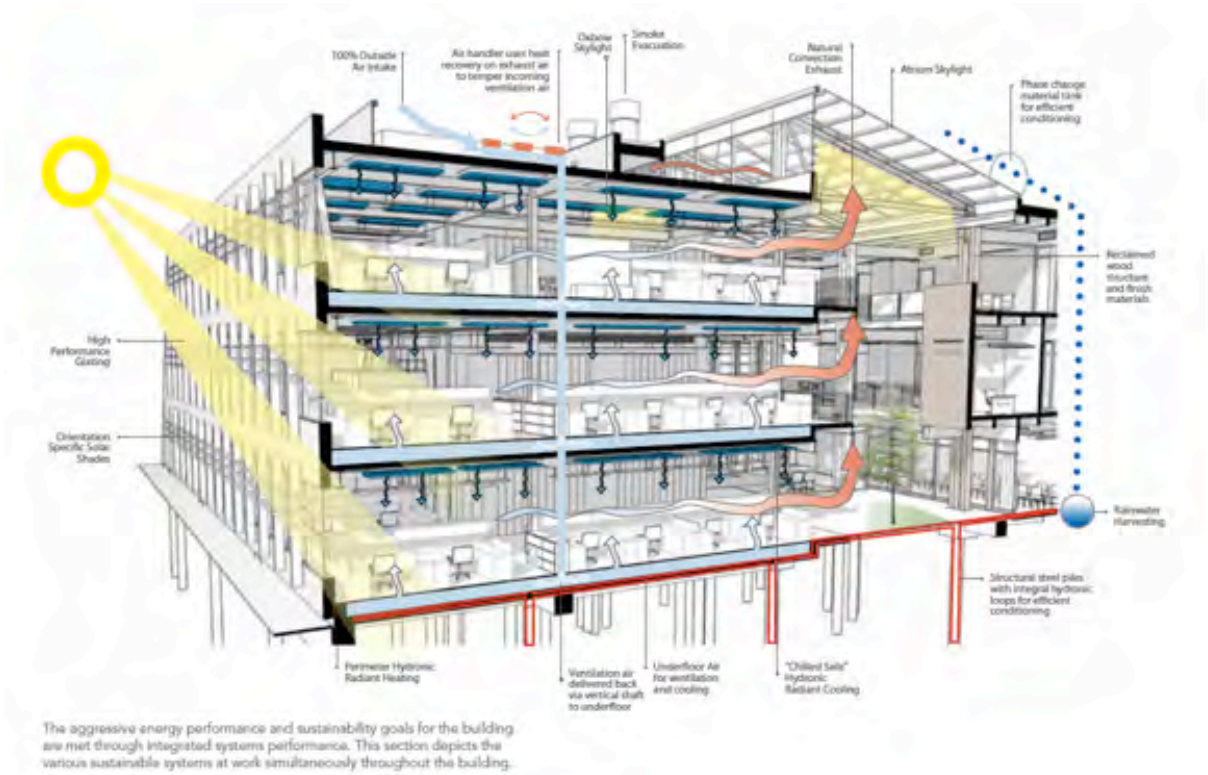
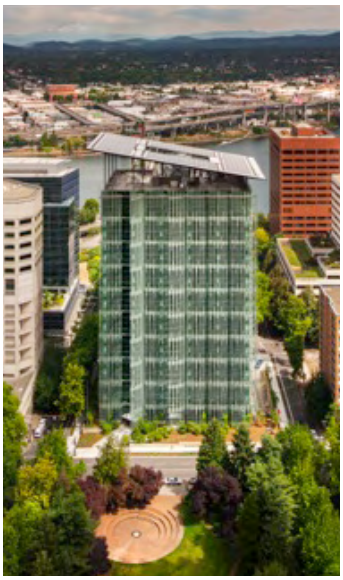


Photo Credit: ZGF Architects LLP

SECTION 3.9 EDITH GREEN – WENDELL WYATT FEDERAL BUILDING, PORTLAND, OR

Architectural Firm of Record: SERA Architects
Design Firm: Cutler Anderson Architects
Completion Date: 2014
Role of Nominee: Established Minimum Performance Criteria, Researching integrated project delivery and the effects of daylight on occupants


Before


After

PROJECT DESCRIPTION

The Edith Green – Wendell Wyatt Federal Building was originally constructed in 1974 and underwent a major renovation between 2009 and 2013. Today the building is a cornerstone of GSA's green building portfolio with all new mechanical, electrical, plumbing and data systems designed to make it one of the most energy efficient office buildings in the country. The newly-renovated Federal Building includes a number of efficient, sustainable and innovative technologies including:

- solar thermal panels that will provide for 30% of the building's domestic hot water
- a 13,000 square foot solar roof that will produce 3% of the building's electrical energy requirements annually
- modernized elevators that generate power as they descend
- unique shading devices on the south, west and east facades designed to respond to the sun conditions, maximize daylight and minimize solar heat gain during the summer
- energy efficient electric lighting systems with advanced controls that will reduce light energy usage by 40% compared to Oregon code
- a 165,000 gallon cistern used to flush low-flow toilets and irrigate native landscaping
- energy efficient water fixtures, which in addition to rainwater reuse, will reduce overall water consumption by 60%
- a dedicated outside air system that provides 100% fresh air

Mr. Horn articulated the Federal Guiding Principles for High Performance and Sustainable Buildings into minimum performance criteria for GSA's Recovery Act projects. The criteria set the stage for the design team to aspire to even higher performance targets. Mr. Horn is co-leading research on the integrated project delivery process and the effects of daylighting on occupants in this and two other GSA buildings. The project received LEED Platinum certification.

AWARDS

AIA COTE Top Ten, 2014
GSA Design Award, Honor Award, 2014
Tall Building in America Award, Council on Tall Buildings and Urban Habitat, 2014
Better Bricks Commercial Real Estate Award, Sustainable Project of the Year, 2014
AIA Northwest & Pacific Region, Merit Award, 2013

DECLARATION OF RESPONSIBILITY

I have personal knowledge of the nominee's responsibility for the project listed above and that responsibility included: Established Minimum Performance Criteria, and Researching Performance

Dan R. Brown | Director, Design & Construction | GSA Region 10

Photo Credit: Nic Lehoux Architectural Photography

REFERENCES

1. Zaida Basora, FAIA
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3. Dagmar Epsten, FAIA
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5. Anthony Floyd, FAIA
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6. Kevin Kampschroer
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   Federal Director, Office of Federal Highd Performance Green Buildings
   Relationship to Nominee: Supervisor

7. Laura Stagner, AIA
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   Assistant Commissioner for Project Delivery, Public Buildings Service
   Relationship to Nominee: Professional Colleague