

**WILLIAM JAMES HALL, 10TH FLOOR
33 KIRKLAND STREET, CAMBRIDGE, MA
PROJECT PROFILE**

**LEED CI V2009
LEED GOLD
2016**

The renovations to the 10th floor of William James Hall at Harvard University are designed to support three psychology professors and their students as well as provide testing facilities to support their research. Demolition included asbestos and PCB remediation efforts while still maintaining high levels of construction waste diversion. While modifications to the base building HVAC systems were not within the scope of the project, highly efficient active chilled beams, LED lighting and a robust control systems maximize the energy efficiency of the project space.

Testing areas, restrooms, circulation, storage, and other less frequently used spaces were positioned in the core of the building so that offices and conference rooms are able to take advantage of the glazing on the north and south facades of the building. Window films were added to reduce solar heat gain, resulting in a reduction of the size of the chilled beams.



Photo: LAB / Life. Science. Architecture, Inc., 2013.

One of the most notable areas receiving the highest amount of points toward the Gold certification is the Energy & Atmosphere section. Lighting power reductions compared to an ASHRAE 90.1-1999 baseline reached 26%. In most spaces when occupancy is detected the lighting is turned on, but only at 50% power. This allows occupants to decide whether the full brightness mode is necessary. Optimization of HVAC performance was achieved through zoning and controls which improves occupant comfort by sensing individual space use and modulating HVAC systems in response to space demand.

LEED® Facts

**Harvard University
William James Hall**



| | |
|-----------------------------------|---------------|
| Location..... | Cambridge, MA |
| Rating System..... | LEED-Civ3 |
| Certification Anticipated..... | Gold |
| Total Points Anticipated..... | 69/110 |
| <hr/> | |
| Sustainable Sites..... | 18/21 |
| Water Efficiency..... | 6/11 |
| Energy and Atmosphere..... | 24/37 |
| Materials and Resources..... | 5/14 |
| Indoor Environmental Quality..... | 7/17 |
| Innovation and Design..... | 5/6 |
| Regional Priority..... | 4/4 |

PROJECT METRICS

- 30%** Reduction in water use below EAct 1992 baseline
- 26%** Reduction in lighting power density
- 20%** Use of recycled materials as a percentage of total project cost
- 25%** Use of regionally manufactured materials as a percentage of total project cost
- 80%** Use of FSC Certified wood as a percentage of new wood materials cost





PROJECT PLANS AND RENDERINGS

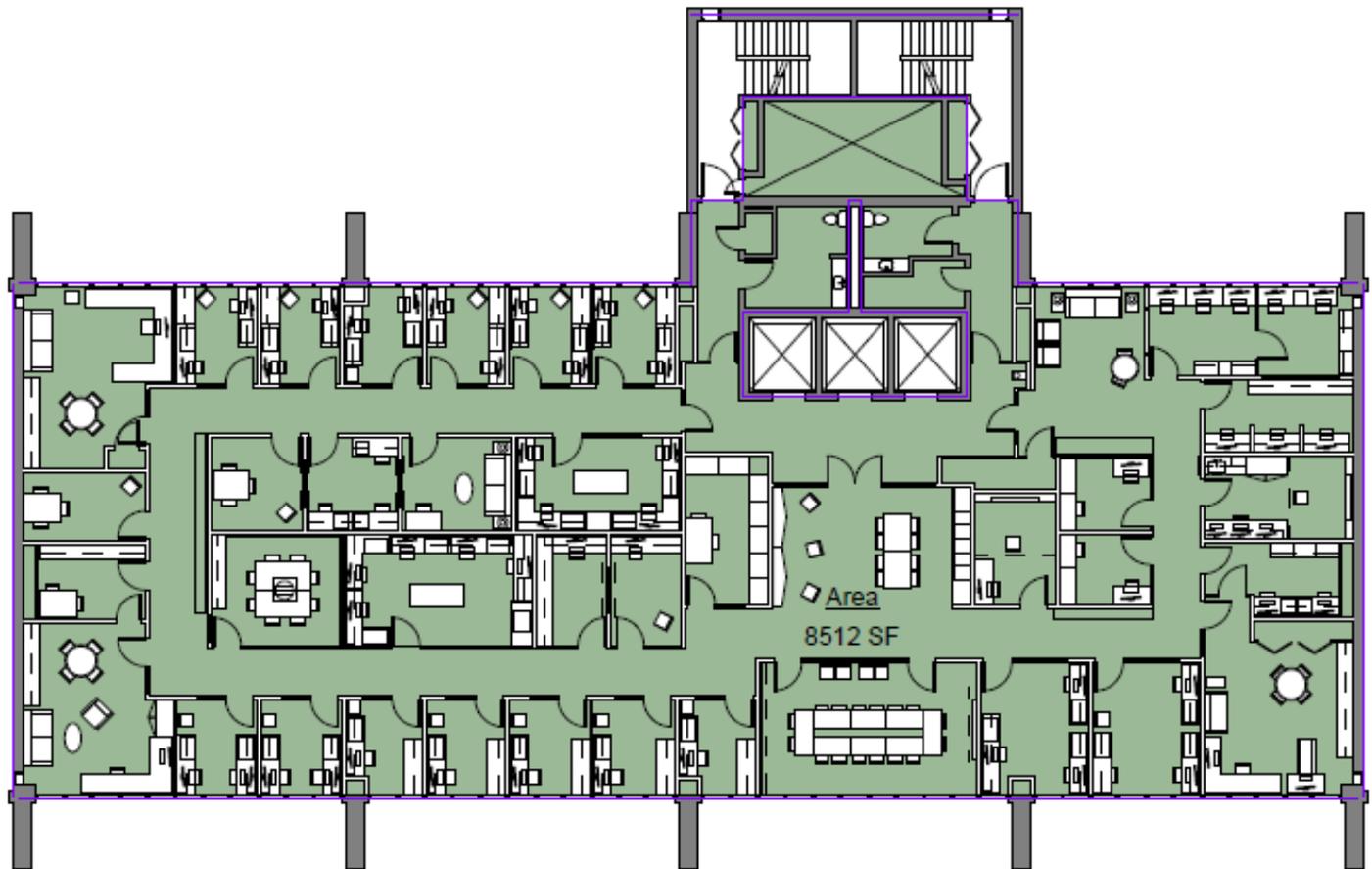


Photo: LAB / Life. Science. Architecture, Inc., 2013.

PROJECT TEAM

| | |
|----------------------------------|---|
| Project Manager | Harvard Faculty of Arts and Sciences |
| Architect | LAB / Life. Science. Architecture, Inc. |
| MEP Engineer | Rist-Frost-Shumway Engineering |
| Contractor | Wise Construction |
| Commissioning Authority | Harvard Green Building Services |
| Sustainability Consultant | Harvard Green Building Services |



ENERGY EFFICIENCY AND INDOOR ENVIRONMENTAL QUALITY

ENERGY EFFICIENCY

ECM 1: Active Chilled Beams

These HVAC units harness the flow of ventilation air supply to provide heating and cooling to a space, eliminating the need for supplemental fans like those found in fan coil unit systems.

ECM 2: Occupancy Based Setbacks

Offices and many shared spaces feature occupancy sensors that either raise or lower the temperature setpoint as appropriate during the summer or winter respectively.

ECM 3: Window Films

Glazing on the South and North facades were retrofitted with films that drastically reduce the windows' solar heat gain factors while slightly increasing their insulative properties.

ECM 4: Zoning

Three distinct HVAC zones—northern, southern, and interior—allow HVAC systems to more accurately respond to heating and cooling demands without overheating or cooling adjacent spaces.

ECM 5: Lighting Power Reduction

A mix of LED and reduced wattage fluorescent lighting installed in this project results in an overall lighting power density reduction of 25% over the ASHRAE 90.1-2007 standard, or 0.74 W/sf.

ECM 6: Occupancy Control of Lighting and Plug Loads

Occupancy sensors in all offices control the lighting and are programmed in a manner that lighting turns on at 50% power when occupancy is detected and shuts completely off after vacancy is detected. In the professors' offices, certain receptacles are also tied to the occupancy sensor so floor lamps or other equipment that is not needed during unoccupied periods turns off automatically.



Photo: LAB / Life. Science. Architecture, Inc., 2013.



Photo: LAB / Life. Science. Architecture, Inc., 2013.

INDOOR ENVIRONMENTAL QUALITY

The William James 10th Floor renovation is committed to providing a healthy indoor environment for all occupants. The project team was careful to maintain healthy indoor air quality during construction and to also ensure the space is designed to promote healthy indoor air quality during occupancy.

| Product Category | Product & Manufacturer | VOC Content (g/l) | VOC Limit (g/l) | Standard |
|----------------------|--|-------------------|-----------------|-------------------|
| Paints & Coatings | > Interior Flat Paint, Coating or Primer, Sherwin Williams | 0 | 50 | Green Seal GS-11 |
| | > Interior Non-Flat Paint, Coating or Primer, Sherwin Williams | 0 | 150 | Green Seal GS-11 |
| | > Pigmented Lacquer, ML Campbell | 526 | 550 | SQACMD Rule #1168 |
| Adhesives & Sealants | > Drywall and Panel Adhesives, BASWA | 0 | 50 | SQACMD Rule #1168 |
| | > Structural Glazing Adhesives, Dow Corning | 43 | 100 | SQACMD Rule #1168 |



PRODUCTS AND MATERIALS

RECYCLED MATERIALS

- 20% recycled content value as a percentage of total materials cost



**Acoustical Ceiling Tile
Optima**
Armstrong

- ✓ 71% pre-consumer recycled content



Aeron Chair
Herman Miller

- ✓ 20% pre-consumer recycled content
- ✓ 31% post-consumer recycled content



**Resilient Flooring
Marmoleum Vivace**
Forbo

- ✓ 46.5% pre-consumer recycled content

REGIONAL MATERIALS

- 25% regional materials as a percentage of total materials cost



**Carpet
Graph 44051**
Tandus

- ✓ 100% manufactured regionally (440 miles from project site; Nova Scotia)



**Ceiling Grid
7600 Silhouette**
Armstrong

- ✓ 100% manufactured regionally (331 miles from project site; Aberdeen, MD)
- ✓ 98% extracted regionally (331 miles from project site; Aberdeen, MD)

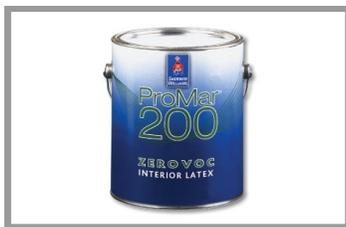


**Resilient Flooring
Marmoleum Real**
Forbo

- ✓ 100% manufactured regionally (271 miles from project site; Hazelton, PA)

LOW-EMITTING MATERIALS

- 100% of the project's adhesives, sealants, paints, coatings, flooring systems, and engineered wood are **low-emitting**.



**Interior Flat Paint
Promar 200 Zero VOC**
Sherwin Williams

- ✓ No VOCs



**Carpet
Shantung Couture**
J&J

- ✓ CRI Green Label Plus Certified



**Cove Base Adhesive
Ultra Bond Eco 575**
Mapei

- ✓ No VOCs

Please note that while many products are described in this project profile, these are provided for informational purposes only, to show a representative sample of what was included in this project. Harvard University and its affiliates do not specifically endorse nor recommend any of the products listed in this project profile and this profile may not be used in commercial or political materials, advertisements, emails, products, promotions that in any way suggests approval or endorsement of Harvard University.



PROJECT SCORECARD

Harvard FAS - William James 10th Floor

Project ID: 1000020470
 Rating system & version: LEED-CI v2009
 Project registration date: 11/29/2011



Certified (Gold)

CERTIFIED: 40-49, SILVER: 50-59, GOLD: 60-79, PLATINUM: 80+

[DOWNLOAD SCORECARD](#)

LEED FOR COMMERCIAL INTERIORS (V2009)

ATTEMPTED: 70, DENIED: 11, PENDING: 0, AWARDED: 69 OF 110 POINTS

| SUSTAINABLE SITES | | 18 OF 21 |
|-------------------|--|----------|
| SSc1 | Site Selection | 2 / 5 |
| SSc2 | Development Density and Community Connectivity | 6 / 6 |
| SSc3.1 | Alternative Transportation-Public Transportation Access | 6 / 6 |
| SSc3.2 | Alternative Transportation-Bicycle Storage and Changing Room | 2 / 2 |
| SSc3.3 | Alternative Transportation-Parking Availability | 2 / 2 |

| WATER EFFICIENCY | | 6 OF 11 |
|------------------|-----------------------------------|---------|
| WEp1 | Water Use Reduction-20% Reduction | Y |
| WEc1 | Water Use Reduction | 6 / 11 |

| ENERGY AND ATMOSPHERE | | 24 OF 37 |
|-----------------------|--|----------|
| EAp1 | Fundamental Commissioning of the Building Energy Systems | Y |
| EAp2 | Minimum Energy Performance | Y |
| EAp3 | Fundamental Refrigerant Mgmt | Y |
| EAc1.1 | Optimize Energy Performance-Lighting Power | 3 / 5 |
| EAc1.2 | Optimize Energy Performance-Lighting Controls | 2 / 3 |
| EAc1.3 | Optimize Energy Performance-HVAC | 5 / 10 |
| EAc1.4 | Optimize Energy Performance-Equipment and Appliances | 4 / 4 |
| EAc2 | Enhanced Commissioning | 5 / 5 |
| EAc3 | Measurement and Verification | 0 / 5 |
| EAc4 | Green Power | 5 / 5 |

| MATERIALS AND RESOURCES | | 5 OF 14 |
|-------------------------|---|---------|
| MRp1 | Storage and Collection of Recyclables | Y |
| MRC1.1 | Tenant Space-Long-Term Commitment | 1 / 1 |
| MRC1.2 | Building Reuse | 0 / 2 |
| MRC2 | Construction Waste Mgmt | 0 / 2 |
| MRC3.1 | Materials Reuse | 0 / 2 |
| MRC3.2 | Materials Reuse-Furniture and Furnishings | 0 / 1 |
| MRC4 | Recycled Content | 2 / 2 |
| MRC5 | Regional Materials | 1 / 2 |
| MRC6 | Rapidly Renewable Materials | 0 / 1 |
| MRC7 | Certified Wood | 1 / 1 |

| INDOOR ENVIRONMENTAL QUALITY | | 7 OF 17 |
|------------------------------|--|---------|
| IEQp1 | Minimum IAQ Performance | Y |
| IEQp2 | Environmental Tobacco Smoke (ETS) Control | Y |
| IEQc1 | Outdoor Air Delivery Monitoring | 0 / 1 |
| IEQc2 | Increased Ventilation | 0 / 1 |
| IEQc3.1 | Construction IAQ Mgmt Plan-During Construction | 1 / 1 |
| IEQc3.2 | Construction IAQ Mgmt Plan-Before Occupancy | 1 / 1 |
| IEQc4.1 | Low-Emitting Materials-Adhesives and Sealants | 1 / 1 |
| IEQc4.2 | Low-Emitting Materials-Paints and Coatings | 1 / 1 |
| IEQc4.3 | Low-Emitting Materials-Flooring Systems | 1 / 1 |
| IEQc4.4 | Low-Emitting Materials-Composite Wood and Agrifiber Products | 1 / 1 |
| IEQc4.5 | Low-Emitting Materials-Systems Furniture and Seating | 0 / 1 |
| IEQc5 | Indoor Chemical and Pollutant Source Control | 0 / 1 |
| IEQc6.1 | Controllability of Systems-Lighting | 0 / 1 |
| IEQc6.2 | Controllability of Systems-Thermal Comfort | 1 / 1 |
| IEQc7.1 | Thermal Comfort-Design | 0 / 1 |
| IEQc7.2 | Thermal Comfort-Verification | 0 / 1 |
| IEQc8.1 | Daylight and Views-Daylight | 0 / 2 |
| IEQc8.2 | Daylight and Views-Views for Seated Spaces | 0 / 1 |

| INNOVATION IN DESIGN | | 5 OF 6 |
|----------------------|----------------------------------|--------|
| IDc1.1 | ID: Occupant Education | 1 / 1 |
| IDc1.1 | Innovation in Design | 0 / 1 |
| IDc1.2 | ID: Low-Mercury Lighting | 1 / 1 |
| IDc1.2 | Innovation in Design | 0 / 1 |
| IDc1.3 | EP: SSc3.1 Public Transportation | 1 / 1 |
| IDc1.3 | Innovation in Design | 0 / 1 |
| IDc1.4 | Innovation in Design | 0 / 1 |
| IDc1.4 | Innovation in Design | 0 / 1 |
| IDc1.5 | Innovation in Design | 0 / 1 |
| IDc1.5 | EP: EAc4 - Green Power | 1 / 1 |
| IDc2 | LEED® Accredited Professional | 1 / 1 |

| REGIONAL PRIORITY CREDITS | | 4 OF 4 |
|---------------------------|--|--------|
| SSc3.2 | Alternative Transportation-Bicycle Storage and Changing Room | 1 / 1 |
| WEc1 | Water Use Reduction | 1 / 1 |
| EAc1.1 | Optimize Energy Performance-Lighting Power | 1 / 1 |
| EAc1.3 | Optimize Energy Performance-HVAC | 0 / 1 |
| MRC3.1 | Materials Reuse | 0 / 1 |
| MRC5 | Regional Materials | 1 / 1 |

TOTAL 69 OF 110

MORE INFORMATION

- >Harvard Faculty of Arts and Sciences: <http://www.fas.harvard.edu/home/>
- >William James Hall: <http://buildingops.wjh.harvard.edu/>
- >Harvard - Green Building Resource: <http://green.harvard.edu/theresource>
- >Follow Green Building Services: <http://www.facebook.com/HarvardGBS> or [@Harvard_GBS](#)

