



CASE STUDY

Southwest Library: Community Continuity Leads to Sustainability - 900 Wesley Place SW

The design of the Southwest Library honors the mid-century modern architecture of the neighborhood. The new Southwest Library was fully funded at \$18 million. A Solar For All grant of almost \$1 million enabled installation of PV panels and onsite battery storage. The DC Department of Parks and Recreation funded \$500k for improving the area between the Library and the playground leading to a cohesive landscape and hardscape design.

Q&A with Jaspreet Pahwa, NCARB, LEED AP

What makes the new Southwest Library unique?

The new building is visually oriented towards the park and includes an outdoor “porch” along the northern face of the building. The two-story library is a mass timber structure with a folded plate roof. The Library is also the first DC Public Library to achieve USGBC’s LEED Platinum rating and subsequently won the climate champion award in 2022.

The new library offers 14 formal and informal collaboration spaces with a range of amenities such as digital screens, whiteboards, outdoor seating, as well as a STEAM lab on the second floor. The library is designed to be able to serve as a community resilience hub in the event of extreme weather and emergencies. Two XRS battery cabinets are in place to provide critical services in the event of power outages and offset energy usage. High efficiency plumbing fixtures have been installed throughout the building to reduce water demand by over 37%.

—KEY STATS—

Square Footage:
20,000 sf

Budget:
\$18 million

Solar Capacity:
160,000 kWh/year with
2 XR4 Battery Cabinets

Targeted Site EUI:
69 kBtu/sf/yr

Green Features:
Dowel laminated timber displaced the need for structural concrete reducing the embodied carbon, community solar array though Solar for All, battery storage, low-e glazing with auto daylight-controlled sunshades, acoustic measures to dampen sound, folding plate style green roof, and a community resiliency hub to help recovery in the event of an emergency

Certifications:
LEED BC+C New Construction Platinum

Award and distinction:
Design-Build Institute of America MidAtlantic Region - Design Build Award and Excellence in Design Award, Design-Build Institute of America - Award of Merit, Engineering News-Record - Award of Merit Best Projects, Association of General Contractors of DC Best Project Design Build



What energy-efficient features does the building have?

Energy efficiency measures employed in the building's design and construction yield a 59.4% energy cost savings as compared to a similar building constructed to meet the baseline energy code requirements. This achievement is a reflection of the high performance active and passive design strategies that reduce the energy load. There is ample light and views from the north faced, allowing minimal glazing on the West and South façades. The exaggerated roof overhang on the North provides screening from high solar exposure during summer months. Building design also includes an above code level of continuous polyiso insulation, and low-e glazing. The fenestration has a conservative visible light transmittance value of 68%.

Landscaping around the building and the vegetative roof system employs all indigenous and adapted species. These plants help minimize the heat island effect while promoting microclimates and wildlife habitats. The unique roof structure is a folded-plate, dowlaminated timber (DLT) panel system that was prefabricated and constructed glue-free. The use of this system significantly reduced the project's construction waste on-site, achieving over 99% rate of diversion from landfill. The roof mounts a vegetated sedum mat array and a photovoltaic system that generates over 160,000 kWh of electricity per year, and the Library has also entered into a contract to purchase green power to offset an additional 49% of the total annual electricity use for a period of at least 2 years.

What did the planning process look like and how did you engage with key stakeholders?

Prior to the construction of the new building, DCPL wanted to better understand how the library could meet the changing needs of residents, and provide a facility that is not only functional, but a leader in sustainability and adaptability. An extensive community engagement process began in 2017 to facilitate discussions that would guide and inspire the building design. DCPL and the design team hosted 6 community meetings, 3 focus groups consisting of adults, parents of young children, and seniors, and an online survey to determine what design aspects and features of the library resonated most with the residents. The design team initiated these discussions by conducting visioning exercises to gather ideas and inspiration for what residents would like to see in their new library.

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Turner Construction
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**Sustainable Design
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