

**WAYNE N. ASPINALL FEDERAL BUILDING AND U.S. COURTHOUSE**  
**Grand Junction, Colorado**

**Partial Modernization and High Performing Green Building Renovation**

**Owner:** U. S. General Services Administration  
Rocky Mountain Region

**Design-Build Partners:** The Beck Group, Atlanta, Austin, Dallas, Denver, Fort Worth, Houston,  
Mexico City, San Antonio, Tampa  
Design-Build Contractor and Architect-of-Record

Westlake Reed Leskosky, Cleveland, Los Angeles, New York, Phoenix,  
Washington D.C.  
Lead Design Architect, Integrated Engineer, Sustainable Design and Historic  
Preservation Consultant

**Site Net-Zero Energy Building and LEED®/Sustainable Design Strategies**

The Wayne N. Aspinall Federal Building and U.S. Courthouse is designed to be the GSA's first Site Net-Zero Energy building on the National Register of Historic Places and targeted to achieve LEED® Platinum, the highest level of certification from the U.S. Green Building Council (USGBC).

The Federal Government requires that all agencies achieve energy independence by the year 2030. This goal requires that buildings be designed efficiently using innovative technologies, while balancing remaining energy needs with on-site production using renewable sources such as the wind and sun.

**Site Net-Zero Energy Building Strategies: Energy Efficiency First (50% more efficient than code)**

- The Building Shell: spray foam and rigid insulation is added to existing exterior walls and the roof to reduce heat gain and heat loss;
- The View: storm windows with solar control film are added to the interior of historic wood windows to reduce demand on heating and cooling systems while maintaining the aesthetic integrity of the existing windows;
- Lighting: fixtures are upgraded to efficient state-of-the-art fluorescent and LED technology to achieve visually comfortable work environments;
- Space Conditioning: variable-refrigerant flow (VRF) heating and cooling systems maintain thermal comfort in work spaces quietly and efficiently;
- Heating and Cooling: a GeoExchange system absorbs heat from the building during the summer and provides heat to the building during the winter;
- Ventilation: a dedicated ventilation air unit provides highly filtered air to each work space in response to measured air quality;
- Wireless Controls: system shuts off lights and receptacles when they are not needed and dims lights in response to natural daylight levels; individual lighting controls provided to enable adjustments to suit individual task needs and preferences.

**Site Net-Zero Energy Building Strategies: Renewable Energy Production:**

- Advanced solar panels provide 123 kW of peak electrical production;
- The solar panel array produces enough electricity to balance out the electricity demand of the building over the course of a year. Excess energy is exported back into Grand Junction's electrical grid;

- Enough electricity is generated on-site to power 15 average American homes.

**LEED/Sustainable Design Strategies:**

- Reusing and restoring available existing materials (historic doors, wood floors, plaster moldings, walls and ceilings);
- Reinvesting in this optimal building location for easy access to downtown amenities and public transportation;
- Creatively working within the existing footprint of the building to maintain its historic integrity and capitalize on the embodied energy of the structure;
- Redirecting recyclables; minimizing construction waste by a targeted minimum of 75%;
- Where new materials are used, focusing on those with rapidly renewable and high recycled content (gypsum board, acoustical ceiling tile, linoleum, carpet);
- Focusing on building materials, products, and construction trades people that are regional, minimizing transportation impacts and supporting the growth of the local economy;
- Using materials and finishes that are low VOC (volatile organic compound);
- Minimizing exposure to chemicals and particulates by providing separate copy rooms and custodial areas, and walk off mats, and using green housekeeping practices.

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