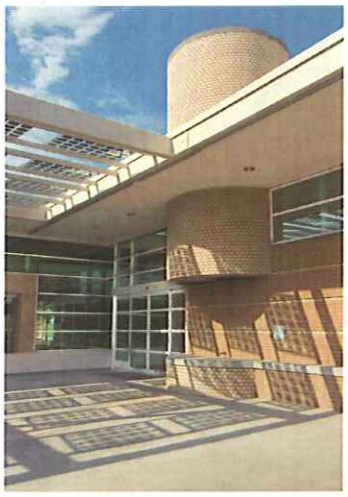
City of Scottsdale
Granite Reef Senior Center
Green Building Fact Sheet

September 14, 2006

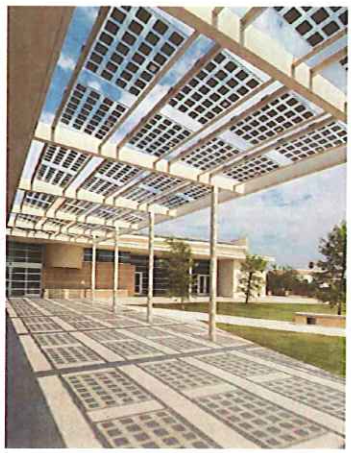
The 37,500 square foot Granite Reef Senior Center is a showcase of sustainable design in the context of our Sonoran Desert urban environment. It is the first green certified city facility under the City of Scottsdale Green Building Policy and will be the first green certified Senior Center in the State of Arizona. The building was designed by Gabor Lorant Architects and constructed by Cal Wadsworth Construction. SRP EarthWise Energy partnered with the city for the building integrated solar electric system. Green building certification is being completed by Green Ideas, Inc.

- Green Building Certification
  - Gold level certification is being acquired through the LEED® (Leadership in Energy and Environmental Design) green building rating program as part of the U.S. Green Building Council based in Washington, D.C.
    - The LEED rating system has four levels of certification: Certified, Silver, Gold and Platinum
- Site, Building Orientation and Shading
  - Site design reduces summer urban heat island effect by use of light colors, pervious materials, and shading.
  - Building is oriented to minimize summer solar heat gain with an Energy Star (high-reflectance/low-emissivity) roof coating.
  - Solid wall planes and landscape materials are arranged to protect the interior spaces from harsh east and west sun.
  - North facing clerestory windows above roof provide diffuse light deep within the building's interior.
  - Shade structures protect the building's entrances and windows from direct summer sun.



  - Thermal lag resulting from interior mass of masonry bearing walls help maintain consistent, comfortable indoor temperatures.
- Energy Efficiency
  - Reduced energy costs by 50% over ASHRAE 90.1 energy standards
  - Highly energy efficient building envelope (super insulated wall, door and window systems).
  - Shaded windows and entrances.
  - High performance central plant provided for cooling, heating and ventilating the building for optimal thermal comfort.
  - Use of daylighting reduces indoor electrical lighting loads.
  - Energy efficient lighting reduces indoor heat load.

- Renewable Energy
  - 40 kilowatt solar electric (photovoltaic) system provides 15 to 100% of required energy depending on time of year (SRP partnership).
  - South building entry canopy features an integrated solar electric system that provides shade while generating power.
  - Total solar electric system generates enough electricity to power 6-8 homes, the equivalent of reducing 59,000 pounds of CO_2 emissions from a power plant in a year or removing 5-6 cars from the street.



- Water Efficiency
  - 50% reduction of potable water use for irrigation.
    - Use of high-efficiency landscape irrigation technology and strategies.
  - 30% reduction of indoor water use.
    - Use of high efficiency plumbing fixtures (urinals and faucets) exceeds minimum code requirements.
- Indoor Environmental Quality
  - Use of low-emitting and inert materials reduces indoor exposure to formaldehyde and other volatile organic compounds (VOC's) commonly found in building materials and finishes.
  - Daylighting: Exterior and interior glazing strategies provide daylighting to improve indoor environmental quality for senior citizen and staff activities.

- Regional and Resource-Efficient Materials
  - 75% of the building materials and products were manufactured regionally, and of those materials, over half were manufactured and/or extracted from local sources.
    - building material palette includes locally produced masonry, terrazzo ground concrete, regionally sourced pre-finished metals, steel, ceramic tile, and regional stone.
  - 24% of building materials have recycled content from post-consumer and post-industrial sources.
  - Wood products are from sustainable managed forests and certified by the Forest Stewardship Council (FSC) that assures minimum environmental impact.
  - Over 1500 tons (75%) of the waste generated by the construction was diverted from conventional landfills to recycling plants.

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