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City of Scottsdale

FIRE STATION 2

PROJECT HIGHLIGHTS

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The 14,350-square-foot fire station was designed to pursue a LEED (Leadership in Energy and Environmental Design) Gold certification as part of the City of Scottsdale's green building initiative. The two-story Emergency Service facility will meet the daily operational needs of the new City of Scottsdale Fire Department and the community, while utilizing both passive and active sustainable green building principles to maximize sustainability and enhance overall energy performance. Lawrence Enyart, FAIA, LEED AP and Lance Enyart, AIA, a father-son team from LEA Architects, LLC, Phoenix, AZ, designed the new Fire Station No. 2.

The contemporary architecture responds to both the civic & historical context of the surrounding urban area drawing from the materials, colors, and textures of the existing built environment. Natural materials including locally manufactured ground face concrete masonry, in combination with Arizona sandstone, glass, and weathering steel define the building surface and exude a sense of sustainability and presence.

The two-story downtown fire station defines an urban edge, aligning with the existing historic Community Design Studio along the Indian School Road frontage. Arizona sandstone colonnade piers support the roof water-harvesting gutter, drawing one's focus to an entry that is both open and inviting. The fire station engages the existing historic Community Design Studio's courtyard and connects the old with the new. The new fire station's courtyard space is flexible in that it can be open or secure depending on the arrangement of the weathering steel pivot gates integral to colonnade piers that transverse the space. That space is jointly used by the City of Scottsdale's Design Center as is the Station's community room. The courtyard gates feature torched weathering steel art designed by the architect.

The following are some of the sustainable features of the projects:

- This building is anticipated to use 40% less energy compared to a similar non-LEED building.

- Energy consumption is reduced by using dual pane windows, improved insulation, and north-south building orientation, providing natural sunlight, energy efficient equipment, and overhangs that shade the building.
- Light monitors shut down or dim lights in all unoccupied spaces in the building.
- The East West building axis mitigates the strong west sun with added water harvesting colonnade pipes and troughs and feature substantial shade elements for the collection of roof water for landscape use.
- Large roof overhangs shade the south exposure in the summer and invite sun in the winter.

- A solar hot water heater will provide 95% of all the domestic hot water needs. It will also heat the building during winter season.
- Energy consumption is also reduced by passive thermal heating of the apparatus bays during the winter through the collection of heat from the south facing weathering steel standing seam metal roof.
- Multifunctional communications, training, and cool tower which will passively cool the exterior courtyard and community meeting room minimizing the need for mechanically conditioned air during more temperate times of the year.
- Multifunctional training room functions as a training room and community room. The 3 large sliding glass doors enable the lobby to double the size of the training and community room with out increasing the building footprint.
- Natural daylight and views are provided to 95% of all occupied spaces. This reduces energy consumption and helps improve the comfort of the users.

- Grey water from sinks and showers is collected, stored, and reused for landscape irrigation. No potable water is used for irrigation.
- Overall water use is reduced through the use of high efficiency plumbing fixtures including a waterless urinal and dual-flush toilets.
- The project stores 100% of the storm water generated from the site thereby reducing the runoff to the City's storm water system.
- Pervious pavers reduce the intensity of storm water runoff and reduce heat island effect.
- Van pool, alternate fuel, and bicycle parking is provided.
- Alternate transportation is available, buses stop near the station several times a day.
- Low volatile organic compounds (VOC's) emitting materials are used in the building materials, adhesives, sealants, paints, coatings and finishes throughout the building.
- Individualized mechanical system controls are provided for all the dorms and offices to improve overall thermal comfort for the building occupants.
- The flooring in the physical conditioning room is made from 100% recycled tires.

- Cotton batt insulation is used in the building, which is essentially recycled cotton/jeans.

- Carpets in the dorm are made of recycled materials. They can be washed in a washing machine.
- More than 75% of the material used in the building is regionally manufactured.
- More than 45% of the material is regionally harvested.
- Recycled content makes up 31% of the total value of building materials.
- More than 70% of the total value of wood is Forest Stewardship Council (FSC) Certified Wood.

- 575,860 lbs. (94%) of construction waste was diverted from conventional landfills and routed to a recycling agency for post-consumer use.
- The building does not uses ozone depleting compounds such as HCFC or Halon in HVAC equipment.
- The station contains a permanent carbon dioxide (CO2) monitoring system that provides feedback on space ventilation performance to ensure occupant comfort and well-being.
- A comprehensive indoor air quality (IAQ) program was followed during construction to prevent air quality problems to the occupants.
- Prior to occupancy, the building was flushed for two weeks with continuous outside filtered air to improve indoor air quality by removing any remnants of construction dust, odor, particulate matter and contaminants.

➢ Architect	LEA-Architects, LLC
➢ Contractor	Sun Eagle Corporation
➢ Construction Cost	$4,826,900
➢ Construction Time	11 months