



CASE STUDY
BAKER SANCTUARY

GREEN BUILDING RATING:
★ ★ ★ ★ ★



“The land steward’s house and barn had to have high functionality and low environmental impact. The design/build team collaborated with us to refine our vision into a tangible plan and deliver a project that met all our goals. Teamwork works!”

**— Valarie Bristol
Travis Audubon, Past President and Board Member**



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TOP FEATURES:

- » Integrated design–build team focused on sustainability and durability
- » 7.97kW solar photovoltaic system contributes to a near-net zero HERS rating of 2
- » 31,078–gallon rainwater collection system as home’s sole water source
- » Covered front porch and screened back porch expand living space outdoors
- » Standing–seam metal roof, spray–foam insulation and low–E windows create an efficient thermal envelope

PROJECT DESCRIPTION:

Travis Audubon’s 715–acre Baker Sanctuary, part of the Balcones Canyonlands Preserve, is a protected habitat for birds and other wildlife. The new land steward’s residence and storage barn were designed to align with the organization’s values of respect for the land, habitat and environment. Simplicity, durability and comfort as well as an aesthetic that suits the rural location and history are embodied in this 1,747 sq. ft. home. The wide covered front porch and screened back porch extend the living space into the outdoors. Improvements to an existing outdoor classroom, pavilion and infrastructure were also made to support the preserve for future generations.

ENVIRONMENTAL FEATURES:

Planning for the new home and property improvements focused on disturbing as little land as possible and anticipating future needs. Water, sewer, electrical and road infrastructure were driving features of the site strategy.

The residence and 1,800 sq. ft. barn are closely situated so that both rooftops harvest into the 31,078–gallon rainwater system. Efficient plumbing fixtures and household appliances reduce water use. At the educational pavilion, an upgrade from composting to flush toilets increased the capacity to host groups. This required a separate rainwater system, plus a new septic system integrated with the house.

Low operating costs are achieved through energy efficiency. The residence is oriented to reduce solar heat gain and allow cross–through breezes and natural light. Metal roof, spray–foam insulation and low–E fiberglass windows provide an efficient thermal envelope. LED lighting and energy–efficient appliances further reduce energy load.

The barn was also sited so that the roof best captures the sun’s energy. Almost all of the home’s energy needs are served by a 7.97 kW grid–tied solar photovoltaic system. “It’s essentially a net–zero energy home. When the energy efficient items and the PV are combined, there’s not much of an electricity bill after that. And, being a wildlife sanctuary, they were concerned with keeping it as natural as possible,” says Patricia Chawla, their Austin Energy Green Building consultant.



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PROJECT PROFILE

Zip Code » 78641

Neighborhood » Baker Sanctuary

Building Area » 1,747 sq. ft.

Rating Date » February 2019

Owner » Travis Audubon Society

Building Designer » Select Home Design

Builder » Solluna Builders

Austin Energy Green Building cultivates innovation in building and transportation for the enrichment of the community’s environmental, economic and human well-being.

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