

SEABOURNE CREEK PARK NATURE CENTER

Rosenberg, Texas



BURDITT
Land|Place

PROJECT DESCRIPTION

The Seabourne Creek Park Nature Center in Rosenberg, Texas is a 4,560 SF enclosed facility with 4,040 SF of covered outdoor spaces. The spaces included are an Interactive Education Space, Multipurpose Room, and Pavilion as well as Staff and Volunteer spaces. The building sits within an established city park, 15 acres of which are developed around the Nature Center.

Together with the City, project goals were determined: (1) Create a strong connection to nature and the environment, (2) Integrate sustainable design techniques, (3) Allow for flexibility of spaces, (4) Design for enhanced equitability, and (5) Promote Curiosity and Learning. These goals served as guiding principles throughout the design of the project.

The building was set back from the parking lot to create a transitional path through nature to the entry, through vegetation and bridging over a detention pond. The facility is envisioned to be a long rectangular shape, oriented east to west (optimal for the hot, humid Texas climate). One portion of the building (the Multipurpose Room) is pushed to the north to create a central, semi-open Pavilion space that serves as the entry to the facility. In this modified dogtrot, the conditioned spaces are divided into three portions of the building to mitigate sound, allow for efficient mechanical systems, and allow for more views to outside with more exterior wall space. These three buildings pinwheel around the central Pavilion space. All of these spaces are covered by a single roof with a roof monitor above that allows for additional light into spaces as well as mechanical louvers for systems. The building footprint creates pockets for nature and landscaping to incorporate exterior learning spaces and playgrounds.

Owner
Architect

PROJECT TEAM
City of Rosenberg
Burditt Consultants

Civil Engineer Kimley-Horn and Associates
Landscape Architect Burditt Consultants
Structural Engineer Dudley Engineering
MEP Engineer Cleary Zimmermann Engineers



ENTRANCE

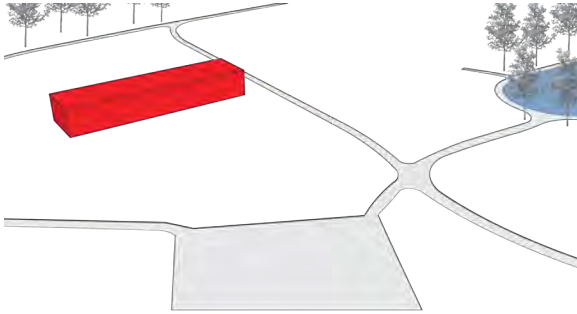
The approach to the nature center is well-defined with a wide, accessible entry path from the street to the pavilion entrance. The building is set back from the driveway to allow for a landscaped transition that includes a bridge over a new pond. Custom steel pivot doors at the front of the pavilion allow full access by the public at night and can be manually closed and locked after hours.



CISTERN

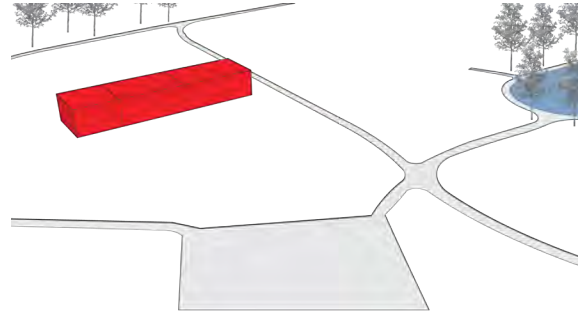
The cistern is located on the west side of the building, adjacent to a rain garden. As both a sustainable and educational feature at the nature center, the goal is to capture rainwater from the roof to be used for irrigation and showing visitors how they can use the same process to promote water conservation. This is just one of the many outdoor teaching areas incorporated into the Nature Center's site design.





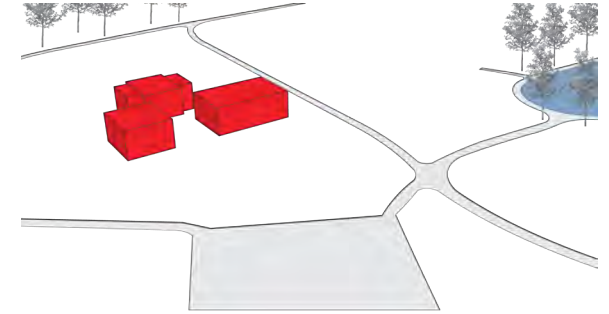
Location & Orientation

The Nature Center is located to the north of the existing parking lot, out of the 500-year flood plain. To maximize energy efficiency, the building is a simple, compact shape with the long axis running east to west. This minimizes exposures to the east and west, which have more significant heat gain.



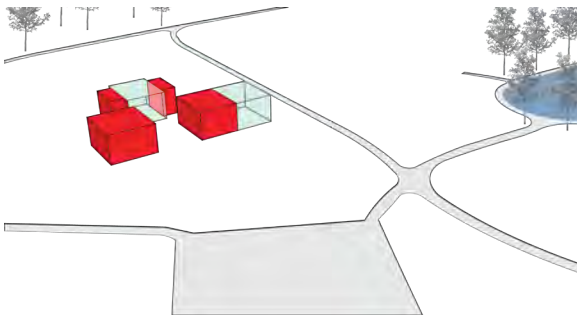
Project Program

The project program is divided into three categories: (1) Volunteer, (2) Multipurpose, and (3) Education. Educational spaces are located on the east for maximum views of the park and existing lake, while Multipurpose spaces are centrally located and Volunteer spaces are on the west end.



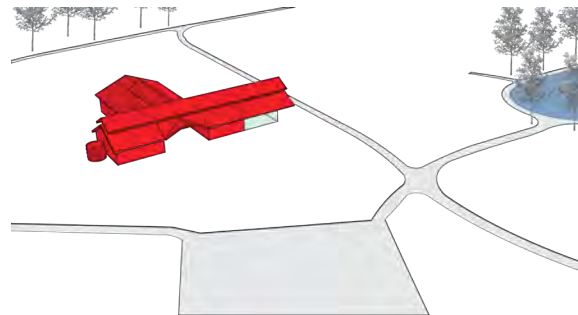
Modified Dogtrot

The Multipurpose space is pushed to the north, creating three separate buildings with a central pavilion space in between. This pavilion serves as an anchoring space, from which each building can be accessed. It is a large, semi-open gathering space that is flexible for various functions.



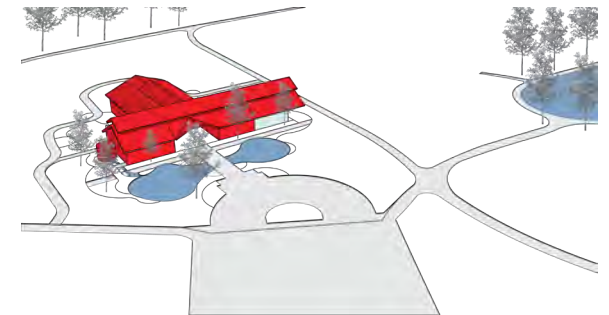
Connection to Nature

Glazing is focused on the north and south of the building in the main Interactive and Multipurpose spaces. Additional visibility from the Interactive Education space maximizes the connection to nature from the main space in the center with views to the existing lake.



Roof & Overhangs

One intersecting gable roof covers all spaces. The roof extends over sidewalks that wrap the building as well as over an Observation Deck on the east, adjacent to the Interactive Education Space. A roof monitor allows for daylight to enter from above and incorporates louvers for air circulation.



Site

The site development weaves the building into the existing park context. The approach to the building serves as a transition from parking lot to the center through nature. The building's layout creates outdoor pocket spaces for teaching gardens and outdoor play areas.



3800
DT466

SCHOOL DIVISION

SCHOOL BUS

STOP WHEN LIGHTS
ARE FLASHING

BAU 897

PARKING LOT & DRIVEWAY

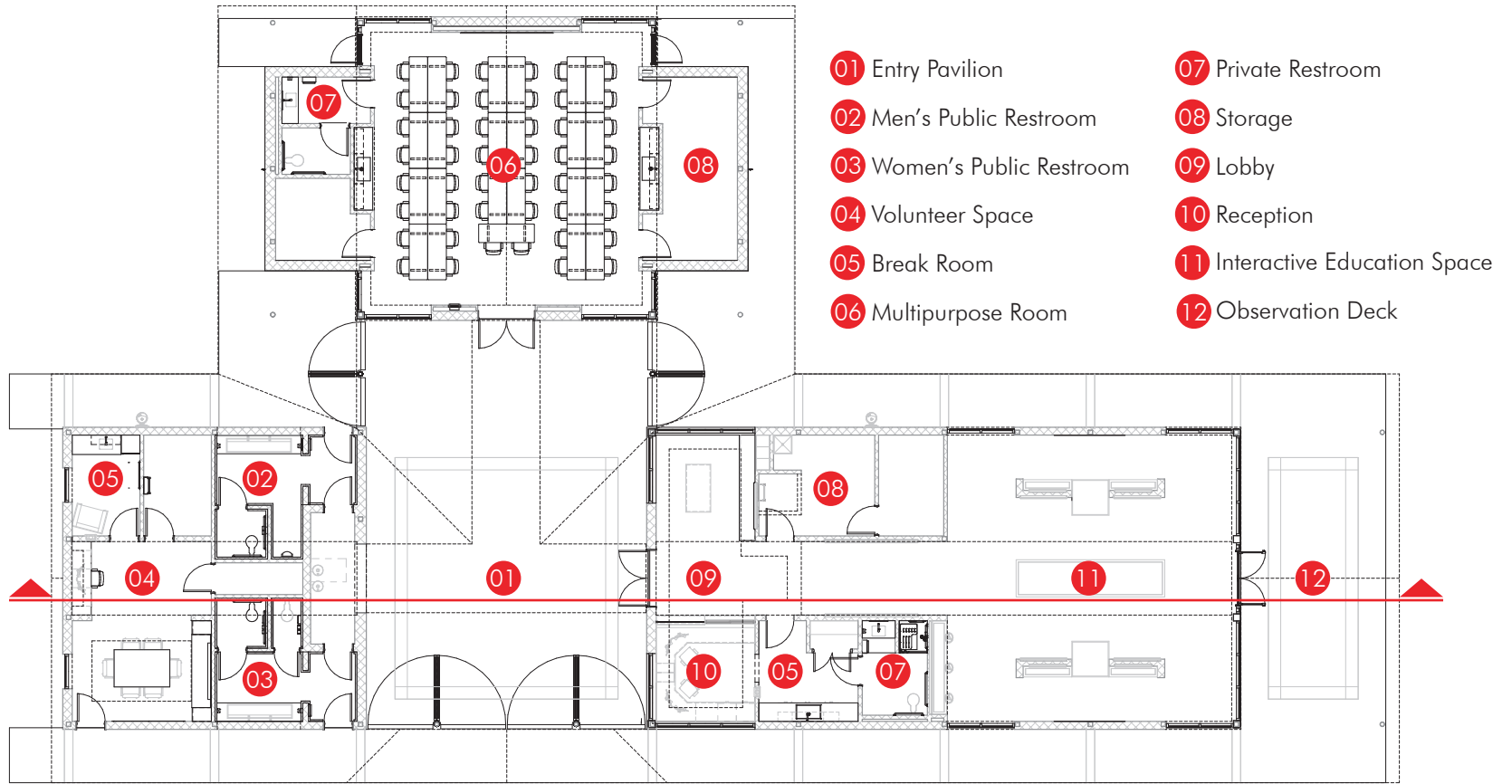
The existing parking lot is modified to create a roundabout for school buses and other vehicles to drop off visitors, especially large groups of children and people with disabilities. A rollover curb at this drive makes transitioning from street to sidewalk more accessible for all. A wide path leads up to the building entry, separated from the sidewalk with bollards for pedestrian protection from vehicles.



DEEP OVERHANGS

The roof extends from the building over the sidewalks to further prevent unwanted summer heat gains in the hot, humid climate, while allowing for large portions of glass on the building's exterior. Structural brackets support this extension and tie back to the building, eliminating the need for columns and/or other visible barriers between the sidewalk and landscape.





Floor Plan



Building Section



LAUREL CREEK PARK
NATURE CENTER

ROOF MONITOR

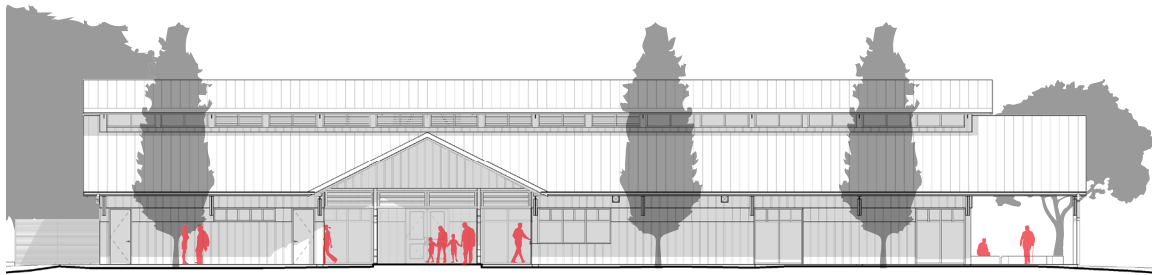
A Roof monitor above the main roof system spans from east to west and incorporates functional windows and louvers. The windows allow natural, low energy daylight to filter into the main areas of the Interactive Education Space and Volunteer space from above. The louvers over the pavilion promote passive cooling by permitting air to be drawn in from below and out from above.



LEARNING STEPS

The building layout allows for outdoor pocket spaces, such as the teaching garden with learning steps in the northeast corner. This location uses the building to shade the spaces from the sun in the afternoon. Additional shade is created with new trees and vegetation. The learning steps are arranged in a half circle and is accessible to allow for maximum visibility for all guests to the demonstrator.





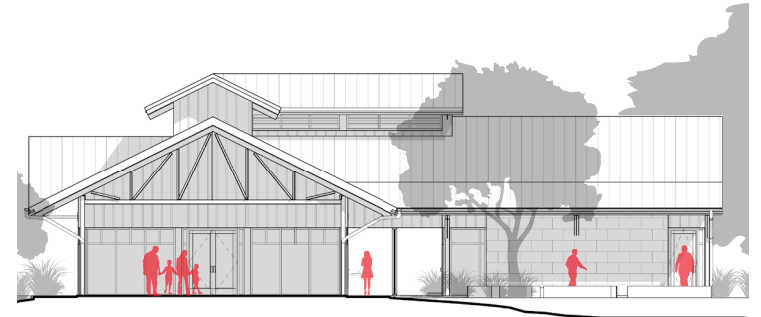
South Elevation



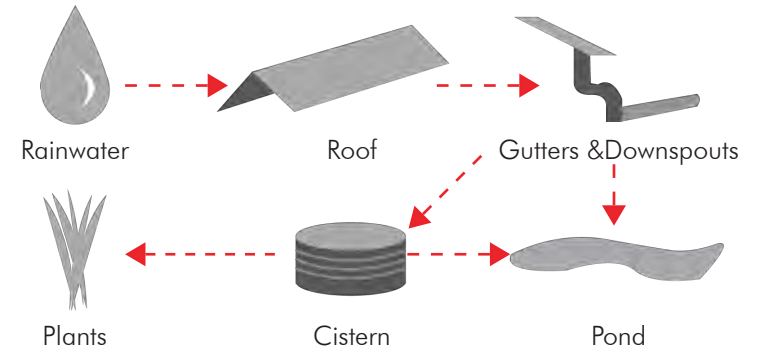
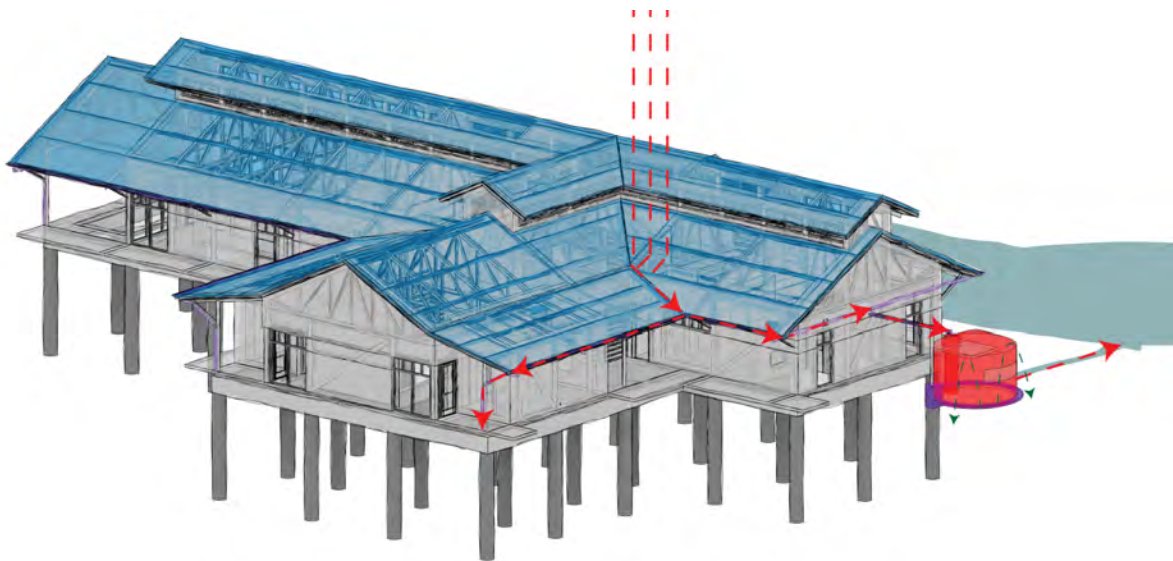
West Elevation



North Elevation



East Elevation



SOLAR ANALEMMA

The Solar Analemma Plaza is located between the existing lake and Nature Center, oriented such that the time of day can be located by one standing on the paver labeled with the current month of the year. The shadow casts over the hour, marking along an elliptical path. The sculpture allows a ray of sunlight to pass through a round gnomon tracing the equation of time imprinted on the paving below.





OPEN LAWN

New park trails loop around an open lawn north of the Nature Center between the building and existing tree line. This is a flexible space that can be used for large gatherings and events to broaden access to the outdoors and enhance the quality of experience for people of all ages, abilities, and interests. It is adjacent to the Multipurpose Space in the nature center so that activities may easily transfer from indoors to outdoors as needed.





PAVILION

The Pavilion serves as both an entry point and a large, semi-open and flexible gathering space. The public restrooms can be accessed both from within the Pavilion (when open during operating hours) and from outside of the Pavilion (during closed hours). The pivot doors on the south, east, and west allow for easy circulation around the entire building. They can be closed and locked during non-operational hours.





MULTIPURPOSE & VOLUNTEER SPACES

The Multipurpose Space has visibility to the Pavilion on the south and Open Lawn on north as well as the exterior learning gardens on the east and west corners. The space is open and flexible to allow for various events. It has a large storage room for furniture and includes a private restroom. The Volunteer Space includes an open meeting area, desk space, and break room.





RECEPTION

The reception area has direct views to the parking lot and entry Pavilion. It is connected to a lobby space with lockers for visitors to store personal items. A folding window at the reception desk provides privacy and security for the receptionist when closed, while allowing visibility to the surrounding spaces. There is a kitchenette and private restroom adjacent to the reception area.





INTERACTIVE EDUCATION SPACE

The Interactive Education Space is a large open area with a vaulted ceiling. A wood panel ceiling condition improves the acoustics in the space while also incorporating natural, warm materials. Exhibit walls stop short of full height to allow natural light from the north, south, and east as well as from above to fill the space. The space is adjacent to the Observation Deck on the east, which overlooks the existing lake.









MATERIALS

Materials were selected with durability, maintenance, and sustainability in mind. A standing seam, galvalume roof has a high albedo. It's light-colored surface is reflective, returning a large part of the sun rays back to the atmosphere, reducing heat gain. Limestone masonry is used as an accent material to compliment the metal panel that is painted to mimic a weathered steel finish.

Prepared By:

