



Ten Sustainable Site & Resource Awareness Strategies for PHPL

Paul Barwick, ASLA, Hon. TSA

1. Native Habitat & Riparian Restoration

The grounds around the Patrick Heath Public Library (PHPL) including an intermittent stream at the rear of the building were restored through volunteer and City of Boerne efforts. Prior to construction the site harbored a herd of 100-120 exotic Axis Deer that decimated the native understory vegetation, resulting in a monoculture of exotic and invasive wax-leaf Ligustrum. Half of the Axis deer were relocated, and the majority of invasive plants were removed to allow for re-establishment of native riparian tree, understory and bunch grass species. All the cleared vegetation was mulched on site and used for plant beds and to prevent soil erosion in areas with bare soil.

2. Native Plants & High-Performance Irrigation (See PHPL Plant Palette for plant selections)

The majority of the plant palette selections for the PHPL are native plants that are deer and drought resistant. The primary water conservation feature for this project is the collection and use of rainwater and condensate collected to water the plants. Tree bubblers water the trees and drip irrigation provides water for plant bed areas and assorted turf areas. Other turf areas are watered with high efficiency stream rotary spray heads that do not mist and lose water to wind or evaporation. Finally, a high-tech evapotranspiration-based irrigation controller regulates when and how much water is applied based on-site conditions and real time data collected and broadcast from a regional weather station.

3. Rainwater Harvesting

The PHPL utilizes centuries old rainwater collection techniques to conserve drinking water. All the rainfall that lands upon the two inverted pitch roofs (18,500 s.f) of the PHPL drain into two metal tanks with liners that hold 23,400 gallons of water for landscape irrigation purposes. Condensate water created from the PHPL air conditioning system is collected and pumped into the tanks below. Once the tanks are full, any excess water drains into the tributary behind the PHPL through the stormwater detention basin or through surface runoff.

4. Stormwater Detention Basin & Bioswales (Low Impact Development)

It is best to capture rainfall where it falls, keeping it on site and getting it into the ground as quickly as possible so flooding and erosion can be minimized, and groundwater recharge maximized. To implement this strategy a series of depressed vegetated median islands and open space areas were designed to capture the first flush of stormwater pollutants from roadways and parking lots. This water is then conveyed to a stormwater detention basin, to hold and slowly release storm water runoff. In addition, once the rainwater tanks are full the excess rainwater from the roof is directed to the basin and gradually released. Finally, a variety of permeable surfaces such as mulched plant beds, decomposed granite paving, concrete pavers with sand joints, and turf grass areas were installed to allow for greater water infiltration.

5. Cultural Resource Awareness

An extensive cultural resource survey was conducted prior to construction of the PHPL. Located on this property were two facilities that played an important role in Boerne history. In 1896, two local doctors constructed the Victorian style White Gables Sanitarium along Main Street. A few years later the Sisters of Charity of the Incarnate Word purchased the property and expanded the facility from 20 to 50 beds, renaming it St. Mary's Sanitarium. The hospital was acquired for a retreat for tuberculosis patients exclusively, since these patients could not be treated at the Sisters' Santa Rosa Infirmary in San Antonio. The Sisters also constructed Holy Angels Academy, a wood frame structure that served as a school for orphans and as a private school. This two-story structure was built directly behind the sanitarium. Both iconic structures were demolished in the early 1930s.

6. PHPL Heritage Plaza Interpretive Display (See PHPL Heritage Plaza Map & Interpretive Program Guide)

A series of resource interpretive signs mounted on pedestals and a central kiosk located between the PHPL and the Bookshop Under the Windmill (Friends of the Boerne Public Library building) tell the story of regional water resources as they relate to local history. The three kiosk panels at the beginning of the exhibit set the background for the two primary waterways in Kendall County. These are the Cibolo Creek, which winds through the heart of Boerne, and the Guadalupe River, which flows west to east through the middle of the county. The information and illustrations therein provide a broad overview of the importance of water and the need for understanding, conserving and protecting this precious resource. The sign panels are made from recycled paper fiber and the pedestals were fabricated from rail obtained from the former San Antonio & Aransas Pass/Southern Pacific Railroad, immediately adjacent to the PHPL which is now the Old No. 9 Greenway trail. The development and content of the exhibit material was developed through collaboration between the Guadalupe-Blanco River Authority, City of Boerne, Boerne Independent School District and Cow Creek Groundwater Conservation District.

7. Smokehouse & Grape Arbor

This mid 1800s stone smokehouse is constructed of native limestone. The structure was taken apart and reassembled on the PHPL site to its original dimensions. The roof structure is constructed of eastern Red Cedar from East Texas, and the door and window frames are hewn from native bald cypress harvested locally from the Cibolo Creek. One-hundred-year-old Laredo brick excavated on the site was used for the smokehouse flooring. Hand-forged hardware was crafted for the door hinges and latch. The grape arbor is made from hill country heart cedar (native Ashe Juniper), recycled water well pipe, and steel livestock fence panels. Similar arbors were constructed by early settlers to support native grape vines. The grapes were used for preparing various food products and the vines provided much needed shade in the Texas Hill Country landscape. The Bookshop nearby was designed with Indian slit-style windows on the south façade to complement the PHPL and heritage outbuilding and structures.

8. Windmill & Water Tank

This vintage windmill and elevated water tank provided much needed water for livestock of the historic Sultenfuss-Ammann Ranch. Windmills became necessary in the late nineteenth century as water tables began to drop from increased water demand by growing populations and expanding agricultural practices. Hand dug wells became too shallow as water tables dropped, so mechanical means were created to pump water from greater depths. The typical depth of a windmill well ranged from 50 to 150 feet.

9. Outdoor Classroom

This horseshoe-shaped seat wall feature provides a place for library staff, teachers and cultural/natural resource docents to stage comfortable outdoor presentations for school groups and other audiences. A steel rainwater tank and roof rainwater supply aqueduct serve as a functional demonstration backdrop for this outdoor classroom. Exterior lighting and electrical service is provided for special events, evening affairs and educational presentations.

10. LED Lighting – Parking and Area Lighting

Light Emitting Diode (LED) lighting technology was largely utilized for the exterior lighting of the PHPL. LED fixtures illuminate the parking lot and activity areas around the building. This form of lighting requires much less energy to operate because very little energy is lost to heat production. The LED bulbs have a much longer lifespan and require less maintenance. The parking lot LED lights are uniquely designed to direct the light in various directions to focus light where it is most desired, allowing for much less light trespass. These fixtures also house multiple photocells that automatically shut off the fixture when there is a sufficient sunlight to light the area.

11. 250-Seat Amphitheater

Through a partnership between the City of Boerne, Majestic Ranch Arts Foundation and the Boerne Public Library Foundation, the amphitheater was completed in 2016. The amphitheater is an ideal extension of the library's programming efforts. It also adds to the effective use of sylvan space and helps to meld the library building into the setting. The amphitheater area seats 250 people and includes restrooms, lighting, electrical capacity and sound system. The amphitheater is available for rental by the public.

12. Trailhead and Pedestrian Bridge

In 2018, through a Federal grant program in cooperation with the State of Texas, the City of Boerne was able to build a trailhead, path and pedestrian bridge to connect to the Old No. 9 Hike and Bike Trail to the PHPL. It is an ideal connection to the library from neighborhoods on the east side of the city and Curington Elementary.