Lower Cape Fear Stewardship Development Award Winners

Outstanding Recognition

State Employees Credit Union – Randall Parkway Branch

The State Employees Credit Union combined two contiguous lots, one containing an existing house used as a business and associated parking and the other containing an existing branch office. No stormwater collection or treatment existed on the existing house property. The existing SECU branch property did have a stormwater collection system, however, it was piped directly to the City stormwater system without any treatment.

The two lots were combined and the redevelopment project was completed in 3 phases. Phase 1 included demolition of the house. Phase 2 included constructing the new branch building, a portion of the underground infiltration system, and the center portion of the parking lot. Phase 3 included the remaining portion of the infiltration system, remaining parking, two remote ATMs, and a canopy over the remote ATM.

Stormwater is collected from the parking and drive aisles via curb inlets and routed to an underground infiltration system. The infiltration system is made up of two separate R-Tank infiltration galleries, which was necessitated by the project phasing. The system is sized to withhold twice the State required 1.5 inch storm and also infiltrate at half the reported rate.

The building beneficially uses roof runoff to irrigate the landscaping around the perimeter of the building. The building has a sloped roof similar to a residential structure, but without gutters or downspouts. Runoff from the roof simply falls to the ground below and irrigates the landscaping in that area. A french drain exists around the perimeter of the building to collect water from below the plantings that is not taken up by the plants, and then routes the water to the infiltration system. For large rain events when the landscaped area is fully saturated, water overflows across the remainder of the building perimeter's landscpaing and sod, thus acting as filter strips. This excess water then enters the stormwater system and is routed into the infiltration system for treatment.

Some parking spaces were constructed of pervious pavers to provide immediate infiltration, thus decreasing the treatment load of the infiltration system. Existing trees were retained and site perimeter and incorporated into buffers. The new stormwater treatment now protects the downstream environment, which it didn't before, while new sidewalks and driveways provide more connectivity to surrounding properties.

Middle Sound Village

Designed with the environment first in mind, Middle Sound Village is a low-impact development that protects our natural resources and coastal waters. Starting in the low $300s, new homes at Middle Sound Village range from 2,200 to approximately 3,200 square feet. The tract size is just under 10 acres with a total of 45 lots which is equal to 4.53 units/acre. 13 of the lots will be our Vanguard product and the remaining will be our Renaissance product which features a Charleston-style home with a narrow footprint and the possibility of a third floor.

The development is zoned EDZD which, according to the zoning ordinance, "provides opportunities for mixed-use and high-density residential projects within the unincorporated areas of the County where appropriate urban features are in place to support such projects without the negative impacts of urban sprawl. In addition, the district is intended to provide design flexibility to achieve public and private spaces that advance a sense of community in a well-integrated service area that diminishes the need for vehicular traffic and encourages bicycle and pedestrian movements.

Advanced framing techniques are used to maximize the insulation area and spider web insulation is used in the walls to get an R-15 value with a grade 1 install which aid in achieving the 4 ACH required to meet the criteria for the HERO program. We use R-10 slab edge insulation to help keep the perimeter of the foundation a constant temperature during the summer and winter months. Other construction materials used are radiant barrier roof sheathing, low VOC paint and carpet, low formaldehyde cabinetry, MERV-8 air filters installed in returns, rain barrels made from recycled materials, low-E insulated windows, 14-SEER high Energy-efficient HVAC system and water saving faucets and shower heads.

The landscaping consists of a designed model from Mihaly Design which includes zoysia and drought tolerant plants/grasses installed without an irrigation system. Special attention is given to the existing landscape and trees when designing each lots landscaping. We have also used a tree moving service to relocate non-significant trees from homes building footprints instead of removing them completely.

Stormwater measures include minimum street widths and limited site grading with installation of swales that follow contours to direct drainage to infiltration basins. All alleyways are pervious pavement, walking trails are mulch and wood decking was utilized in lieu of concrete patios. Rain gardens and bioswales were also utilized throughout the development and two rain barrels were included at the rear of each home.

Amenities in Middle Sound Village include a dog park, hammock area, community garden, playground and firepit at the entrance to the community and a mulch walking trail at the rear. Also, there are plans to install educational signage regarding best management practices used on site.

Significant Achievement

UNCW Recreation Fields

UNCW Campus Recreation has a reputation for incorporating sustainable practices into their renovations and construction. The UNCW Recreational Field's planning, construction, and maintenance considered a variety of options and impacts to create the best space for both the environment and wellness of the community.

Surrounding the recreational fields, measures were taken before and during construction to protect the Live Oaks and other trees surrounding the area. Every two weeks during construction the trees as well as erosion and sediment controls were assessed by the Contractor, Engineer and Owner. These iconic trees were protected and preserved to provide beauty and shade to the area and serve as a symbol of the prioritization of natural preservation during this project.

Infiltration galleries were implemented for stormwater management. Nestled in the Bradley Creek watershed, these management practices are beneficial to the health of the delicate area. The field was graded so that runoff does not flow into streets and storm drains. Additional, during construction, light tracked equipment was used to reduce compaction of the soil.

While the fields are utilized by physical education courses, summer camps and athletic teams during the day, many of the athletic clubs practice and compete at and after dusk. LED field lights were implemented to reduce the energy consumption and increase visibility.

Perhaps the most sustainable aspect of this project is also the most innovative. Artificial turf fields are historically padded with plastic pellets. The UNCW recreation fields were padded with all-natural coconut husks instead. This substitution reduces the carbon footprint of the project, with an important added benefit of being a safer option for the players enjoying the field.

Stewardship Champion Award

The Stewardship Champion Award recognizes exceptional individuals or organizations that exemplify extraordinary vision, innovation, leadership and action for the environment in the Cape Fear Region.

Cape Fear Community College Sustainability Technologies Program

The Cape Fear Community College Sustainability Technologies Program describes itself as preparing students "for employment in environmental, construction, alternative energy, manufacturing, or related industries, where key emphasis is placed on energy production and waste reduction along with sustainable technologies". In addition to an Associate of Applied Science in Sustainability Technologies, the program offers certificates in Sustainability Technologies, Renewable Energy Technology, and Sustainable Building Technology.

The disciplines emphasized by this program make projects like those highlighted by the Lower Cape Fear Stewardship Coalition possible by providing the construction professionals of tomorrow with a clear understanding of the practical requirements for achieving sustainable development goals.