Green design features

The following “green” features of the CSI Research and Education building are organized following the LEED standard. LEED (Leadership in Energy and Environmental Design) is a voluntary program that provides third-party verification of green buildings. In order for a project to become certified, all LEED prerequisites must be met as well as earn a minimum 40 points. CSI earned 64 points for a LEED GOLD rating.

**Sustainable Sites:**

1. **Alternative transportation** –
   - Bicycle storage facilities and shower facilities have been provided for occupants and transient occupants
   - Provide two preferred parking spaces for car/vanpool vehicles
   - Provide preferred parking spaces for low-emitting and fuel-efficient vehicles

2. **Stormwater management**
   - A stormwater management plan has been implemented to protect receiving stream channels from excessive erosion through stream channel protective strategies and quantity control strategies.
   - BMPs have been sized to handle 1.5-inches of rainfall (more than 90% of the average annual rainfall)
   - BMPs have been designed to remove 85% TSS as per a regional standard.
   - 100% of stormwater is treated on-site.

3. **Landscape**
   - Dedicated open space has been provided equal to 71% of the total site area
   - Minimal exterior lighting is used to reduce light pollution
   - The roof surface, patios, walkways and parking lot have a high Solar Reflectance Index – reflects the sun and reduces heat from the sun (Heat Island Effect)
   - The site is being restored with native vegetation. Roadside swales and other disturbed areas have been hydro-seeded with a native plant seed mixture to enhance the succession process.

**Water Efficiency:**

4. **Water Efficiency**
   - 48,000 gallons cistern storage; *potable water use reduced by 75%* (LEED requires at least 20%)
   - Wastewater is treated to tertiary standards and is infiltrated or may be used on-site
   - The landscaping does not utilize permanent irrigation systems and all temporary irrigation systems used for plant establishment were removed within one year of installation

**Energy and Atmosphere**

5. **Energy and Atmosphere**
1. There are no CFC-based refrigerants in the HVAC systems; all fire suppression systems do not use ozone-depleting substances including CFCs, HCFCs, or halons.

2. CSI has achieved an **energy cost savings of 37%**. Energy efficiency measures incorporated into the building design include:
   a. An improved **thermal envelope**,
   b. **High efficiency glazing**,
   c. **Reduced interior lighting power density**,
   d. **Air-side economizer**, and
   e. **High efficiency heat pump chiller**.

3. CSI has a commitment to sharing whole-building energy and water usage data with USGBC and/or GBCI for a period of at least 5 years.

**Materials and Resources**

**6 Recycling & Materials**

1. **24% of building materials content has been manufactured using recycled materials** (10% required by LEED)

2. **75% of on-site generated construction waste was recycled**.

3. CSI provides dedicated areas for the collection and storage of materials for recycling, including cardboard, paper, plastic, glass, and metals (single stream dumpster).

4. **24% of building materials were manufactured and extracted within 500 miles** of the project site.

**Indoor Environmental Quality**

**7 Healthy Building for Occupants**

1. Low-Emitting materials including paints, adhesives and sealants, flooring systems, and composite wood products were used

2. **Smoking on-site is prohibited** which minimizes exposure to second-hand smoke.

3. The project has provided **direct line of sight views from 94%** of all regularly occupied seated spaces.

4. **Day lighting has been provided for 95% of occupied spaces**

5. **Lighting controls** are provided to enable 99% of occupants to make adjustments to suit individual task needs and preferences.

6. The project includes mechanically and naturally ventilated spaces

7. Individual thermal comfort is provided with **thermostats** located throughout the building.

**Innovation in Design**

1. Exemplary performance in Day lighting and Views

2. Exemplary performance in **Water Use Reduction, which is 75%**

3. Exemplary performance in Wastewater treatment, treatment to tertiary standards

4. Fume hoods meet highest standards of the industry