

Sustainability Features

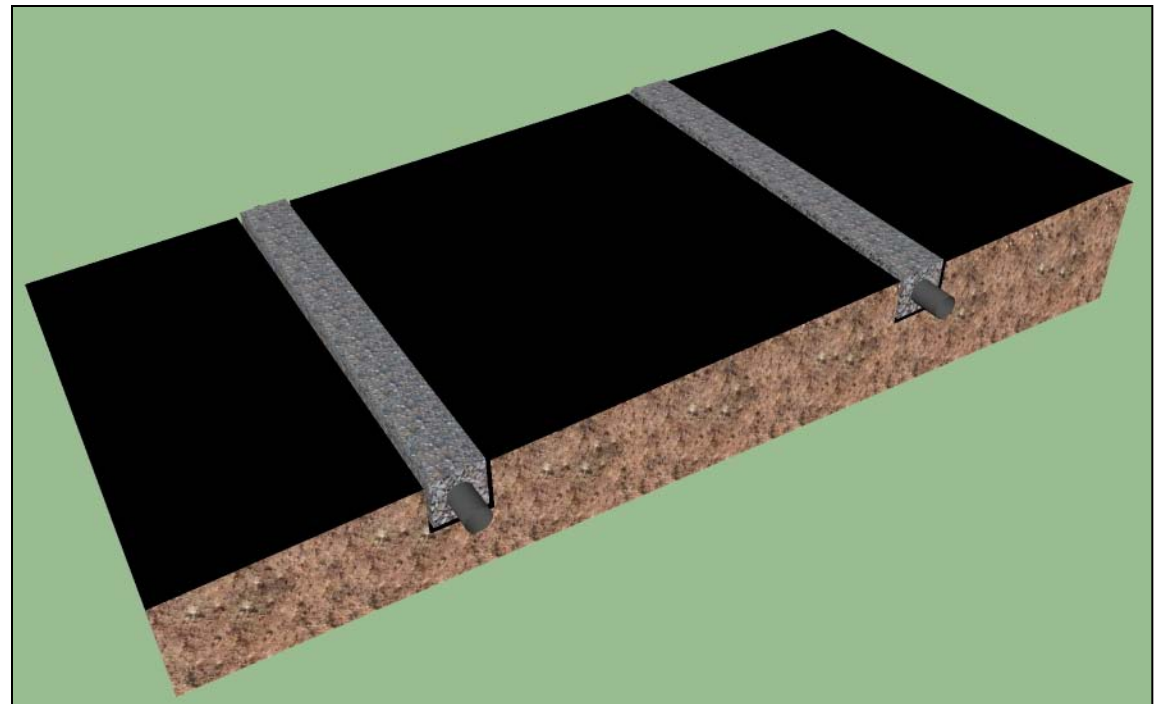
Associated Builders and Contractors
Virginia Chapter
Training Facility



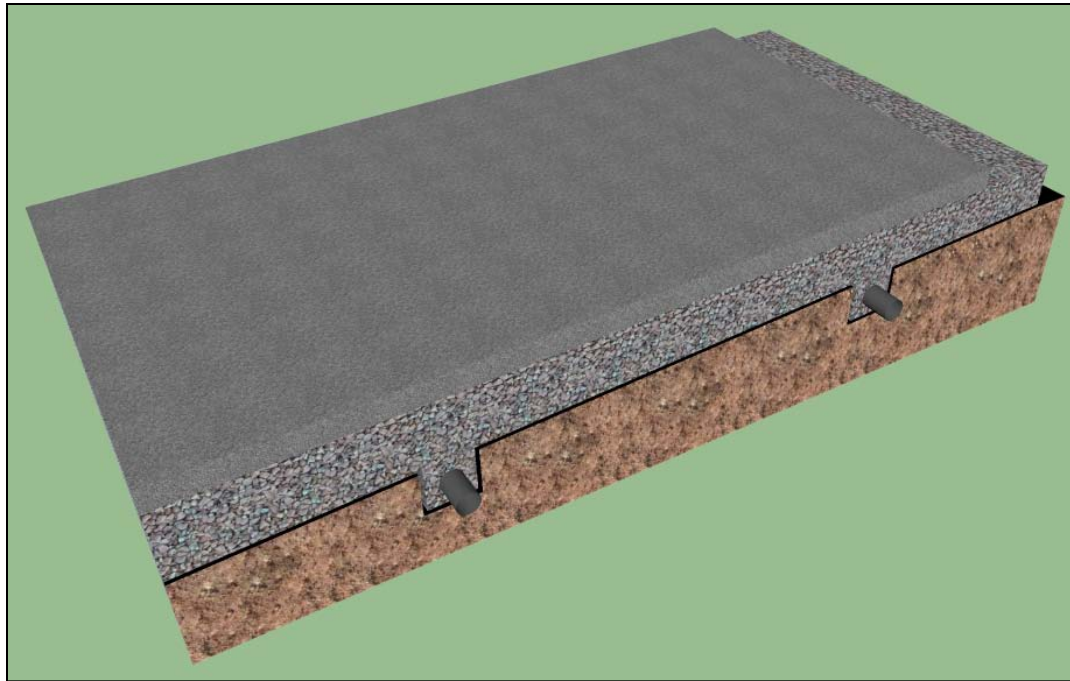
Pervious Concrete

The system is comprised of:

- Approved subgrade sloping to the floodplain (site was underlain by rock)
- Drainage trenches with filter fabric and perforated pipe encased by an open graded gravel (no fines)
- Filter Fabric over the approved sub-grade



Pervious Concrete



- open graded gravel with no fines ranged in depth from 6” to 18”
- 6” of pervious concrete with No. 8 stone aggregate was applied to the top of the gravel base.
- the concrete was immediately covered with plastic for a week to allow it to cure

Pervious Concrete



By using this system the following changes to a traditional design were incorporated:

- costly underground storm water filter system was eliminated
- all of the concrete storm drains and piping were eliminated
- curb and gutter was minimized and was only used as wheel stops in certain areas
- grading was not required to be sloped to drain because of the pervious nature of the system
- the concrete contributes to the Heat Island Effect credit

Installing Pervious Concrete



Pervious Concrete is placed with a telescoping conveyor belt and a short chute



A vibratory screed is used to level the pervious concrete on top of a guide rail with a 3/8" furring strip

Installing Pervious Concrete

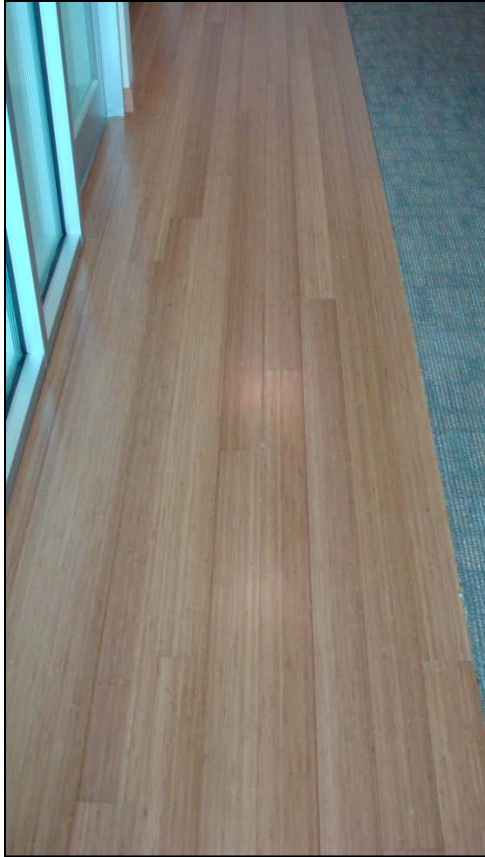


After the screed is used, the furring strip is removed and a steel pipe roller is used to give a slight compaction to the pervious concrete. A small roller is used to cut the joints



After the pervious concrete is rolled, plastic is placed over it and weighed down with rebar for a seven day curing period

Rapidly Renewable



Bamboo Flooring

Bamboo Flooring and Cabinets are considered rapidly renewable

Bamboo can reach maturity within 5 years as compared to trees that can take 30-40 years.

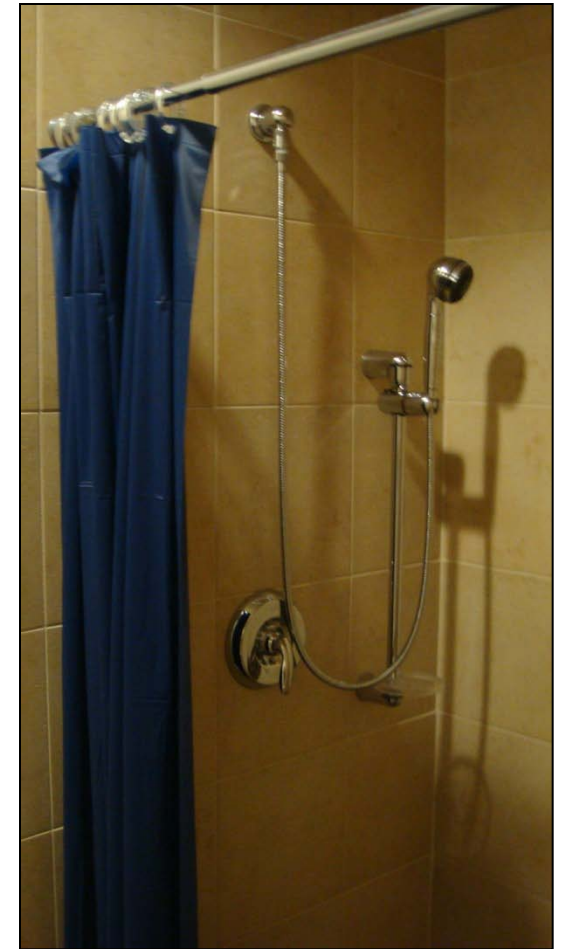


Bamboo Cabinets

Alternative Transportation



By providing bicycle storage and showering facilities, building occupants can bike to work and shower thereby reducing carbon emissions from vehicles

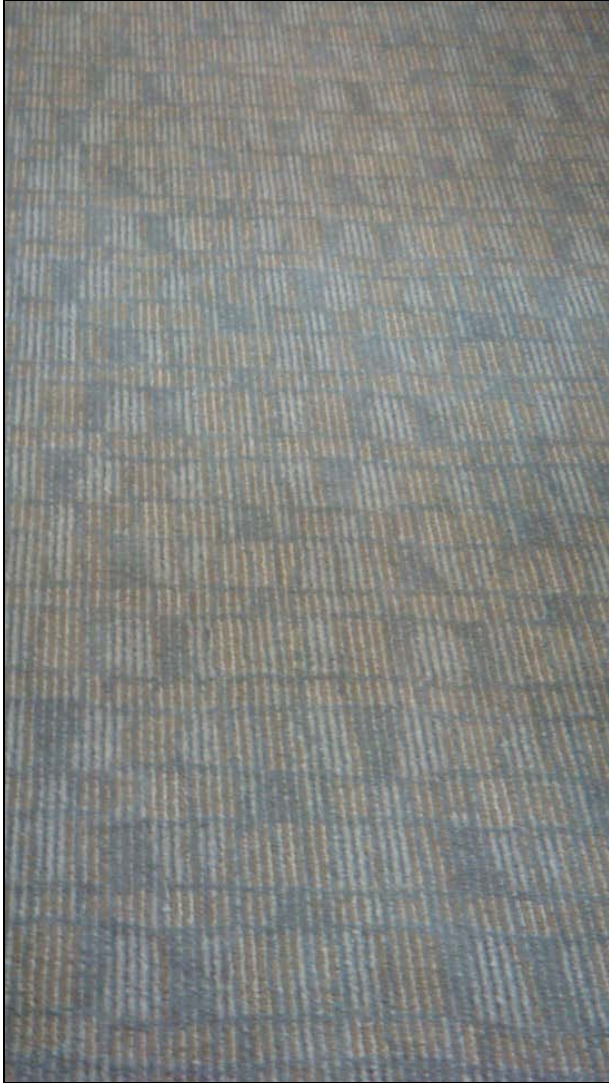


Alternative Transportation

Carpooling and alternative fuel vehicle use is encouraged by providing preferred parking spaces located near the building entrances



Green Carpet



By using an environmentally friendly carpet it ensures that VOC's (volatile organic compounds) for the carpet, adhesives, and cushions products have very low emissions. The Carpet and Rug Institute has programs called Green Label and Green Label Plus that test for the level of 13 chemicals and if they are under the allowable amount then the products are certified as Green Label

Classroom Floor Finishes

The apprentice's classrooms have a polished sealed concrete floor with black aggregate. By not using carpeting or other flooring, valuable material resources are not being used and therefore containments are not trapped in the floor material.



Entrance Mats



Entrance mats are used at the main entries to collect and prevent the containments from the shoes of the occupants from being spread though out the building

FSC Doors

The wood doors are FSC (Forest Stewardship Council) certified which means they are from forest that follow sustainable harvesting rules and have a chain of custody audit procedure to ensure the FSC rules are followed from the time it left the forest to finally assembly



Containment Room



A room was specially designed to exhaust all air from the room to the exterior to prevent toner dust and other air containments from remaining in the building.

Dual Flush Toilets



Dual Flush toilets uses 1.1 gallons per flush for liquid waste and 1.6 gallons per flush for solid waste



Solar Powered Faucet

The lavatory faucets are solar powered by transforming the available restroom lighting into electrical energy for the motion sensor activation and uses 0.5 gallon per minute flow rate.



Waterless Urinal

The urinals utilize a sealing liquid/oil which is less dense than the liquid waste which allows the liquid waste to pass through the trap and requires no water to “flush” the urinal.



Daylighting

Glass walls are used to allow natural daylight into rooms hence reducing artificial lighting



Reception Desk Counter



The reception desk counter is a durable surface made of 100% recycled glass in a cement matrix and is VOC-free



Apprenticeship Lab



The apprenticeship lab uses natural lighting from skylights with a highly reflecting floor coating requiring minimal or no artificial lighting

LED Lighting

LED lighting, which is highly energy efficient, is used in select areas to provide accent lighting



T-5 Lighting



Lighting fixtures are an energy efficient direct / indirect (indirect helps reduce glare) with T-5 lamps and use a total of 56 watts per fixture. This reduces energy consumption versus a normal fixture which could use up to 96 watts per fixture

Lighting Control



Ceiling Mounted Motion Sensor

In large classrooms, ceiling mounted motion sensor are used to reduce energy cost by turning lights off when no one is present in the room.

Lighting Control



Wall Mounted Motion Sensor
to control lighting

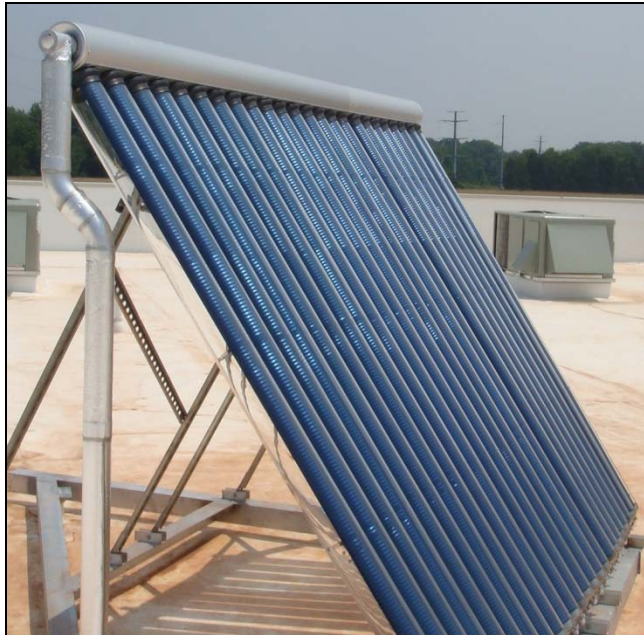
To help reduce energy cost, wall mounted motion sensors are used in small offices and rooms to turn lights off after a period of inactivity

Recycled Glass Terrazzo



The main lobby utilizes a recycled glass terrazzo with cement that provides a durable surface and uses recycled materials

Solar Hot Water Heating



Each evacuated tube consists of two glass tubes. The outer tube is transparent allowing light rays to pass. The inner tube is coated which provides excellent solar radiation absorption. The air contained in the space between the tubes is pumped out while exposing the tube to high temperatures. This “evacuation” of the gasses forms a vacuum, which keeps heat moving between the tubes

Sun Shields



Sun Shields are placed over the windows and masonry piers are placed on the sides of the window to reduce solar heat gain

White Roof



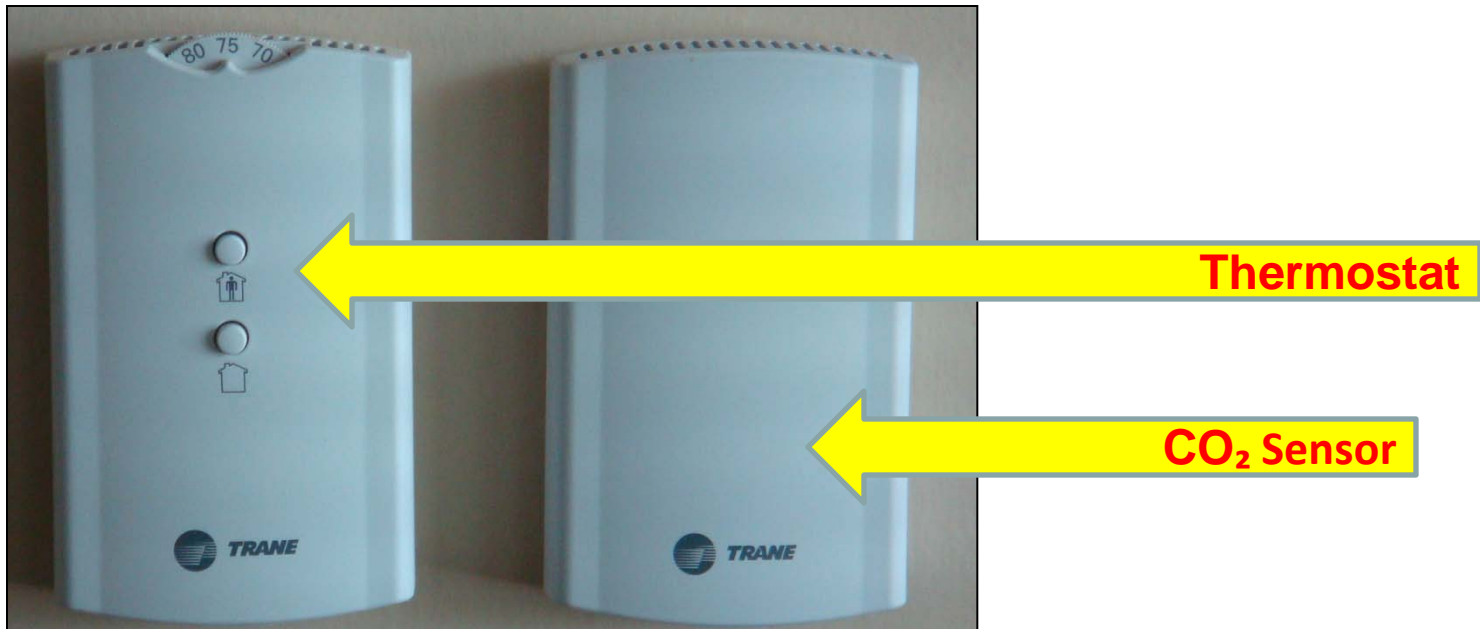
A white roof will reduce energy cost by reflecting solar heat away from the building as compared to a traditional black roof (heat island effect)

Parking Lot

Using a light colored material for the parking lot helps reduce the heat island effect and keeps the surfaces cooler than a traditional asphalt parking lot



CO₂ Sensors



Energy is saved by using sensors in the large rooms with variable occupancy that allow a minimum amount of fresh air which reduces energy use by not conditioning the fresh air but will monitor the carbon dioxide levels and increase the fresh air as the occupant load increases