Buildings consume enormous quantities of the Earth’s resources in their construction and operation, thus it is imperative that building materials are chosen which decrease the environmental burden as much as possible.

Incorporating recycled building materials reduces the demand for raw materials and diverts material from landfills. If recycled materials are not available, it is important to use rapidly renewable materials, as they to reduce the depletion of virgin materials and decrease the impacts on biodiversity loss, soil erosion, and air quality.

Using local and regional materials reduces the consumption of natural resources necessary for transporting materials over long distances, and creates a more stable regional economy.

Recycled building materials can be highly beneficial to building occupants if chosen accordingly. Use materials that have low or no chemical emissions that can lead to poor indoor air quality, do not contain highly toxic compounds, and are durable and have low maintenance requirements.

Below is a sample palette of a few recycled materials

RECOVERED OR RECLAIMED MATERIALS: have been extracted from the waste stream but have not yet been turned into a new product.

Post-consumer materials: have reached their end-user before being discarded.

Pre-consumer (Post-industrial) materials: have been recovered from a waste stream somewhere in the manufacturing process prior to reaching their end-user.

Once incorporated into a new item, materials from all of these categories are referred to as recycled building materials.
EXTERIOR ENCLOSURE

Insulated Concrete Walls provide a building envelope that is airtight and resistant to water infiltration and mold growth, enabling improved indoor air quality. Fly ash can be used in the mix for the core of the masonry unit.

Using reclaimed brick keeps product from ending up in a landfill, and utilizes the energy that went into making the original brick by not wasting material.

WALL FINISHES

Recycled metal tiles are made of 100% recycled aluminum or brass. Installation is similar to other tile, using mortar and grout to bond to wall surface.

Recycled synthetic gypsum board covered with natural clay plaster.

The plaster is a blend of pure clays and recycled aggregates with low VOC coloring agents that come from natural, non-toxic oxides and ochre mineral pigments.

Synthetic gypsum is made from the by-product of manufacturing and energy-generating processes, and is primarily composed of coal fly ash.
Concrete slab constructed with local recycled aggregate.

Fly ash can be included in concrete mixes to offset the high embodied energy of cement. Fly ash is a waste product from coal-fired power plants.

Structural steel reinforcing (bars, steel wire, and steel mesh) can contain 100% recycled content.

Slab-on-grade allows the incorporation of radiant heating and cooling systems.

EnviroGLAS Terrazzo is made of recycled glass and porcelain. The product is inert, which keeps it from negatively impacting indoor air quality, and since glass has no porosity, a sealer is not required for installation.

Salvaged wood flooring.

Less embodied energy is generally used to create reclaimed wood products than to create new ones or their substitutes.
**Metal Roofing** contains a high percentage of recycled content, is very durable, and is easily recyclable.

It is also the best roofing choice for rainwater harvesting.

**Mineral wool insulation** is made of basalt rock (25% or less) and steel slag (over 75%), and thus exhibits a high amount of recycled content material. It has better sound ratings and R ratings than both cellulose and glass fiber insulation products.

**Using reclaimed wood** prevents the continued destruction of existing forests, thus protecting trees, watershed health, and habitat for wildlife.

**Synthetic gypsum board**
The paper backing is typically 100% recycled and unbleached. No adhesives are used to bond the paper to the gypsum core.