**Natural History Museum of Utah, Rio Tinto Center**

**Sustainable Traits & Resources Fact Sheet**

**Updated 1/19/2016**

**Overview:** The Natural History Museum of Utah, located at the University of Utah, is the official state Museum of Natural History and the leading scientific and cultural institution in the Intermountain Region. Recognized for its world-class research programs and more than 40 years of experience, the Museum maintains and houses more than 1.5 million objects and provides innovative exhibitions and educational programs for thousands of visitors and communities across the state.

Now at home in the award-winning Rio Tinto Center, the Museum blends naturally into its17-acre space above the shoreline of ancient Lake Bonneville. In addition, the building’s design and architecture embody sustainable green practices while providing unique gallery spaces that further the Museum’s mission to engage and immerse the public in the natural sciences.

**Opening**

**Dates:** Dedication and Community Gala – November 17, 2011

Public Opening Free Day – November 18, 2011

**LEED-Gold**

**Certified:** In July of 2013, the Museum was awarded its LEED-Gold certification, (Leadership in Energy and Environmental Design), an internationally recognized green building certification developed by the U.S. Green Building Council. LEEDS rating and certification systems recognize specific building strategies and practices that reduce waste, improve energy and resource efficiency and promote healthy physical environments. Currently, there are eight LEED certified buildings on the University of Utah campus.

**Sustainable**

**Traits:**

* Storm water management system retains all runoff from building and parking lot. Pervious concrete pavement covers the parking area, space for 150 cars, allows direct recharge of rainwater into site’s groundwater system.
* Rio Tinto Center incorporates light concrete pavement and white roofing material to reduce or eliminate elevated temperatures known as “hear island effect,” improving the surrounding environment and quality.
* Outdoor lighting designed to NOT contribute to light pollution for surrounding areas, achieving the LEED “dark sky” requirement.
* Museum site and planted roof use water efficient landscaping, most plants require minimal water. Sections of the site are re-vegetated with native plants, which once established require no supplemental water irrigation.
* Two 10,000- gallon cisterns collect rainwater from roof to irrigate Museum site.
* High efficiency plumbing fixtures used throughout building for water use reduction.
* Secure bicycle storage area available for employee use as well as showers and changing rooms. Bicycle racks for visitors available near main entrance. Both amenities available to encourage alternate transportation use.
* Areas disturbed on Museum site during construction phase have been restored to natural state, including natural gradation around site and planting of native vegetation.
* Architectural design of Rio Tinto Center and parking lot use minimum amount of site’s 17 acres, maximizing open space.

**Energy**

**Efficiencies:**

* Energy efficient systems provide 26.2% savings based on overall design in comparison to standard building code.
* Radiant heating and cooling system located in the main hall (*The Canyon)* provides energy efficiency by only heating and cooling the ground floor space that is occupied by visitors — one of the few commercial spaces to effectively use radiant cooling.
* Solar panels (1,378) on the Museum’s roof generate electricity to help power Museum exhibitions, providing about 25% of energy needed to power the Museum.
* Mechanical and electrical systems were commissioned (inspected) by a third-party consultant before and during construction to ensure they operate as intended and function at maximum efficiency.
* Special consultants used during design and construction phases ensured the Rio Tinto Center envelope would provide a substantially improved seal above and beyond normal building requirements. This allows Museum personnel to control and maintain strict humidity regulations that protect collection storage areas and keep climates separate from other Museum areas.
* High-performance glass throughout the building reduces standard levels of heat absorption and decreases cooling load.

**Recycled**

**Materials**

**and Resources:**

* More than 75% of construction waste was recycled, including 205 tons of wood, 154 tons of metal, 24 tons of plastic and cardboard, 1,085 tons of concrete, and 2.1 tons of recycled office supplies. Total weight of recycled materials, 1,471 tons.
* More than 25% of structural and architectural building materials came from recycled products or materials.
* Rebar contains 95% recycled material and structural steel approximately 75% recycled material.
* Concrete throughout Museum contains 15-30% fly ash, a by-product of coal-fired power plants, and some mixes contain up to 40% slag, a waste product from metal smelting, helping to reduce the release of carbon emissions.
* Approximately 20% of structural and architectural materials were harvested, extracted and manufactured locally (within a 500-mile radius), resulting in a substantial investment into local and regional communities as well as reducing the overall carbon footprint.
* Stonewalls around the site, called “gabion walls” are constructed with stones uncovered during excavation of the site.

**Indoor**

**Environmental**

**Qualities:**

* Construction materials used for the building also meet low-emitting materials to comply with strict Volatile Organic Compounds (VOC) requirements.
* Motion detectors located throughout the building turn lights on and off, based on occupancy.
* At least 90% of regularly occupied spaces have access to daylight and outside views, reducing energy usage.

**About the**

**Building’s Green**

**Design Team:**

* **Big-D Construction**

With a portfolio that is complex and vast, Big-D Construction has been an industry leader in sustainable design and construction for more than 40 years. Currently, the company has completed 61 LEED certified buildings, including the first certified building complete for the State of Utah. Other highly recognized projects include the Salt Lake City Public Library, Swaner EcoCenter, renovation and remodeling of the John W. Gallivan Center and the Vernal Dinosaur National Monument Quarry Visitor Center, to list only a few.

For more information visit: <http://big-d.com>

* **Ennead Architects**

Known for creating powerful building designs that house cultural, educational, scientific and not-for-profit institutions, Ennead’s research-based design process leads to signature building designs that creatively express institutional philosophies and overall vision. Also noted for its work in the museum industry, Ennead’s long list of clients include the American Museum of Natural History, the Vietnam Veterans Memorial Education Center and many more. For more information visit: <http://ennead.com/>

* **GSBS Architects**

GSBS is a local leader in sustainable buildings and design, supporting the vision that well-designed structures should not only be more desirable to be in, but also inspiring, environmentally healthy and energy efficient. The Utah Olympic speed Skating Oval is one of their most prestigious LEED certified designs. For more information visit: <http://www.gsbsarchitects.com/index.html>

* **Design Workshop**

Design Workshop is an award-winning landscape architecture firm recognized nationally for creating enduring and sustainable environments. They seek to combine and balance the relationships between art, community, economics and sensitivity to the environment. Design Workshop excels in many areas of green design, including restoring natural landscapes, conserving ecosystems and creating compelling and sustainable places. For more information visit: <http://www.designworkshop.com/index.html>