

Duke Sustainability

Repass Ocean Science Center



Building Information

Tenant: [Marine Lab \(Nicholas School\)](#)

Architect: Frank Harmon

Construction: Joyce & Associates

Purpose: Teaching Facilities

Footprint: 5,600 sq ft

The Repass Ocean Science Center was designed by Raleigh architect Frank Harmon to meet the highest standards for energy and environmental efficiency adopted by the U.S. Green Building Council's LEED™ program. The building was dedicated in November of 2006 and earned LEED Platinum Certification.

[View the Repass Ocean Science Center LEED™ Scorecard](#)

Sustainable Site Features

This teaching facility includes zinc roofs, designed to weather the coastal conditions for 100 years, native landscaping and permeable sidewalks. Teleconferencing technology was incorporated early in the design process to connect the Marine Lab with the University's Durham campus, minimizing the need for inter-campus travel.

Water Efficiency

Cisterns capture all of the rainwater from the building's roof. Native landscaping mitigates erosion and eliminates the need for landscape irrigation, while permeable sidewalks allow rain water to seep into the soil, rather than running directly into the ocean with stormwater pollutants.

Energy Efficiency

Natural daylighting is used throughout the building to reduce the need for artificial lighting. Large eaves help to shade the building's interior. Geothermal pumps heat and cool the building, while solar panels heat water and photovoltaic panels convert Beaufort's abundance of sunlight into electricity.

Indoor Air Quality

The building's design allows for circulation of fresh air from outside. Low-VOC materials minimize air pollution in the building.

Resource Management

Local building materials, such as yellow southern pine and Atlantic white cedar, and recycled wood are used throughout the structure.

Integration of Sustainability in Design & Construction Process

Using a local architect and construction team was an important part of designing and building a low-impact, sustainable structure adapted to the unique ecology of the Marine Lab's coastal setting.



LEED for New Construction v2.2

Repass Ocean Conservation Center
Project # 10002688
Certification Level: Gold
November 20, 2008

42 Points Achieved

Possible Points: 69

Certified 26 to 32 points Silver 33 to 38 points Gold 39 to 51 points Platinum 52 or more points

8 Sustainable Sites		Possible Points: 14
Y	Prereq 1	1
1	Credit 1	1
1	Credit 2	1
1	Credit 3	1
1	Credit 4.1	1
1	Credit 4.2	1
1	Credit 4.3	1
1	Credit 4.4	1
1	Credit 5.1	1
1	Credit 5.2	1
1	Credit 6.1	1
1	Credit 6.2	1
1	Credit 7.1	1
1	Credit 7.2	1
1	Credit 8	1

6 Materials & Resources		Possible Points: 13
Y	Prereq 1	1
1	Credit 1.1	1
1	Credit 1.2	1
1	Credit 1.3	1
1	Credit 2.1	1
1	Credit 2.2	1
1	Credit 3.1	1
1	Credit 3.2	1
1	Credit 4.1	1
1	Credit 4.2	1
1	Credit 5.1	1
1	Credit 5.2	1
1	Credit 6	1
1	Credit 7	1

4 Water Efficiency		Possible Points: 5
Y	Prereq 1	1
1	Credit 1.1	1
1	Credit 1.2	1
1	Credit 2	1
1	Credit 3.1	1
1	Credit 3.2	1

8 Indoor Environmental Quality		Possible Points: 15
Y	Prereq 1	1
Y	Prereq 2	1
1	Credit 1	1
1	Credit 2	1
1	Credit 3.1	1
1	Credit 3.2	1
1	Credit 4.1	1
1	Credit 4.2	1
1	Credit 4.3	1
1	Credit 4.4	1
1	Credit 5	1
1	Credit 6.1	1
1	Credit 6.2	1
1	Credit 7.1	1
1	Credit 7.2	1
1	Credit 8.1	1
1	Credit 8.2	1

15 Energy & Atmosphere		Possible Points: 17
Y	Prereq 1	1
Y	Prereq 2	1
Y	Prereq 3	1
1	Credit 1.1	1
1	Credit 1.2	1
1	Credit 1.3	1
1	Credit 1.4	1
1	Credit 1.5	1
1	Credit 1.6	1
1	Credit 1.7	1
1	Credit 1.8	1
1	Credit 1.9	1
1	Credit 1.10	1
1	Credit 2.1	1
1	Credit 2.2	1
1	Credit 2.3	1
1	Credit 3	1
1	Credit 4	1
1	Credit 5	1
1	Credit 6	1

1 Innovation & Design Process		Possible Points: 5
Y	Prereq 1	1
1	Credit 1.1	1
1	Credit 1.2	1
1	Credit 1.3	1
1	Credit 1.4	1
1	Credit 2	1

Storage & Collection of Recyclables

- Building Reuse, Maintain 75% of Existing Walls, Floors, & Roof
- Building Reuse, Maintain 95% of Existing Walls, Floors, & Roof
- Building Reuse, Maintain 50% of Interior Non-Structural Elements
- Construction Waste Management, Divert 50% from Disposal
- Construction Waste Management, Divert 75% from Disposal
- Materials Reuse, 5%
- Materials Reuse, 10%
- Recycled Content, 10%
- Recycled Content, 20%
- Regional Materials, 10%
- Regional Materials, 20%
- Rapidly Renewable Materials
- Certified Wood

Minimum IAQ Performance

- Environmental Tobacco Smoke (ETS) Control
- Outdoor Air Delivery Monitoring
- Increase Ventilation
- Construction IAQ Management Plan, During Construction
- Construction IAQ Management Plan, Before Occupancy
- Low-Emitting Materials, Adhesives & Sealants
- Low-Emitting Materials, Paints & Coatings
- Low-Emitting Materials, Carpet Systems
- Low-Emitting Materials, Composite Wood & Agrifiber Products
- Indoor Chemical & Pollutant Source Control
- Controllability of Systems, Lighting
- Controllability of Systems, Thermal Comfort
- Thermal Comfort, Design
- Thermal Comfort, Verification
- Daylight & Views, Daylight 75% of Spaces
- Daylight & Views, Views for 90% of Spaces

Innovation in Design:

- Innovation in Design:
- Innovation in Design:
- Innovation in Design:
- LEED® Accredited Professional