UNIVERSITY OF RICHMOND
E. CLAIBORNE ROBINS STADIUM
28 Westhampton Way, Richmond VA 23173

LEED NC v2.2
SILVER
2010

The E. Claiborne Robins Stadium was commissioned by the University of Richmond to bring football back to campus. From 1930 until 2009, the University of Richmond Football team competed at City Stadium located five miles from campus. Completed just in time for the 2010 football season, the stadium has become a fixture on campus.

Named after benefactor to the University of Richmond, E. Claiborne Robins, the stadium has a seating capacity of 9,000 that is divided into three seating sections: the West Grandstands, Seasonal end-zone, and the East Grandstands. In the West Grandstand, private boxes hang over the main seating, and are adjacent to an indoor entertainment club. The East Grandstand hosts team officials, game officials, and technical support personnel for scoreboard, field lighting, and sound. Both Grandstands have a concession stand and restrooms on the lower concourse level. There is an unfinished level in the West and East grandstands that provides opportunity for future expansion.

In addition to football, the stadium supports soccer, lacrosse, and track programs and is able to host single game and tournament competition. Furthermore, the stadium provides space for community events like the Virginia Special Olympics, as well as playing fields for youth sports.

PROJECT HIGHLIGHTS

LEED® Facts

E. Claiborne Robins Stadium
University of Richmond
2010

Location.....28 Westhampton Way Richmond, VA 23173
Rating System.....LEED-NC v2.2
Certification Achieved.....Silver
Total Points Achieved.....36/69

Sustainable Sites.....8/14
Water Efficiency.....4/5
Energy and Atmosphere.....3/17
Materials and Resources.....6/13
Indoor Environmental Quality.....11/15
Innovation and Design.....4/5

30% Reduction of water use compared to regular buildings

42% Construction materials sourced within 500 miles

90% On site construction waste diverted from landfill

96% Natural daylight to all regularly occupied spaces

PROJECT TEAM

Owner	University of Richmond	**Civil Engineer**	Draper Aden & Associates
Architect	BCWH Architects	**Landscape Architect**	Higgens and Gersteinmaier
Contractor	Hourigan Construction	**LEED Consultant**	University of Richmond
MEP Engineer	MJ Thompson	**Interior Designer**	University of Richmond

Structural Engineer Dunbar Milby Williams Pittman & Vaughan

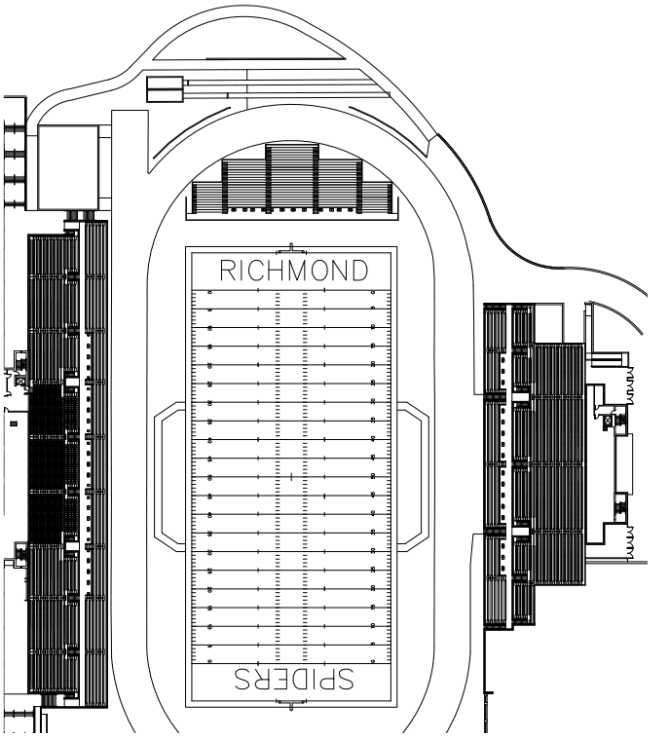
ADDITIONAL RESOURCES

Office for Sustainability
http://sustainability.richmond.edu/

Office for Sustainability Resources
http://sustainability.richmond.edu/buildings/index.html

Follow the Office for Sustainability
https://www.facebook.com/SpiderSustainability

https://twitter.com/BeAGreenSpider



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SUSTAINABLE SITES

With the opening of the new on-campus stadium, members of the University community can easily come to the University of Richmond's campus to watch football, soccer, and lacrosse games, track and field events, and other competitions.

Like most campus facilities, the stadium is close in proximity to other important facilities such as a library, restaurant, post office, gym, and a community center. Because of this, members of the University community can easily move from the stadium to other campus services.

The location of the stadium also gives individuals the option to travel there in a sustainable manner. Located within .25 miles, there is a GRTC bus line that has connections to the rest of the greater Richmond area. The construction of the stadium added no new parking to the site.

To improve the environment of the greater Richmond area, the University set aside a plot of land equal to the 55,359 square feet of the building footprint at another University-owned location. The water quality is controlled by directing water run-off into Westhampton Lake, which acts as a best management practice that removes total suspended solids from runoffs, controlling the quality of water that flows into the James River and Chesapeake Bay watersheds. To mitigate the heat island effect, 95.29% of the roofing materials used on the project are highly reflective.

WATER EFFICIENCY

To maximize water efficiency, the turf field is made of a synthetic surface that requires no irrigation and uses recycled rubber as infill. To prevent wasteful water use, the vegetative landscape design utilizes native plants that require no permanent irrigation system.

Additionally, the stadium reduced potable water use by 42.7% from a calculated baseline design through the installation of dual flush water closets, ultra low-flow lavatories, and low-flow urinals, showers, and kitchen sinks.

ENERGY AND ATMOSPHERE

Through fundamental commissioning of the building energy system and implementation of energy saving options, the project is designed to achieve an energy cost savings of 15.3% compared to baseline calculations. To optimize energy performance, limit resource consumption, and alleviate water consumption, enhanced commissioning measures were taken to verify that the stadium was designed and constructed as initially intended.

MATERIALS AND RESOURCES

During the construction process, 875.64 tons (over 90%) of on-site generated construction waste was diverted from the landfill. Twenty-one percent, by value, of the project building materials used in construction, were manufactured using recycled materials.

To promote the regional economy and limit the carbon footprint from transporting materials, 42% of the total building materials value including materials and/or products that were extracted, processed, and manufactured within 500 miles of the project site.

INDOOR ENVIRONMENTAL QUALITY

One of the primary design goals of the stadium was to ensure that spectators can enjoy the sporting events in a safe and healthy environment. During the construction process, measures were taken to ensure that the workers were in a safe and healthy environment; air handlers with filters removed particulate matter. The filtration media was replaced prior to occupancy.

To rid the building of potentially dangerous construction-related chemicals, a flush-out was performed prior to occupancy, supplying a total air volume of 14,000 cubic feet of outdoor air per square foot of floor area while maintaining a relative humidity of 60%.

To limit the amount of harmful chemicals that could negatively impact the indoor air quality and health, low-VOC paints, carpets, coatings, sealants were used in all areas of the project. Design specifications also ensured all installed indoor composite wood and agrifiber materials contained no urea-formaldehyde.

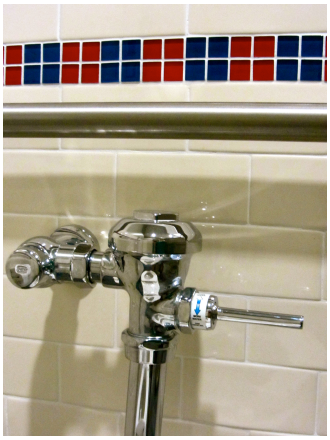
To maximize occupant comfort, lighting controls are installed that enable 100% of occupants to make adjustments to suit individual needs. To ensure that occupants are satisfied with the building's indoor environment, a thermal comfort survey was distributed to building occupants within the first 6 months of occupancy. The survey is used to identify any areas that might be in need of thermal adjustment in the building.

Specific stadium design incorporates both environmental and occupant benefits. The stadium design provides natural daylight to 96% of all regularly occupied spaces. Additionally, to bridge the gap between the indoor and outdoor environments, the project provides outside views for almost 96% of all regularly occupied areas.

INNOVATION AND DESIGN

In accordance with University guidelines, the E. Claiborne Robins Stadium utilizes an integrated pest management system to keep a low level of pest populations while limiting the amount of hazardous pesticides used. The University also uses a University-wide green house-keeping policy that limits the use of harmful products on occupants and the watershed.

The stadium achieved exemplary performance in water efficiency by exceeding LEED requirements through the use of proactive measures to limit the water use in the building through dual flush water closets, ultra low-flow lavatories, low flow urinals, showers, and kitchen sinks.



LEED SCORE CARD

First Market Stadium (10330805)

Richmond, VA, US

LEED for New Construction

Certification Level: Silver

Certification Date: 2011.10.03

36	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	Construction Activity Pollution Prevention	
1	Credit 1	Site Selection	1
1	Credit 2	Development Density & Community Connectivity	1
	Credit 3	Brownfield Redevelopment	1
1	Credit 4.1	Alternative Transportation, Public Transportation Access	1
	Credit 4.2	Alternative Transportation, Bicycle Storage & Changing Rooms	1
1	Credit 4.3	Alternative Transportation, Low-Emitting & Fuel-Efficient Vehicles	1
1	Credit 4.4	Alternative Transportation, Parking Capacity	1
	Credit 5.1	Site Development, Protect or Restore Habitat	1
1	Credit 5.2	Site Development, Maximize Open Space	1
	Credit 6.1	Stormwater Design, Quantity Control	1
1	Credit 6.2	Stormwater Design, Quality Control	1
	Credit 7.1	Heat Island Effect, Non-Roof	1
1	Credit 7.2	Heat Island Effect, Roof	1
	Credit 8	Light Pollution Reduction	1

4	Water Efficiency	Possible Points:	5

1	Credit 1.1	Water Efficient Landscaping, Reduce by 50%	1
1	Credit 1.2	Water Efficient Landscaping, No Potable Use or No Irrigation	1
	Credit 2	Innovative Wastewater Technologies	1
1	Credit 3.1	Water Use Reduction, 20% Reduction	1
1	Credit 3.2	Water Use Reduction, 30% Reduction	1

3	Energy & Atmosphere	Possible Points:	17

Y	Prereq 1	Fundamental Commissioning of the Building Energy Systems	
Y	Prereq 2	Minimum Energy Performance	
Y	Prereq 3	Fundamental Refrigerant Management	1
1	Credit 1.1	Optimize Energy Performance, 10.5% New / 3.5% Existing	1
1	Credit 1.2	Optimize Energy Performance, 14% New / 7% Existing	1
	Credit 1.3	Optimize Energy Performance, 17.5% New / 10.5% Existing	1
	Credit 1.4	Optimize Energy Performance, 21% New / 14% Existing	1
	Credit 1.5	Optimize Energy Performance, 24.5% New / 17.5% Existing	1
	Credit 1.6	Optimize Energy Performance, 28% New / 21% Existing	1
	Credit 1.7	Optimize Energy Performance, 31.5% New / 24.5% Existing	1
	Credit 1.8	Optimize Energy Performance, 35% New / 28% Existing	1
	Credit 1.9	Optimize Energy Performance, 38.5% New / 31.5% Existing	1
	Credit 1.10	Optimize Energy Performance, 42% New / 35% Existing	1
	Credit 2.1	Renewable Energy, 2.5%	1
	Credit 2.2	Renewable Energy, 7.5%	1
	Credit 2.3	Renewable Energy, 12.5%	1
1	Credit 3	Enhanced Commissioning	1
	Credit 4	Enhanced Refrigerant Management	1
	Credit 5	Measurement & Verification	1
	Credit 6	Green Power	1

6	Materials & Resources	Possible Points:	13

Y	Prereq 1	Storage & Collection of Recyclables	
	Credit 1.1	Building Reuse, Maintain 75% of Existing Walls, Floors, & Roof	1
	Credit 1.2	Building Reuse, Maintain 95% of Existing Walls, Floors, & Roof	1
	Credit 1.3	Building Reuse, Maintain 50% of Interior Non-Structural Elements	1
1	Credit 2.1	Construction Waste Management, Divert 50% from Disposal	1
1	Credit 2.2	Construction Waste Management, Divert 75% from Disposal	1
	Credit 3.1	Materials Reuse, 5%	1
	Credit 3.2	Materials Reuse, 10%	1
1	Credit 4.1a	Recycled Content, 10% (Post-consumer + 1/2 pre-consumer)	1
1	Credit 4.1b	Recycled Content, 20% (Post-consumer + 1/2 pre-consumer)	1
1	Credit 5.1	Regional Materials, 10% Extracted, Processed, and Manufactured Regionally	1
1	Credit 5.2	Regional Materials, 20% Extracted, Processed, and Manufactured Regionally	1
	Credit 6	Rapidly Renewable Materials	1
	Credit 7	Certified Wood	1

11	Indoor Environmental Quality	Possible Points:	15

Y	Prereq 1	Minimum IAQ Performance	
Y	Prereq 2	Environmental Tobacco Smoke (ETS) Control	
	Credit 1	Outdoor Air Delivery Monitoring	1
	Credit 2	Increased Ventilation	1
1	Credit 3.1	Construction IAQ Management Plan, During Construction	1
1	Credit 3.2	Construction IAQ Management Plan, Before Occupancy	1
1	Credit 4.1	Low-Emitting Materials, Adhesives & Sealants	1
1	Credit 4.2	Low-Emitting Materials, Paints & Coatings	1
1	Credit 4.3	Low-Emitting Materials, Carpet Systems	1
1	Credit 4.4	Low-Emitting Materials, Composite Wood & Agrifiber Products	1
	Credit 5	Indoor Chemical & Pollutant Source Control	1
1	Credit 6.1	Controllability of Systems, Lighting	1
	Credit 6.2	Controllability of Systems, Thermal Comfort	1
1	Credit 7.1	Thermal Comfort, Design	1
1	Credit 7.2	Thermal Comfort, Verification	1
1	Credit 8.1	Daylight & Views, Daylight 75% of Spaces	1
1	Credit 8.2	Daylight & Views, Views for 90% of Spaces	1

4	Innovation & Design Process	Possible Points:	5

1	Credit 1.1	Innovation in Design	1
1	Credit 1.2	Innovation in Design	1
1	Credit 1.3	Innovation in Design	1
	Credit 1.4	Innovation in Design	1
1	Credit 2	LEED® Accredited Professional	1