**APPA Sustainability Award**

*2013 Award Nominations* | *Oberlin College*

3.0 Maintenance and Operations

**3.1 Facilities Management implements the concept of “Total Cost of Ownership and lifecycle investment” for its sustainability efforts.**

The College aims to make ethical and sustainable purchases wherever possible. This principle is expressed in the green purchasing policy discussed in Section 5.3. In addition, our CMMS helps track Repair and Maintenance history which is useful in Repair & Replacement decisions so that more reliable and efficient equipment can be better planned and installed as appropriate.

**3.2 Sustainability efforts are included in modernization, planned maintenance, capital renewal and deferred maintenance programs.**

As mentioned in Section 2.4, sustainability efforts are integrated into all projects. When buildings need improvements, energy efficiency and lifecycle are considered. In addition, the Oberlin College Board of Trustees adopted a policy that all new construction and major renovations on campus have to be designed and built in accordance with the [USGBC](http://www.usgbc.org/) [Leadership in Energy and Environmental Design](http://www.usgbc.org/DisplayPage.aspx?CategoryID=19) (LEED) silver standard or equivalent. Sustainability is considered in all modernization and maintenance projects.

**3.3 Facilities Management maximizes technology e.g. CMMS, EMS, DDC to support sustainability concepts and principles.**

Facilities Management use the Siemens Apogee system. We also use CMMS Schooldude for work orders, preventive maintenance tasks, and centralized database for utility use/costs/reporting, and for variance analysis. Direct Digital Controls are added to new and renovated buildings.

**3.4 Sustainability concepts and principles are integrated in the practices, methods and procedures.**

Best practices and sustainability concepts are integrated into day-to-day operations of in-house staff and contracted service providers. For Operations, sustainability often translates into improved efficiencies; the methods employed have a positive impact on the environment and reduced costs. Using green cleaning products and equipment reduces water usage. Scheduled maintenance can results in replacing older refrigerants and air filters with more environmentally friendly products that also can help with indoor air quality. Purchasing, landscaping and waste management systems and practices all reduce waste, improve water and air quality. Staff is responsible for reporting issues and concerns and thus is key to ensuring problems are addressed quickly and resource waste lessened. Other practices and procedures are in place such as: during winter shutdown from December 24 to January 1, all unused buildings (~95%) have the heating set point turned back to 50-55 degrees. All non-safety lighting and other power is shut down. In addition, students are required to unplug all electrical devices within the residence halls. Another electricity saving practice was the installation of motion sensors throughout all campus buildings in public spaces.

**3.5 Sustainable grounds maintenance and landscaping practices are established and followed.**

The Grounds department is one of the most sustainable areas on campus. The head of Grounds attends periodic training and development sessions to ensure that Oberlin is ahead of the curve. The department has devised a low intensity turf maintenance program. Low fertility levels, no irrigation, and minimum use of machines for line trimming (weed eating), aeration, and over seeding keep fuel use to a minimum. Summer heat and drought puts the majority of turf into a month-long state of dormancy, eliminating the need to mow. Native plants are featured in several prominent locations on campus. Aggressive invasive species are removed. The conversion of turf to meadow is a fuel savings opportunity for the Grounds Department. Oberlin's Grounds Department worked with the City of Oberlin to change ordinances governing grass to allow for natural landscaping. Grounds has converted fine-cut turf to wildflower meadows at eight locations on campus totaling seven acres. Mowing efficiency has also been examined to reduce fuel usage. Bed shapes have been increased to make curvilinear lines that allow faster mowing speeds. The Grounds Department uses landscape management categories to govern the level of maintenance provided to various parts of the campus landscape to ensure proper attention is given to each part of campus, while striving to be as sustainable as possible.

The Adam Joseph Lewis Center for Environmental Studies was conceived as an integrated building-landscape system. The landscape features a variety of constructed ecosystems that simulate native Northern Ohio ecosystems and incorporate cultigens that produce food for humans. The restored wetland and forest ecosystems speak to the pre-agricultural history of the site. The George Jones Farm also includes preserved forests and restored wetlands.

**3.6 Sustainable integrated pest management program is implemented.**

The Grounds Department uses Integrated Pest Management (IPM) practices to control plant pests and diseases. We use current, comprehensive information on the life cycles of pests and diseases and their interactions with the environment. Cultural practices are employed that enhance plant health, thereby making plant natural defense mechanisms more capable of repelling competitive organisms. Pest tolerance threshold levels have been established and identified for pests and diseases. Regular monitoring is done to determine how pest levels relate to thresholds. The IPM system is used to manage pests and disease in the most economical means with the least possible hazard to people, property, and the environment. The Grounds department explores all available strategies before using pesticides. When pesticides are used, the least toxic is used. Grounds uses organic garlic extract to repel insects. We also use IPM with regards to pest and critter control with live trap and removal. We attempt to figure out why the critter is approaching or getting in, then we do exclusion to keep them out, i.e. closing entry points for squirrels or bats; closing dumpsters for raccoons, etc.

Organic fertilizer is used on academic and residential turf. The material is applied at one quarter the recommended rate. Although synthetic fertilizer has been used, low rates resulted in minimal chemical salt content in the soil. Grounds uses glyphosate broad-spectrum herbicide to maintain maintenance strips around vertical elements in the landscape.

**3.7 Sustainable irrigation plan, tracking consumption usage and reduction management, is established and followed.**

The campus turf is maintained at a low intensity level. Grass is mowed at a high mowing height, 2.5”, to shade the soil surface and enable the roots to extend deeply in the soil. The majority of the campus is not irrigated. Aeration is performed on turf areas that are damaged by excessive foot or vehicle traffic. Varsity athletic field turf is maintained at a higher intensity level.

**3.8 Storm water management efforts are established and followed.**

Water gardens are maintained as natural aquatic ecosystems. Floating plants are added to the water surface in spring to provide shade and consume nutrients in the water. The Grounds Department is conducting a project to inventory the storm drainage system on campus. Catch basins in the parking lots have been cleaned and repaired. Grounds has carried out a 3 year plan to vacuum catch basins in the landscape. At the same time the underground drain lines were flushed. New constructions like Kahn Hall and the Kohl Jazz Building have incorporated bioswales. The student-run Oberlin Storm Water Management Project is working to install additional rain gardens on campus; so far, Oberlin has installed two 100 square foot rain gardens on campus. Kahn Hall and village housing also includes porous pavement sidewalk and bike rack staging areas. Three buildings on campus have sections of green roof.

**3.9 Sustainable custodial practices are established and followed.**

The department recognizes that [Green Seal](http://www.greenseal.org/) is a great source when it comes to making a decision on a product. Green cleaning chemicals are used when the option is available and equally as effective as its conventional counterpart. Currently, Green Seal certified products are used for all daily cleaning needs. The paper products that we stock are manufactured by Eco Soft and are Green Seal Certified. Both our tissues and paper towels are made from 100% recycled materials, as well as the core and box are 100% recycled material. Our hand soup products are GS-41 certified. All vacuums on campus meet or exceed the Carpet and Rug Institute (CRI) requirements for efficiency. The college is in the process of 100% conversion to [Windsor Sensor vacuums](http://www.windsorvacuums.com/). The Windsor vacuum is LEED qualifying with CRI SOA Silver Performance and noise levels less than 70 dBA.

**3.10 Sustainable waste management and reduction efforts are established and followed.**

The College has single-stream collection for paper, glass, #1 & #2 plastic (#1-7 beginning in March 2013!), and cans in residence halls and staff/faculty offices for collection by City recycling. Dining halls collect pre- and post- consumer food for composting. Office paper is segregated for recycling. We also have segregated corrugated pick-up for recycling. Some in-dorm composting was initiated in 2011. Move-out sale (unwanted/used items) for community held at the end of the semester and at the end of the year to divert useable items from the landfill. Unwanted electronics collected for recycling by IT Department. Student groups (Resource Conservation Team & Campus Dining Service Recyclers) are dedicated to increasing composting and recyclable collection on campus.

**3.11 A waste management program has been established to divert tonnage of waste from the landfills.**

Per above and below: RCT holds Big and Little Swap move-out sales and runs the Free Store, there are e-waste recycling days, comingled recycling across campus, and two ABITIBI bins for paper recycling. The City reports that the College had approximately 600 tons of recycling last year.

**3.12 A waste reduction plan has been implemented for construction and demolition projects.**

Oberlin College's Board of Trustees' green building policy led Oberlin to purse increased construction and demolition waste diversion. The Environmental Policy commits the college to strive to salvage, store, and reuse as much construction waste as possible. Counters in the new Alumni Association office are recycled bathroom stalls and the reconstructed Adam Joseph Lewis Center wetlands features limestone excavated from the renovation of Asia House. Oberlin interacts with local construction and demolition contractors and waste experts to maximize diversion.

**3.13 The institution has established and developed a comprehensive waste recycling management program, e.g. materials/rubbish, food, lamps, cardboard.**

Oberlin College both [purchases and recycles all of the carpet on campus through Legacy Commercial Flooring](http://www.legacycommercialflooring.com/recl.php). In 2003 the college won the State of Ohio Department of Administrative Services STS Recycler of the Year Award for the amount of carpet it recycled. When carpet must be removed from a building, all of it is recycled. Oberlin then purchases the “new" product from the same company. Through recycling its old carpets and in turn buying carpet from the company, Oberlin reduces the necessity to extract new resources by both keeping its old carpet out of landfills and also helping to create economic demand for recycled-content carpets. Our floor entrance matting fibers are made from 100% post-consumer recycled P.E.T. polyester from bottles and the backing is made from 15% post-consumer recycled rubber from tires. Excess furniture is stored and reused where appropriate – or donated to a local donation center. The Resource Conservation Team runs a Free Store, which collects and offers surplus items. The Recycled Products Co-op, a student organization, has a mission to "provide affordable recycled office supplies to the Oberlin community at large…”

**3.14 A sustainable composting effort is implemented to recycle and regenerate soil supplements.**

Grounds composts their organic waste from leave collection, pruned branches, tree trimmings, and wood chips from tree removals. This compost is used as mulch in planting beds. RCT initiated a residential compost program whereby student staff identified “compost captains” in residence halls, provided them with tumblers, and collect the compost from the residence hall to be used in a campus garden. The largest dining hall on campus collects compost where it is sent to a large processing facility. The other campus cafeterias collect coffee grounds and pre-consumer organic waste to be used by a local farm.

**3.15 A hazardous waste management program is established and followed in coordination with other hazardous waste generators.**

All wastes are identified, characterized and profiled to ensure appropriate disposal or recycling. Segregation, packaging, manifesting, transportation, disposal or recycling of materials is handled by a licensed waste contractor. Wastes are collected from various areas of campus and disposed of regularly to prevent accumulation of materials. Departments are encouraged to only purchase quantities necessary to perform work and utilization of less hazardous materials if feasible. Chemical inventory system enables users to see if desired items are already in inventory, rather than purchasing more. E-waste is collected by the Center for Information Technology's Oberlin Technology Store and sent to a recycler that is recommended by the Ohio Environmental Protection Agency. The e-waste is broken down in Ohio: the recycler has a policy against exporting any part of the e-waste to another country. Hazardous materials are sent to appropriate licensed waste treatment plants.

**3.16 A sustainable fleet management plan for vehicle selection and maintenance is established and followed.**

Whenever possible, more fuel efficient vehicles are selected. See 3.17

**3.17 A sustainable vehicle usage plan has been developed and implemented.**

Oberlin College purchased two hybrid vehicles for the Office of Safety and Security. These gas/electric vehicles offer 41% better fuel economy than the standard 4 cylinder gas engine and are well suited to the stop and go driving that the Safety and Security office does. The College also enacted an anti-idling policy to curb emissions and reduce gas use. Oberlin College owns three electric Club Cars for campus travel. ResEd, Security, and Facilities each have a cart. Additionally, Facilities Operations replaced 3 V-8 cargo vans with Ford Transits. Due to their four-cylinder gas engines, manual transmission, lower weight and more aerodynamic design, Transits are more fuel efficient than the V-8s. In the last three years, the College has removed three gasoline club cars and one van from the fleet. Grounds lawnmowers and tractors are converted from diesel to run on straight vegetable oil after their warranty has expired.

**3.18 Facilities management has established and implemented a paperless environment.**

Facilities implemented electronic work orders to better organize work flow and reduce paper use. Vendor service contracts, quotes and purchase orders, lease and rental agreements are centrally stored on college servers for easy and secure access. Facilities Construction is moving plans and drawings to a digital format. Further initiatives are in the works to reduce paper consumption.

**3.19 Facilities management has established green standards and specifications for materials and supplies.**

The college works with certified suppliers dedicated to improving their environmental performance per the environmental policy and green purchasing policy.