LEED for New Construction v 2.2
Registered Project Checklist

Project Name: _____

Project Address: _____

Yes	?	No		
			Project Totals (Pre-Certification Estimates)	69 Points
			Certified: 26-32 points **Silver**: 33-38 points **Gold**: 39-51 points **Platinum**: 52-69 points	

Yes	?	No			
			Sustainable Sites		14 Points
Yes			Prereq 1	**Construction Activity Pollution Prevention**	Required
			Credit 1	**Site Selection**	1
			Credit 2	**Development Density & Community Connectivity**	1
			Credit 3	**Brownfield Redevelopment**	1
			Credit 4.1	**Alternative Transportation**, Public Transportation	1
			Credit 4.2	**Alternative Transportation**, Bicycle Storage & Changing Rooms	1
			Credit 4.3	**Alternative Transportation**, Low-Emitting & Fuel Efficient Vehicles	1
			Credit 4.4	**Alternative Transportation**, Parking Capacity	1
			Credit 5.1	**Site Development**, Protect or Restore Habitat	1
			Credit 5.2	**Site Development**, Maximize Open Space	1
			Credit 6.1	**Stormwater Design**, Quantity Control	1
			Credit 6.2	**Stormwater Design**, Quality Control	1
			Credit 7.1	**Heat Island Effect**, Non-Roof	1
			Credit 7.2	**Heat Island Effect**, Roof	1
			Credit 8	**Light Pollution Reduction**	1

Yes	?	No			
			Water Efficiency		5 Points
			Credit 1.1	**Water Efficient Landscaping**, Reduce by 50%	1
			Credit 1.2	**Water Efficient Landscaping**, No Potable Use or No Irrigation	1
			Credit 2	**Innovative Wastewater Technologies**	1
			Credit 3.1	**Water Use Reduction**, 20% Reduction	1
			Credit 3.2	**Water Use Reduction**, 30% Reduction	1

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Yes	?	No			
			Energy & Atmosphere		**17 Points**
Yes			Prereq 1	**Fundamental Commissioning of the Building Energy Systems**	Required
Yes			Prereq 1	**Minimum Energy Performance**	Required
Yes			Prereq 1	**Fundamental Refrigerant Management**	Required

***Note for EAc1:** All LEED for New Construction projects registered after June 26, 2007 are required to achieve at least two (2) points.

			Credit 1	**Optimize Energy Performance**	1 to 10
			Credit 1.1	10.5% New Buildings / 3.5% Existing Building Renovations	1
			Credit 1.2	14% New Buildings / 7% Existing Building Renovations	2
			Credit 1.3	17.5% New Buildings / 10.5% Existing Building Renovations	3
			Credit 1.4	21% New Buildings / 14% Existing Building Renovations	4
			Credit 1.5	24.5% New Buildings / 17.5% Existing Building Renovations	5
			Credit 1.6	28% New Buildings / 21% Existing Building Renovations	6
			Credit 1.7	31.5% New Buildings / 24.5% Existing Building Renovations	7
			Credit 1.8	35% New Buildings / 28% Existing Building Renovations	8
			Credit 1.9	38.5% New Buildings / 31.5% Existing Building Renovations	9
			Credit 1.10	42% New Buildings / 35% Existing Building Renovations	10
			Credit 2	**On-Site Renewable Energy**	1 to 3
			Credit 2.1	2.5% Renewable Energy	1
			Credit 2.2	7.5% Renewable Energy	2
			Credit 2.3	12.5% Renewable Energy	3
			Credit 3	**Enhanced Commissioning**	1
			Credit 4	**Enhanced Refrigerant Management**	1
			Credit 5	**Measurement & Verification**	1
			Credit 6	**Green Power**	1

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Yes	?	No			
			Materials & Resources		**13 Points**
Yes			Prereq 1	**Storage & Collection of Recyclables**	Required
			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
			Credit 2.1	**Construction Waste Management**, Divert 50% from Disposal	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
			Credit 4.1	**Recycled Content**, 10% (post-consumer + 1/2 pre-consumer)	1
			Credit 4.2	**Recycled Content**, 20% (post-consumer + 1/2 pre-consumer)	1
			Credit 5.1	**Regional Materials**, 10% Extracted, Processed & Manufactured	1
			Credit 5.2	**Regional Materials**, 20% Extracted, Processed & Manufactured	1
			Credit 6	**Rapidly Renewable Materials**	1
			Credit 7	**Certified Wood**	1

Yes	?	No			
			Indoor Environmental Quality		**15 Points**
Yes			Prereq 1	**Minimum IAQ Performance**	Required
Yes			Prereq 2	**Environmental Tobacco Smoke (ETS) Control**	Required
			Credit 1	**Outdoor Air Delivery Monitoring**	1
			Credit 2	**Increased Ventilation**	1
			Credit 3.1	**Construction IAQ Management Plan,** During Construction	1
			Credit 3.2	**Construction IAQ Management Plan**, Before Occupancy	1
			Credit 4.1	**Low-Emitting Materials**, Adhesives & Sealants	1
			Credit 4.2	**Low-Emitting Materials**, Paints & Coatings	1
			Credit 4.3	**Low-Emitting Materials**, Carpet Systems	1
			Credit 4.4	**Low-Emitting Materials**, Composite Wood & Agrifiber Products	1
			Credit 5	**Indoor Chemical & Pollutant Source Control**	1
			Credit 6.1	**Controllability of Systems**, Lighting	1
			Credit 6.2	**Controllability of Systems**, Thermal Comfort	1
			Credit 7.1	**Thermal Comfort,** Design	1
			Credit 7.2	**Thermal Comfort,** Verification	1
			Credit 8.1	**Daylight & Views,** Daylight 75% of Spaces	1
			Credit 8.2	**Daylight & Views,** Views for 90% of Spaces	1

Yes	?	No			
			Innovation & Design Process		**5 Points**
			Credit 1.1	**Innovation in Design:** Provide Specific Title	1
			Credit 1.2	**Innovation in Design:** Provide Specific Title	1
			Credit 1.3	**Innovation in Design:** Provide Specific Title	1
			Credit 1.4	**Innovation in Design:** Provide Specific Title	1
			Credit 2	**LEED® Accredited Professional**	1

News & Events

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March/April 2007

Correctional News

Butner Federal Prison Offers Lessons in LEED Certification

GREEN SCENE

Sustainable construction is becoming a standard practice throughout most construction markets in the United States, but due to the highly secure and rigid nature of correctional facilities, green building techniques are still rare at prisons and jails.

BUTNER, N.C. — Sustainable construction is becoming a standard practice throughout most construction markets in the United States, but due to the highly secure and rigid nature of correctional facilities, green building techniques are still rare at prisons and jails.

However, a recent Federal Bureau of Prisons project reveals that if planners take the proper steps early in the process, LEED certification — the U.S. Green Building Council's measure for rating sustainable design — is possible without having a major effect on operations.

Planners for the medium-security Federal Correctional Institute III in Butner, N.C., which was awarded LEED certification in November 2005, found that many of the components needed to qualify for certification were already in place; it was just a matter of organization and documentation.

The facility marks the first — and only — LEED-certified federal prison.

"Most of the change to the construction operation was the documentation that had to be put together for the LEED submittal," says Bill Downs, senior project manager for the FBOP. "There was a lot of reporting of what we were doing right from the beginning, so we could determine what was planned and what was implemented."

The $98 million project included 530,295 square feet of new construction with room for 864 cells (768 general population, 96 isolation/segregation).

Moseley Architects, which worked with Hensel/Phelps on the design/build project, presented the concept of sustainable design during the solicitation process.

"They accepted it and they gave us an awful lot of pats on the back when we went to be interviewed for the project," says Taylor Muniz, project manager at Moseley. "They were kind of excited to see something happen and in the end, I think that shows."

Downs says the proposal was favorable to the bureau's facilities department because it suggested a reduction in the cost of operation at the facility.

Sustainable Aspects

Moseley set out to earn basic certification, which requires 26 points to qualify. Facility planners can also attempt to obtain silver (33 to 38 points), gold (39 to 51 points) and platinum (52 to 69 points) certification.

"We tried to go a little higher just in case the Green Building Council didn't accept all of the credits," Muniz says. "They didn't accept one of the credits, but it was anticipated."

Upon completion, the building was certified with 30 LEED points in several construction categories:

- Seven out of 14 possible points were obtained in the sustainable sites category. The facility earned points for site selection, providing bicycle storage (storage and shower/changing facilities are provided for more than 5 percent of building occupants), alternative fuel refueling stations, and specified parking for alternative transportation. Additional points were earned through reduced site disturbance, storm water management, and an exterior designed to reduce the heat island effect.
- Four out of five points were awarded in the water efficiency category. Low-growing grasses located throughout the site make a permanent irrigation system unnecessary. Lavatories, showers and sinks are outfitted with low-flow plumbing fixtures. These strategies have resulted in a more than 33 percent reduction in the amount of water used at the facility, compared to its similar, conventionally built buildings.
- Six out of 17 points were awarded in the energy and atmosphere category. The facility received points for optimized energy performance and reduced ozone depletion.
- Four out of 13 points were awarded in the materials and resources category. During construction, 70 percent of waste was recycled, 22 percent of materials were manufactured within 500 miles of the site, and more than 5 percent of materials contained recycled content.
- Six of 15 points were awarded in the indoor environmental quality category. An

IAQ plan was created during construction and before occupancy. Low emitting materials were used and steps were taken to keep contaminants out of the facility. “We had to put floor mats at each of the entrances to the building to keep debris out of the facility, which apparently could enter the HVAC system and cause problems,” Downs says.

- Three of five points were awarded in the innovation and design process category. The facility received points for using green cleaning products, and by having a LEED-accredited professional and a post-occupancy review.

Overall, Downs says it was an easy process because of the team that was assembled.

“It took a lot of coordination and detail-oriented people who were interested in making sure everything was recorded and documented properly,” Downs says.

In some aspects the process was similar to other federal prison construction projects, according to Downs.

“It really was almost business as usual for the most part because a lot of the equipment that we put in is energy efficient already,” Downs says. “The components are out there to enhance whatever construction is going on and they are not significantly higher in price. A lot of the manpower at the Butner project went to man-hours doing reports, documenting and putting statistics together that you don’t usually do with a construction job.”

Tips, Future Projects

Muniz says the Butner facility was successful primarily because of open communication from the onset. During early planning stages, the representatives from Moseley, Hensel/Phelps and the FBOP gathered to discuss what LEED points were feasible to obtain.

“You have to set the table and make sure that everybody is on board,” Muniz says. “You don’t want to go through the process and have someone say, ‘Let’s throw this out.’”

Although the Butner prison successfully achieved LEED certification, it may remain the only LEED-certified FBOP facility for the near future. Bureau officials could not confirm any planned facilities that are aiming for certification.

Note: As part of the design team, Timmons Group was responsible for an advanced

civil package, which provided the ability to immediately begin clearing and earthwork operations after the issuance of the notice to proceed. This required the design of an accepted and approved erosion and sediment control plan.

Site development and civil engineering of the project also included grading, drainage and underground utilities. Such utilities included the design and/or coordination of domestic and fire waterlines, natural gas as well as electric power and telecommunication lines in an extensive duct bank system. The project also included the design of a onehalf million gallon water storage tank and water booster station as well as a new water booster station and sewage pump station. Construction services included construction administration responsibilities along with survey construction staking.

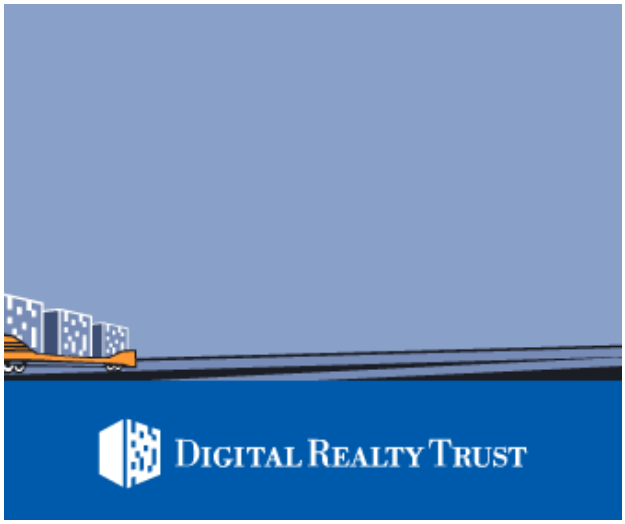
From: www.cio.com

How to Design Green and Secure Buildings

– Bill Brenner, CSO

March 05, 2009

Put a security guy in a room with an environmentalist and ask them to design a building. Wait five minutes and you'll hear fists pounding tables, chairs hitting walls and a steady flow of profanity.



The problem? Green features are often seen as a vulnerability to the security professional while security features are often considered ugly and wasteful to the designer who wants to make a structure green.

But it doesn't have to be this way, according to a group of experts who gathered in Woburn, Mass., Wednesday for a seminar on intelligent building design. A main focus of the event -- hosted by integrated building management systems vendor TAC -- was to demonstrate how the secure and the green can exist in the same space and even compliment one another.

In the current economic climate, marrying the two can also be a cost saver, said Mo Hess, TAC's global segment manager for security. [See: Cost-Cutting Through Green IT Security: Real or Myth?]

"Security performs a lot of the functionality that building automation does to control energy consumption, such as turning lights off and on, controlling thermostats and notifying you when a door or window has been left open," he said. "The same technology used for access control and security can also be used to measure and conserve energy."

Environmentally-friendly access control

For example, he said, surveillance cameras installed to monitor who is coming in and out of a room can also be used to measure light levels and notify building managers if a light is burning too brightly or if something has been left on. Access control can be used to keep tabs on energy consumption just as easily as it can be used to limit an employee's access to certain IT systems and corridors, Hess said.

To drive home the point, seminar organizers began the track of security presentations with an overview of new buildings planned for the University of Massachusetts' Amherst campus. The university's $640 million capital improvement plan for new research buildings and other structures are full of green features. But when pressed by attendees, UMass facilities planner Thomas Huf admitted the plans were lacking in terms of security controls.

"We don't have a central security design at this point," Huf said.

Two representatives from Applied Risk Management (ARM) then got up and described how the designs could be tweaked with security in mind. [See: Protecting Joe's Office]

Turning conflicts into solutions

ARM Senior Technical Consultant Roger Rueda listed examples of where the security guys and conservationists tend to clash. Security pros lean toward the brightest lighting possible. Conservationists see overly bright illumination as light pollution. Rueda said there's a middle ground to be had. For example, at night when there are fewer cars in the parking lot and fewer people coming and going, large sections of the parking lot can be blocked off so everyone is parking in a smaller area. That reduces the amount of lighting needed to monitor the parking lot because instead of illuminating the entire area, only a small section has to be watched. That allows the security folks to do their jobs while saving energy and reducing light pollution.

A building's air flow is another source of conflict between security and conservation. Green designers prefer an open air flow security planners see as an opportunity for air contamination. Rueda pointed to a middle road where the open airflow can be had while thermal imaging cameras can be used to detect possible contamination.

On the structural side, conservationists tend to prefer minimal environmental disruption and open spaces while the security folks want more protective barriers. A solution, Rueda said, is to make use of such things as trombe walls -- slabs of concrete that can be used as both a security barrier and a heating source.

"Trombe walls are useful because they provide blast protection but also absorb heat during the day, which can then be used to heat a building at little or no cost," Rueda said.

Work security in early

In the IT security world, experts often emphasize the importance of working security into the software writing process. Bolting it on later with additional software and hardware is a money-waster that tends to happen only after someone has attacked the company network. [See: Security Experts ID Top 25 Programming Errors]

Likewise, ARM President and CEO Dan O'Neill said security has to be a consideration at the very beginning of the green building design process. Security can be bolted on later, but usually that happens after the bomb blast or hurricane has done the damage.

"Security should be brought in as soon as possible, even in the master planning phase," O'Neill said, adding that UMass has enlisted his company's help in the process. "Sometimes the goals of sustainability and security conflict, but if people work together there are ways to use one to optimize the other."

But a symbiotic relationship between the green and the secure can only happen if the two sides meet early in the design phase, he said.

"If you wait until the end of the design process, you will never be able to secure the building as well as you could have," he said.

Checklist of Opportunities to Upgrade Energy Efficiency with Building Security

Architectural Considerations			
Building Envelope	*Efficiency Opportunity*		*Security Issue*[*]
	Airtight barrier	Sealing appropriate to resist chem./bio. penetration also provides weather-tight seal	Air
	Insulation	Wall insulation may provide secondary barrier and provide thermal savings	Air, Ex
	Impact absorbing walls	Innovative walls systems (multiple layers, openings, crumple zones) designed to absorb blast effects can also reduce envelope heat transfer and control solar gain	Ex
	Thermal Mass	Earth berming for blast deflection can also provide thermal buffering	Ex
		High-mass (concrete) construction allows active or passive use of thermal mass to reduce heating/cooling loads	Ex
	Shading devices	Consider shading devices that can double as blast protection	Ex
	Vestibules	Consider vestibules to help control building access while reducing infiltration of unconditioned outside air	Con, Air
Windows	Laminate films	Apply blast-damage resistant laminate films to interior surface of windows with appropriate emissivity and visible light transmittance	Air
	Operable windows	Analyze appropriate response to threat (http://securebuildings.lbl.gov/)	Air, RR
	Protective screens	External protective screens may also control unwanted solar gain	Ex
	Storm Windows	Consider retrofit of storm window with efficient (low-e, solar control) films	Air, Ex
	Light shelves	Use light shelf integrated with blast wall	Ex

[*] Con = Control of access, Air = Airborne (Chem/bio) threat, Ex = Explosive threat, RR = Response and Recovery

HVAC Considerations			
Air Systems	System Design	Separate ventilation air systems from thermal distribution; use radiant cooling/heating for added efficiency	Air, RR
		Provide larger ducts and efficient fans for rapid venting and energy savings in normal operation	Air, RR
		Efficient ventilation systems (displacement ventilation, large ducts, etc.) reduce space and energy requirements for upgraded filters.	Air, RR
	Variable speed drives	Provide capability for normal operation and rapid venting. (VFDs also allow for dynamic braking to stop fans faster in an emergency.)	Air, RR
	Dedicated Exhaust	Provide separate additional exhaust for emergency venting or for economizer operation, especially in high-risk areas such as entry vestibules, loading docks, and mail rooms	Air, RR
	Whole-building ventilation	Consider dual use of building purging systems (for smoke and also chemical contaminants) to provide nighttime “free cooling” during normal building operation.	Air, RR
	Duct leakage	Specify, install, and commission (test) ductwork for low leakage	Air, RR
	Dampers	Provide dampers with rapid closure and low leakage	Air, RR
	Filtration	Provide low pressure drop filters, at the filtration level needed	Air, RR
		Provide tight seal around in-line filters	Air, RR
	Security barriers	Review impact of security barriers, such as additional doors, on normal air distribution	Con, Air
Water Systems	Physical layout	Provide secure enclosures and minimize run lengths of piping	Air, Ex
		Increase pipe size if making modifications	Air, Ex
Control System Considerations			
Windows	Operable window controls	Provide automatic and operator control for chem./bio isolation and thermal comfort	Air, RR
	Shading control	Provide automatic and operator control for blast protection and shading	Ex, RR
Integrated Systems	Interoperable systems	Integrate security controls with normal building controls using interoperable systems	Con, Air, Ex, RR
		Plan for future additions as new sensing capability is developed	Con, Air, Ex, RR
HVAC controls	Individual control of fans, dampers	Provide for pressurized safety zones when needed.	Air, RR

	Alternate filtration path	Provide parallel path through filter banks during chem./bio. attack.	Air, RR
Wireless systems	Remote monitoring and control	Provide secure and redundant control using wireless and web based systems.	Con, Air, Ex, RR
Monitoring	System status monitoring	Provide whole building system monitoring to improve maintenance, normal operation, and critical monitoring during events	Con, Air, Ex, RR
Elevator Controls	Integrate elevators with building systems	Integrate elevator controls for emergency response to fire or chem./bio events and provide for efficient operation, and controllable for peak load strategies.	Con, Air, Ex, RR
Lighting Considerations			
Interior/ Exterior Lighting	Security Lighting	Provide efficient lighting and lighting controls such as motion sensors.	Con
		Integrate lighting into overall building controls.	Con, RR
Interior	Daylight access	Minimize interior spaces without daylight access, to improve visibility in daytime emergency evacuations.	RR
Distributed Generation			
		For emergency back-up generation, consider upgrading from diesel to a gas turbine or other clean/renewable on-site power source with heat recovery to reduce power and fuel costs during non-emergency periods.	RR
Site Planning			
Building Site	Solar access, landscape to reduce heating + cooling loads	Added protective open space around buildings allows better solar access and building orientation. Trees and plantings can directly shade buildings, buffer or channel prevailing winds, and add evapo-transpiration cooling.	Con, Ex
Campus Layout	Sustainable site planning and management	Larger, multi-use sites to enhance security (e.g. Embassy compounds) create opportunities for efficient water use/recovery/recharge, ground-source heat pumps, better load matching for on-site combined heat and power, etc.	Con, Ex
Other			
Cyber Security	Computer standby energy	Physically shutting off power to PCs at night and during unoccupied periods saves energy even beyond low-power sleep modes, while reducing risk of unauthorized access to data and systems.	Con

News code:SPH - 09_FARM.txt News date: Tuesday, November 4, 2008

www.tehrantimes.com

Print Documents

Green prisons farm, recycle to save energy, money

LITTLEROCK, Wash. (AP) – Of all the things convicted murderer Robert Knowles has been called during his 13 years behind bars, recycler hasn't been one of them.

But there he was one morning, pitchfork in hand, composting food scraps from the main chow line and coffee grounds from prison headquarters — doing his part to ""green"" the prison.

""It's nice to be out in the elements,"" said Knowles, 42, stirring dark, rich compost that will amend the soil at the small farm where he and fellow inmates of the Cedar Creek Corrections Center grew 8,000 pounds of organic vegetables this year.

Inmates of the minimum-security facility, 25 miles from Olympia, the state capital, raise bees, grow organic tomatoes and lettuce, compost 100 percent of food waste and even recycle shoe scraps that are made into playground turf.

""It reduces cost, reduces our damaging impact on the environment, engages inmates as students,"" said Eldon Vail, secretary of the Washington Department of Corrections, which oversees 15 prisons and 18,000 offenders. ""It's good security.""

As around-the-clock operations, prisons are voracious resource hogs, and administrators are under increasing pressure to reduce waste and conserve energy and water.

In 2007, states spent more than $49 billion to feed, house, clothe, treat and supervise 2.3 million offenders, the Pew Center on the States reported this year.

As the prison population has grown this decade, up 76 percent from 1.3 million in 2000 the number of prisons and jails has risen with it. The latest U.S. Bureau of Justice data show 1,821 facilities in 2005, up from 1,668 in 2000.

To keep costs down, the Indiana Department of Corrections installed water boilers that run on waste wood chips, and built a wind turbine at one prison that generates about 10 kilowatts an hour and saves $2,280 a year.

At Ironwood State Prison in Blythe, Calif., 6,200 solar panels send energy back to the grid,

enough to power 4,100 homes a year. The prison was trying to meet an executive order requiring state agencies to reduce energy use by 20 percent by 2015, said a spokeswoman, Lt. Sue Smith.

North Carolina's Department of Corrections switched to chemical-free cleaners and vegetable-based inks. This summer, because of a water shortage, inmates converted 50-gallon pickle barrels into small cisterns that capture rainwater.

Under a state mandate to reduce energy use, the Oregon Department of Corrections replaced old appliances with energy-efficient ones, installed solar water heaters and used a geothermal well to heat water. It also modified washing machines so they could reuse rinse-water to wash about a million pounds of clothes a month.

At Eastern Oregon Correctional Institution in Pendleton, Ore., inmates recycle scraps from old prison blues to make diaper bags for women's shelters and dog beds for animal shelters.

""We try to model prosocial behavior,"" said Vern Rowan, business manager for the Oregon Department of Corrections. Being sustainable ""is something that everybody should be doing, regardless of where they're at.""

Cedar Creek, in the heart of a forest, feels more like an outdoor retreat than institutional lockup.

Most of the 400 inmates are in a work program, and put in between six and eight hours a day.

The responsibility of caring for the prison's three hives of Italian honey bees falls mostly to Daniel Travatte, 36, a soft-spoken former drug addict who is serving 10 years for attempted armed robbery.

Under the supervision of prison counselor Vicki Briggs, Travatte has learned to harvest honey — which inmates occasionally eat with breakfast biscuits — and use beeswax to make lotions. He's become an expert on their habits.

""I'm trying to change myself,"" said Travatte. ""A lot of people go through prison with no intention of changing. I love working with the bees. It keeps me busy. I have a lot of responsibility to take care of.""

While there isn't scientific evidence that such activities are helping inmates, Nalini Nadkarni, an environmental studies professor at Evergreen State College in Olympia, Wash., notes anecdotal evidence that it's working.

""They were stimulating their minds and having conversations that were different than 'How much more time we have left'?"" said Nadkarni.

One inmate went beyond conversations, enrolling in a doctoral program when he got out and co-authoring a research paper with Nadkarni on a moss-growing project she started to help

reduce the impact of wild moss harvesting on forests.

While Cedar Creek went green out of economic necessity — it had to conserve because it didn't have the wastewater capacity to expand four years ago — it is now embracing other benefits, said Dan Pacholke, a state prison administrator who helped implement many of the practices.

Cedar Creek uses 250,000 fewer gallons of water a year, saves $6,000 to $8,400 annually on garbage bills and avoided a $1.4 million sewage treatment plant upgrade.

A large ""Con-Post"" marks the prison's composting station, made of recycled concrete blocks and reclaimed wood, where Knowles spends about six hours a day, making sure the compost gets enough heat, moisture and air to break down food scraps.

""They trust me to do all this with no supervision,"" said Knowles, who is serving time for the hit-and-run death of an off-duty police officer.

""I like growing the vegetables,"" Knowles said. ""My mom had a garden. I can see having my own garden.""

 Print Documents

NOVEMBER 2006 • ENTERPRISE

Following Their LEED

By Marc Kristal

Posted November 8, 2006

U.S. Green Building Council president Rick Fedrizzi calls Rick Cook and Bob Fox "two of the greenest architects on earth." So it's no surprise that when they set out to create a new home for Cook + Fox Architects, their New York–based firm, the strategy was driven by two well-known maxims. The first, quoted frequently by Cook, belongs to microbiologist René Dubos: Think globally, act locally. The second Fox attributes to Ray Anderson, founder of the sustainable carpet company Interface: You can do well by doing good. Together they describe a workplace habitat that contributes to planet preservation and makes excellent financial sense; as both an advertisement for green architecture and for the benefits of cultivating a healthy and productive workforce, the firm demonstrates that sustainability is smart business.

The partners could hardly have done otherwise. As the architects of the Bank of America Tower at One Bryant Park in Manhattan, a 2.2-million-square-foot structure that will be the largest LEED Platinum office building in America, they were compelled to go after a comparable rating [still pending at press time] in the "commercial interior" category. "We have to walk the walk," Cook says. "If we hadn't tried for Platinum in our space, it would be hard for me in good conscience to press people to strive for the highest degree of environmental responsibility."

His cause is helped by the ever-narrowing price differential between traditional and green construction. According to a 2003 report to California's Sustainable Building Task Force, additional building costs came to only 6.5 percent in the LEED Platinum category, 1.8 percent to achieve a Gold rating, 2.1 percent for Silver, and a mere .66 percent for basic LEED certification. A report issued by the cost-planning firm Davis Langdon in 2004, which compared 45 LEED and 93 non-LEED structures, concluded that "many projects can achieve sustainable design within their initial budget, or with very small supplemental funding."

Nonetheless, while clients are drawn to Cook + Fox by an interest in green design, "they're not always sure what green means," communications associate Jared Gilbert observes, so the office also serves as a showcase and teaching tool. That means using products that are not only eco-friendly but also easy on the eyes. "People are worried that green materials will look like last year's bananas, and this office shows that's just not true," says real estate developer Dick Berry, the firm's landlord. "It's beautiful and modern, yet the materials are not off-gassing or from a rain forest." Moreover, field-testing sustainable elements enables the firm to recommend them more credibly. "We understand what we're asking our clients to do, and it makes us better able to sell it," architect Mark Rusitzky says.

Additionally Cook + Fox's well-ventilated nontoxic environment demonstrates the human-resource benefits of sustainable design, which can be profound: in 2000 William J. Fisk, a staff scientist at the Lawrence Berkeley National Laboratory, put the potential annual fiscal savings and productivity gains to be reaped from healthier business environments in this country at "$6 to $14 billion from reduced respiratory disease, $2 to $4 billion from reduced allergies and asthma, $10 to $30 billion from reduced sick-building syndrome symptoms, and $20 to $160 billion from direct improvements in worker performance." This remains an important part of the firm's client pitch. "We tell corporations like Bank of America that if their workplace is healthy, it will be quantified financially as lower absenteeism, higher productivity, and greater commitment," Cook notes.

Cook + Fox's 12,000-square-foot office occupies the eighth floor of the former Simpson-Crawford-Simpson

department store, a 1902 Beaux Arts structure that was part of the historic Ladies' Mile shopping district, and satisfied Cook's belief in historic preservation and Fox's insistence upon close proximity to mass transit (despite having to pay 10 to 20 percent more rent for the privilege). The open plan, 14-foot ceilings, and 85-foot-long curved wall of windows offered an airy, light-filled space. "We could democratically distribute people across the office—every seat has some sort of environmental perk to it," Gilbert says.

"The modern architect should be clear about what the historic resource is and speak a clear dialogue about the new work's time, place, and purpose," Cook says. And the office's design balances the original coffered ceiling, moldings, and columns with an intervention that, in material terms, fairly exudes good health. This is especially true of the TimberStrand (made from chips of aspen and poplar) that frames Cook + Fox's sliding glass doors and resembles a roughage-rich breakfast cereal, strongly figured strand-woven bamboo cabinetry, and desktops of PaperStone Certified, a 100 percent recycled paper product—all of which are low in volatile organic compounds. Nor does the firm's sustainable palette stop at the Benjamin Moore Eco Spec wall paint: beneath the "green" Sheetrock lies insulation made from recycled blue jeans.

Less obvious but of equal impact are Cook + Fox's light, air, and water systems. Automatic dimmers monitor daylight levels, adding or subtracting artificial illumination. The architects inserted a variable-frequency drive into the preexisting HVAC unit to increase user control. The bathrooms feature waterless urinals, dual-flush toilets, and sensor-operated faucets that lower water consumption by one-third.

The architects confirm that their own green installation proved no more expensive than the old-fashioned kind. "Did we use the cheapest materials on planet Earth?" Cook asks. "No, but we never would. We spent what we would have spent under any circumstances." Nevertheless, he admits, "Walking the walk involved a few stumbles." The FSC (Forest Stewardship Council) plywood—which in its traditional iteration can be gotten within hours—took three months to arrive, delaying the firm's move-in date by weeks. Plus the Crestron daylight-dimming mechanism "increased our lighting costs by about twenty percent," Cook says. It helped them meet the requirements for LEED certification—"otherwise the receptionist could just turn the lights on when the sun goes down"—but offers a five-year payback in energy savings.

Cook + Fox's choices also produced some unusual financial benefits. For example, the use of modular carpet tiles minimizes replacement waste if a small area is damaged or stained. But the line selected—i2, from InterfaceFLOR—takes this a step further. "It's like the random pattern of a forest floor," architect Alice Hartley says. The fact that they are, in effect, impossible to match means an even greater waste reduction—"Ninety percent over ordinary office carpet," Hartley says. And this sort of thing, according to Berry, can help sell a green program to the person most inclined to kill it: the office manager. "He's the guy who says, 'I don't want to deal with this,' " Berry says. "Showing him there's a practical value is half the battle."

Thanks in large measure to the Bank of America Tower, Fedrizzi reports, "the financial community is somewhat fixated on green building right now." Cook and Fox are hoping for a similar ripple effect from their own space—and not just in terms of business. "By setting an example with our office, we hope it will make a difference," Fox says. "Not in a way that gets us more work, but so other people will say, 'Hey, that's pretty cool—let's try that.'"

Tools for Investment

Perhaps the greatest payoff for Cook + Fox is the spirit fostered by its in-house sustainability efforts, which include buying enough green power to offset the staff's personal electric bills, using fuel-efficient car services, encouraging the office housekeeper to test and select the most effective nontoxic cleaners, and even underwriting air-purifying plants for individuals' desks. And then there's the 3,600-square-foot green roof. As the installation is situated not above the office but on the tar-paper expanse outside the curving window wall, the firm receives no real energy-saving benefit. But because the roof helps diminish the "heat island" effect by lowering rooftop temperatures by as much as 75 degrees, encourages biodiversity, and mitigates storm-water runoff by retaining rainfall, it expresses the genuineness of the firm's green commitment. What's more, the fact that some 20 staff members volunteered to install the bags of sedum over a weekend, Gilbert says, "means

that everyone in the office takes ownership of it." That, Cook believes, is money in the bank. "Every business knows how destructive it is when people are unhappy," he observes. "And how productive—and therefore profitable—it is when the staff is invested."

* * *

Original Story Can Be Found At:
http://www.metropolismag.com/cda/story.php?artid=2373

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Back to Original

U.S. General Services Administration

Department of Homeland Security/INS (Omaha, NE)

Donald R. Horn
(206) 220-4944
donald.horn@gsa.gov
View Contact Details

LEED Gold Version 2.0

Project Team

GSA Contract	John Garner, john.garner@gsa.gov
Lessor	Harwood & Associates (Damon Harwood)
Architect	Gensler
Contractor	The Weitz Company
Sq. Ft.	73,459
Completed	October 2005
Cost	

Sustainable Site

- BMP was followed through use of a silt fence, stabilized construction entrance, sediment basin and other measures
- Bicycle storage and shower/ changing rooms available for alternative transportation for 180 occupants
- Preferred parking and program carpool and alternative fuel vehicles to serve 3% of occupants
- Parking capacity does not exceed minimum code requirements and provides preferred parking for carpools at 10% of occupants which reduced parking stalls required by 6%
- Reduced site disturbance through open space to encourage habitat
- 48% of non roof areas contain high albedo materials to reduce the heat island effect
- 100% of roof meets emissivity requirements and complies with Energy Star to reduce heat island effect.

Water Efficiency

- Innovative waster water use of rain water harvesting for building sewage conveyance
- Over 40% water use reduction through use of rain water harvesting for building sewage conveyance

Energy and Atmosphere

- Optimized energy efficiency through a 65.61% energy reduction compared to ASHRAE 90.1-1999
- Super insulated envelope, geothermal heat pump with an EER of 19 heat recovery, demand based ventilation and lower lighting power density
- HCFC and Halon free HVAC (heating ventilation and air conditioning) equipment
- Plan for sub metering water and energy usage which document the process in place for verifying system performance and calibrating system components
- Green power purchased to meet 58% of the building electrical needs for over of 2 years

Materials and Resources

- Occupant recycling
- Diverted 81.65% of construction waste through effective waste management plan
- 21.89% of total building materials by value contain recycled materials
- 55.98% local and regional materials manufactured regionally

Indoor Environmental Quality (IEQ)

- CO2 sensors monitor to outside ambient levels and increased ventilation if exceeding thresholds
- Construction IAQ Management plan was in compliance with SMACNA guidelines, during construction, MERV 8 filters were installed at grilles
- Construction IAQ Management plan before occupancy – the project conforms with the required IAQ testing protocol
- Low emitting adhesive and sealants were used
- Low emitting paints were used

- Low emitting carpet was used
- Indoor pollutant source control
- Controllability of non perimeter temperature, ventilation and lighting systems
- Designed for thermal comfort compliance with ASHRAE 55 – 1992 for relative humidity and temperature
- Thermal comfort monitoring system installed for compliance with ASHRAE 55 – 1992 for relative humidity and temperature

Innovation and Design

- Exemplary performance in local materials- achieved 55.98% of the total materials by cost were manufactured within 500 miles
- Exemplary performance in recycled content- achieved 21.89% of the total materials by cost
- Exemplary performance in rain water harvesting for building sewage conveyance adding to a 40% water savings
- Exemplary performance in IEQ – all furniture and finishes are Greenguard IAQ Certified
- LEED accredited professionals participating on the project

NEWS RELEASE FROM THE HEADQUARTERS PUBLIC AFFAIRS/COMMUNICATIONS OFFICE

FOR IMMEDIATE RELEASE: December 18, 2007

Contact: Darrell Waller
E-mail: darrell.waller1@navy.mil
Voice: (805) 982-1069
Fax: (805) 982-4541

1100 23rd Avenue
Naval Base Ventura County
Port Hueneme, CA 93043-4370
Photo Available upon request

Naval Facility Pursues LEED-EB Certification

Energy Conservation Goals Set Forth by Presidential Executive Order would Reduce Pollution, Save Taxpayer Money

PORT HUENEME, CALIF. – Naval Facilities Engineering Service Center (NAVFAC ESC) is seeking to become the first Navy facility to achieve the coveted "silver" certification under the Leadership in Energy and Environmental Design for Existing Buildings (LEED-EB), as part of a larger effort to comply with energy conservation goals set forth in Presidential Executive Order 13423.

The Environmental Service Center's Headquarters building at Naval Base Ventura County has formed a diverse, cross-departmental team of environmental engineers and specialists to help the Navy and Department of Defense (DOD) meet the requirements outlined in the Executive Order.

"The Navy is dedicated to saving energy costs for taxpayers and reducing pollution," said Naval Facilities Engineering Service Center Commanding Officer, Capt. Gregory J. Zielinski. "The President has proposed some very ambitious goals in his Executive Order, and the Navy is counting on us to lead the way to achieve them."

LEED-EB is a set of criteria established by the United States Green Building Council to determine how well a building meets sustainability guidelines. Those guidelines include prerequisites and credits in the categories of sustainable sites, energy and atmosphere, materials and resources, water efficiency and indoor environmental quality. To reach the LEED-EB silver certification, the ESC team is taking positive actions to modify building operations to ensure that the building achieves the required credits.

-more-

LEED-EB 2-2-2

The installation of new, low-chemical emission “green label plus” carpet, the deployment of next-generation energy conserving motion sensors in all conference rooms and offices, and placement of waterless urinals and dual flush, low-flow toilets in restroom and locker facilities are just a few of the many measures being undertaken to meet the LEED-EB goals.

A total of 85 potential credits are available for LEED-EB certification; the ESC team’s goal is to amass 40 credits to reach LEED-EB silver.

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Innovation, Leadership, Performance

The Naval Facilities Engineering Command (NAVFAC) manages the planning, design, construction, contingency engineering, real estate, environmental, and public works support for U. S. Navy shore facilities around the world. We provide the U.S. Navy forces with the operating, expeditionary, support and training bases they need. NAVFAC is a global organization with an annual volume of business in excess of $8.5 billion. As a major Navy Systems Command and an integral member of the Navy and Marine Corps team, NAVFAC delivers timely and effective facilities engineering solutions worldwide.

LEED 2009 FOR NEW CONSTRUCTION AND MAJOR RENOVATIONS PROJECT CHECKLIST

Sustainable Sites		**26 Possible Points**
☑ Prerequisite 1	Construction Activity Pollution Prevention	Required
☐ Credit 1	Site Selection	1
☐ Credit 2	Development Density and Community Connectivity	5
☐ Credit 3	Brownfield Redevelopment	1
☐ Credit 4.1	Alternative Transportation—Public Transportation Access	6
☐ Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	1
☐ Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3
☐ Credit 4.4	Alternative Transportation—Parking Capacity	2
☐ Credit 5.1	Site Development—Protect or Restore Habitat	1
☐ Credit 5.2	Site Development—Maximize Open Space	1
☐ Credit 6.1	Stormwater Design—Quantity Control	1
☐ Credit 6.2	Stormwater Design—Quality Control	1
☐ Credit 7.1	Heat Island Effect—Nonroof	1
☐ Credit 7.2	Heat Island Effect—Roof	1
☐ Credit 8	Light Pollution Reduction	1
Water Efficiency		**10 Possible Points**
☑ Prerequisite 1	Water Use Reduction	Required
☐ Credit 1	Water Efficient Landscaping	2-4
☐ Credit 2	Innovative Wastewater Technologies	2
☐ Credit 3	Water Use Reduction	2-4
Energy and Atmosphere		**35 Possible Points**
☑ Prerequisite 1	Fundamental Commissioning of Building Energy Systems	Required
☑ Prerequisite 2	Minimum Energy Performance	Required
☑ Prerequisite 3	Fundamental Refrigerant Management	Required
☐ Credit 1	Optimize Energy Performance	1–19
☐ Credit 2	On-site Renewable Energy	1–7
☐ Credit 3	Enhanced Commissioning	2
☐ Credit 4	Enhanced Refrigerant Management	2
☐ Credit 5	Measurement and Verification	3
☐ Credit 6	Green Power	2
Materials and Resources		**14 Possible Points**
☑ Prerequisite 1	Storage and Collection of Recyclables	Required
☐ Credit 1.1	Building Reuse—Maintain Existing Walls, Floors and Roof	1-3
☐ Credit 1.2	Building Reuse—Maintain Existing Interior Nonstructural Elements	1
☐ Credit 2	Construction Waste Management	1-2
☐ Credit 3	Materials Reuse	1-2
☐ Credit 4	Recycled Content	1-2

☐ Credit 5	Regional Materials	1-2
☐ Credit 6	Rapidly Renewable Materials	1
☐ Credit 7	Certified Wood	1

Indoor Environmental Quality **15 Possible Points**

☑ Prerequisite 1	Minimum Indoor Air Quality Performance	Required
☑ Prerequisite 2	Environmental Tobacco Smoke (ETS) Control	Required
☐ Credit 1	Outdoor Air Delivery Monitoring	1
☐ Credit 2	Increased Ventilation	1
☐ Credit 3.1	Construction Indoor Air Quality Management Plan—During Construction	1
☐ Credit 3.2	Construction Indoor Air Quality Management Plan—Before Occupancy	1
☐ Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
☐ Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
☐ Credit 4.3	Low-Emitting Materials—Flooring Systems	1
☐ Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
☐ Credit 5	Indoor Chemical and Pollutant Source Control	1
☐ Credit 6.1	Controllability of Systems—Lighting	1
☐ Credit 6.2	Controllability of Systems—Thermal Comfort	1
☐ Credit 7.1	Thermal Comfort—Design	1
☐ Credit 7.2	Thermal Comfort—Verification	1
☐ Credit 8.1	Daylight and Views—Daylight	1
☐ Credit 8.2	Daylight and Views—Views	1

Innovation in Design **6 Possible Points**

☐ Credit 1	Innovation in Design	1-5
☐ Credit 2	LEED Accredited Professional	1

Regional Priority **4 Possible Points**

☐ Credit 1	Regional Priority	1-4

LEED 2009 for New Construction and Major Renovations

100 base points; 6 possible Innovation in Design and 4 Regional Priority points

Certified	40–49 points
Silver	50–59 points
Gold	60–79 points
Platinum	80 points and above

Legend
complementary requirements
Conflicting and complementary requirements
Conflicting requirements
Not conflicting or complementary, but have related considerations

LEED® Credit		Antiterrorism Standard							Standards 12-22 ->				Antiterrorism Standard							<- Standards 1-11				
Sustainable Sites		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
SS-P1	Erosion & Sedimentation Control																						
SS-1	Site Selection																						
SS-2	Development Density																						
SS-3	Brownfield Redevelopment																						
SS-4.1	Alternative Transportation, Public Transportation Access																						
SS-4.2	Alternative Transportation, Bicycle Storage & Changing Rooms																						
SS-4.3	Alternative Transportation, Alternative Fuel Vehicles																						
SS-4.4	Alternative Transportation, Parking Capacity																						
SS-5.1	Reduced Site Disturbance, Protect or Restore Open Space																						
SS-5.2	Reduced Site Disturbance, Development Footprint																						
SS-6.1	Stormwater Management, Rate and Quantity																						
SS-6.2	Stormwater Management, Treatment																						
SS-7.1	Heat Island Effect, Non-Roof																						
SS-7.2	Heat Island Effect, Roof																						
SS-8	Light Pollution Reduction																						

DoD Minimum Antiterrorism Standards for Buildings

Site Design

1. Standoff Distances
2. Unobstructed Space
3. Drive-Up/Drop-Off Areas
4. Access Roads
5. Parking Beneath Buildings or on Rooftops

Structural Design

6. Progressive Collapse Avoidance.
7. Structural Isolation
8. Building Overhangs.
9. Exterior Masonry Walls.

Architectural Design

10. Windows and Skylights
11. Building Entrance Layout
12. Exterior Doors
13. Mail Rooms
14. Roof Access
15. Overhead Mounted Architectural Features

Electrical and Mechanical Design

16. Air Intakes
17. Mail Room Ventilation.
18. Emergency Air Distribution Shutoff
19. Utility Distribution and Installation
20. Equipment Bracing
21. Under Building Access
22. Mass Notification

For a more detailed breakdown of the building standards and codes visit http://www.wbdg.org/ccb/DOD/UFC/ufc_4_010_01.pdf

Water Efficiency		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
WE-1.1	Water-Efficient Landscaping, Reduce by 50%																						
WE-1.2	Water-Efficient Landscaping, No Potable Use or No Irrigation																						
WE-2	Innovative Wastewater Technologies																						
WE-3.1 - 3.2	Water Use Reduction, [20%] [30%] Reduction																						
Energy & Atmosphere		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
EA-P1	Fundamental Building Systems Commissioning																						
EA-P2	Minimum Energy Performance																						
EA-P3	CFC Reduction in HVAC&R Equipment																						
EA-1	Optimize Energy Performance																						
EA-2.1 - 2.3	Renewable Energy, [5%] [10%] [15%]																						
EA-3	Additional Commissioning																						
EA-4	Ozone Protection																						
EA-5	Measurement & Verification																						
EA-6	Green Power																						
Materials & Resources		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
MR-P1	Storage & Collection of Recyclables																						
MR-1.1	Building Reuse, Maintain 75% of Existing Walls, Floors and Roof																						
MR-1.2	Building Reuse, Maintain 100% of Existing Walls, Floors and Roof																						
MR-1.3	Building Reuse, Maintain 100% of Shell/Structure & 50% Non-Shell																						
MR-2.1 - 2.2	Construction Waste Management, Divert [50%] [75%] from Landfill																						
MR-3.1 - 3.2	Resource Reuse, [5%] [10%]																						
MR-4.1 - 4.2	Recycled Content, Specify [5%] [10%] (post consumer + 1/2 post industrial)																						
MR-5.1	Regional Materials, 20% Manufactured Regionally																						
MR-5.2	Regional Materials, 50% Extracted Regionally																						
MR-6	Rapidly Renewable Materials																						
MR-7	Certified Wood																						

Indoor Environmental Quality		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
EQ-P1	Minimum IAQ Performance																						
EQ-P2	Environmental Tobacco Smoke (ETS) Control																						
EQ-1	Carbon Dioxide Monitoring																						
EQ-2	Ventilation Effectiveness																						
EQ-3.1	Construction IAQ Management Plan, During Construction																						
EQ-3.2	Construction IAQ Management Plan, Before Occupancy																						
EQ-4.1	Low-Emitting Materials, Adhesives & Sealants																						
EQ-4.2	Low-Emitting Materials, Paints and Coatings																						
EQ-4.3	Low-Emitting Materials, Carpet																						
EQ-4.4	Low-Emitting Materials, Composite Wood																						
EQ-5	Indoor Chemical & Pollutant Source Control																						
EQ-6.1	Controllability of Systems, Perimeter Spaces																						
EQ-6.2	Controllability of Systems, Non-Perimeter Spaces																						
EQ-7.1	Thermal Comfort, Compliance with ASHRAE 55-1992																						
EQ-7.2	Thermal Comfort, Permanent Monitoring System																						
EQ-8.1	Daylight & Views, Daylight 75% of Spaces																						
EQ-8.2	Daylight & Views, Views for 90% of Spaces																						
Innovation & Design Process		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
ID-1.1	Innovation in Design: Exceed Regional Materials Criteria (40%)																						
ID-1.2	Innovation in Design: Green Housekeeping/O&M Plan																						
ID-1.3	Innovation in Design: Educational Display																						
ID-1.4	Innovation in Design: Exceed Water Use Reduction Criteria (40%)																						
ID-2	LEED Accredited Professional																						