



UW-LA CROSSE ACADEMIC BUILDING
DSF #05I3O
RA #1213
May 1, 2007

MEETING NOTES – SUSTAINABILITY WORKSHOP #1

MEETING START TIME: 2:00 p.m.

MEETING END TIME: 7:00 p.m.

NOTES:

1. Matt Lewis opened the workshop with a brief overview of the New Academic Building project.
2. Chancellor Joe Gow spoke about the importance of the early design meetings to get everyone involved as much as possible, since the building will exist for a long time and will be used by many people.
3. Val Schute of River Architects introduced the sustainability consultant, Arnold & O'Sheridan and discussed their role in the project. Val also provided background information regarding the building program, campus master plan, and the project timeline.
 - The building square footage consists of general access classrooms ranging in size from 40 to 250 seat capacities, eleven departments, and other misc. instructional support spaces.
 - The new building will have a large influence on the campus master plan. The master plan places a campus mall along the east side of the project site, so the building will form the west edge of the mall with Wittich Hall forming the east edge.
 - The timeline for the project indicates the completion is scheduled for July 2011.
4. Scot Whitney and Mike Schmidt of Arnold & O'Sheridan described what sustainability is as it relates to the building industry. Buildings can be developed using environmentally responsible designs that positively impact people, save operating costs, provide flexibility for future changes, and minimize impact to the environment.
5. DSF (Department of State Facilities) Sustainability Guidelines will be followed for building design and construction. Although LEED™ certification is not part of this project, it will be used as an additional tool to help guide the design of the building in order to create a sustainable project. LEED™ is a benchmarking tool for healthy building design and construction practices that focuses on energy and atmosphere, waste management, indoor air quality, low toxic materials, renewable resources, etc.

6. Other features of sustainable design include:
 - Reusing existing building sites
 - Reducing the use of automobiles by locating buildings close to public transportation and providing bicycle storage.
 - Limiting light pollution by using outdoor fixtures to only light specific areas and using correct shrouds that don't allow light to shine upwards.
 - Reduce the need for municipally supplied water and treatment.
 - Use native landscaping.
 - Use water efficient restroom fixtures.
 - Reduce environmental impacts resulting from burning fossil fuels.
 - Use of renewable energy such as solar and wind.
 - Reduce and reuse building materials.
 - Recycle construction waste to divert waste from landfills.
 - Specify recycled materials.
 - Specify low toxic materials such as paints, sealants, adhesives, and carpet.
 - Increase the quality of indoor air and ensure thermal comfort and system control.
 - Optimize daylight.

7. A goal setting/brainstorming exercise was held to get an understanding of what students, faculty, and administration feel this building should include in order to be sustainable. This included the building materials used, energy, daylighting, site, water, air quality, and mechanical system. Upon completion of the session, the results were compiled to determine a priority list. The results were as follows:
 1. Roof wind turbine and solar panels
 2. Energy efficiency
 3. Green/vegetative roof
 4. Harvested rainwater system
 5. Recycled materials
 - Window interlock system
 - Timed heating and cooling.
 6. Use of local building materials
 - Ease of maintenance
 - Smart lighting controls

8. Discussion took place regarding the use of renewable energy such as solar and wind power.

9. Rainwater collection for toilet flushing has building code implications which require the water to be treated, resulting in cost implications. Rainwater could be collected and used for irrigation purposes around campus if desired.

10. The green space desired on the roof level of the building is highly desirable by students. It may be used for educational purposes and provide a location for gardens, solar panels, etc. Issues such as life safety, accessibility, installation cost, and potential energy savings need to be analyzed.

11. The use of regional building materials will be used as much as possible. This cuts down on fossil fuel emissions, but is limited to local availability. Some materials that are considered local that could be used on the project include stone, brick, wood native to Wisconsin, native plants, and base course rock for asphalt and concrete paving.
12. The use of renewable and/or recycled materials can also be a source of building products. These include but aren't limited to; bamboo, wool, cotton insulation, wheatboard, strawboard, and cork.
13. Other items that were noted by students and faculty as being good sustainable practices included:
 - Using recycled glass tile in restrooms.
 - Recycling chutes at all levels of the building.
 - Ability to use fresh, outside air.
 - Use of natural paths instead of hard concrete paving. This can only be used on secondary paths due to accessibility limitations.
 - Plant use within the building as much as possible.
 - Reusing materials from the three buildings to be demolished.
 - Donating materials from the three buildings to be demolished.
 - Classroom daylighting hinders the viewing of presentations. How much should be used?
 - Geothermal resources.
 - Time of day rates with local utility company. Can heating and cooling systems charge at night when electrical rate is lower?
14. The LEED™ checklist was reviewed item by item to get a better understanding of the buildings components and sustainability features. Of the 69 items on the list, 20 were noted as being included, 29 were noted as possible and needed further review, and 20 were noted as being omitted. The list was used as a starting point for the project and needs further analysis by the architects, engineers, and owner to determine what is feasible for the project.
15. The sustainability workshop closed with comments about the presentation from the students and faculty.
16. Brainstorming, goal setting discussion, and LEED™ scorecard results attached.

Meeting Notes by: Michael J. Adler, Associate AIA

Note: This constitutes our understanding of the issues presented. Contact River Architects, Inc. via phone at (608) 785-2217, or e-mail m.adler@river-architects.com if there are any discrepancies.

c. Matt Lewis/UWL
Larry Earl/DSF
Maura Donnelly/UWSA

UW-LA CROSSE ACADEMIC BUILDING

DSF #05I30

May 1, 2007

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Val Schute/River Architects

Scot Whitney/Arnold & O'Sheridan

Mike Schmidt/Arnold & O'Sheridan

Category Legend

- 1 Water
- 2 Air Quality
- 3 Facilities/Cleaning
- 4 Site
- 5 Mechanical Systems
- 6 Energy
- 7 Building Envelope
- 8 Materials
- 9 Daylighting
- 10 Miscellaneous

Cat. #	Discussion Item	# of Dots
		Total
6	Rooftop wind turbine & solar panels	10
6	Energy efficiency	9
7	Green roof & rain water system	8
1	Harvested rainwater for plants/garden or grey water system	6
5	Timed heating & cooling	6
5	Radiant floor - heating using solar heated water (is it efficient?)	6
7	Window interlock systems * heating turns off when windows open	6
8	Using recycled building materials	6
4	4-Season "outdoor" study - can be closed when cold	5
4	Native landscape, plants to reduce mowed turf areas - ground cover	5
7	Vegetative or green roof	5
8	Use of local building materials	5
9	Smart lighting controls	5
9	Ease of maintenance	5
3	Free-trade coffee shop in building	4
9	Office space should have more daylight since classroom space is not utilized constantly from 8-5 or later	4
9	Natural daylight in classrooms - windows/skylights	4
9	Passive solar design	4
10	Interactive educational program so that people can self educate about the building and incorporate ideas into their homes	3
1	Harvesting rainwater for living roof or campus landscaping	2
1	Composting toilets, waterless urinals	2
5	Increased ability for user to control their environment	2
6	Solar panels	2
6	PV panels on roof	2
6	Revolving doors (save energy?)	2
6	Solar heating	2
8	Reclaimed materials from demolished buildings - wood, bricks (from Baird?)	2
8	Detoxification of building materials - future reuse-recycle - walls, furniture, lighting, fixtures, etc.	2
8	Recycled building materials	2
9	Motion lights - sensors for offices, classrooms, bathrooms	2
9	Natural lighting	2
1	Grey water system	1
1	Flush w/rainwater (like at Black River Falls)	1
1	Efficient toilets	1
1	Composting toilets	1
1	Full or half flush option on toilets	1
2	Improved indoor air quality	1
2	Reduction in volatile organic compounds (VOC's)	1

Cat. #	Discussion Item	# of Dots
		Total
4	Vegetation Galore!	1
5	Double foyer to reduce heat & cool loss	1
5	Mechanical systems that address all of the various occupancies	1
5	Ability to get fresh air	1
6	Energy Star	1
6	Alternative energy as much for educational purposes as for the energy	1
6	Solar energy	1
6	Promote using non-fossil fuels for energy	1
6	Glass that reduces heat gain	1
7	Windows that open	1
8	Recycling bins EVERYWHERE!	1
8	Us of recycled construction materials	1
8	Smart living: Recyclables, compost, low water use	1
9	Use of daylighting	1
9	Reliable lighting technology (tested by experience)	1
9	Sustainable model building	1
9	Sensored climate control - cloudy days = more light, sunny days = less light	1
10	Smart Boards, not White Boards	1
10	As many plants and trees within the confines of the building as possible to promote a feeling of nature throughout the building, along with water to help w/cooling during the summer.	1
1	Water-less urinals & "low-flow" toilets	
1	Reduce water consumption	
1	Great water system	
1	Storm water run-off	
1	Rain water collectors	
1	Decrease water usage	
1	Efficient water usage	
1	Gray water system	
1	Gray water system	
1	Gray water system	
1	Gray water in bathrooms - dry urinals	
1	Covers over all pipes on sinks/toilets	
1	Solar hot water	
1	Waste water technologies: grey water, rain water	
1	Melt water harvesting	
1	Motion sensor sinks	
1	Rain water harvesting	
1	Waterless urinals	
1	Hand dryers - NO PAPER TOWELS	
1	Solar water heater	
1	Waterless toilets	
1	Waterless urinals	
1	Lack of paper towels in the toilet - hand dryers only	
1	Hand dryers - no paper in bathrooms	
1	Grey waste water system	
2	Protection of O ² - cleansing of O ² with plants	
2	Healthy air quality for inhabitants	
3	Safer (less toxic, biodegradable) cleaning materials	
3	Recycle chutes	
3	Hand dryer, not paper towel	

Cat. #	Discussion Item	# of Dots
		Total
3	Where is loading & unloading taking place for building needs?	
3	Sustainability committee on campus with advisors from Public Services, City Council	
3	Smaller flush volume on toilets	
3	No carpet (health & cleaning)	
4	Sufficient bicycle storage	
4	Garden in Mall	
4	Lots of bike racks - some indoor	
4	Don't take up too much of green space on campus "small footprint"	
4	Less concrete for sidewalks, beaten paths work great	
4	Living Roof	
4	200 bike racks (covered)	
4	Mandatory 10 plants in each classroom	
4	Rooftop patio	
4	Living roof	
4	Greenhouse	
4	Universally accessible	
4	Plenty of trees & foliage outside	
4	Not just grass around building: trees, flowers	
4	Shading with trees and plants	
4	Avoid automobiles (bikes, public transportation)	
4	Courtyard/outdoor study space	
4	Hawks nest on roof	
4	Covered bike racks * lots of them	
4	Green space	
4	Handicap accessible for support staff for files, paper storage	
5	HVAC control systems	
5	Geo-thermal	
5	Mechanical system that works	
6	Low energy use	
6	Energy efficiency	
6	Solar panels	
6	Solar panels	
6	Solar panels on roof	
6	Halogen lights	
6	All appliances at maximum efficiency (Energy Star)	
6	Energy efficient appliances (lights/heating/etc.)	
6	PV panels on 1/2 roof	
6	Use of only renewable energy	
6	Innovation uses of alternative power generation: wind, photovoltaic	
6	Use of wind energy	
6	Reduction of heat, hard surfaces, roofing, sidewalks	
6	Efficiency in heating & cooling systems without sacrificing optimal temperature levels	
6	Reduce electric consumption	
6	WIFI	
6	Trees for shade - insulation	
6	Building that is designed for 7:00 - 12:00 midnight usage with equal efficiency	
6	Maximize use of free energy - solar - south wall - hot H ₂ O solar system that can be also used to supplement heating - dual use - natural daylight	
6	Automated energy saving system (regulate heat/AC/lights)	
6	Motion sensors on lights so if nobody is in room & forgot to turn off lights they turn off automatically	
6	L.E.D. EXIT signs	

Cat. #	Discussion Item	# of Dots
		Total
7	Better insulation	
7	Natural "green" landscape space within the bldg.	
7	Aesthetically pleasing environment, conducive for learning	
7	Environment that makes use of internationally accepted best practices in sustainability	
7	Grass roof	
7	Living roof	
7	Green roof = heating/cooling runoff - Lat City Council is going to soon enact a sq. ft. change on roof space/parking	
7	Green roof	
7	Green roof w/outside break area	
7	Solar glaze	
7	Energy efficient windows	
8	Reuse materials from Trow, Baird, Wilder	
8	Donate materials (i.e., Habitat for Humanity)	
8	No trash cans in classrooms	
8	At least 1 hay bail room/section	
8	Certified sustainable building materials	
8	Digital vs paper!	
8	Re-used construction materials	
8	Natural fiber carpeting	
8	No plastic! Furniture, cabinets, etc.	
8	Recycled shingles or PV shingles	
8	Environmentally friendly carpets, cleaning supplies. Don't just say it's green and there is 1 sustainable element. Make it as sustainable as possible in every aspect.	
8	Recycled carpet (recycled plastic)	
8	Natural building materials "off-gasing free"	
8	Insulation "VOC" volatile organic compounds - recycled denim, not fiberglass	
8	Maximum use of natural materials, i.e. wood	
8	FSC certified wood	
8	Local materials	
8	Recycled furniture	
8	Reduce paper towel waste - only dryers	
8	Recycled carpeting	
8	Recycled insulation (jean denim)	
8	Carpet & furniture made from renewable material	
8	Use recycled paper in copy machine - post consumer waste & soy based ink	
8	Use of toxic-free construction materials	
8	Promote recycling in the new building	
8	No green treated wood	
8	Hypoallergenic building	
8	Use mulch that is shredded native hardwood bark	
8	Use local resource	
8	Recycling building materials & furniture	
8	Recycled materials (local)	
8	Maximize local materials - sandstone/no green treated wood - use local woods - popular siding	
8	Toxicity - low chemical paints	
8	Local products	
8	Furniture made w/recycled material	
8	Bathroom tiles made from recycled glass - toilet partitions made from recycled plastic bottles	
8	FSC certified - no green treated	
9	Operable windows - let in fresh air on nice days, daylighting - windows in as many rooms as possible	

Cat. #	Discussion Item	# of Dots
		Total
9	Incandescent bulb replacement	
9	Natural lighting	
9	Natural lighting	
9	Sky lights	
9	More windows to classes and hallways to have fewer lights	
9	No gratuitous glazing	
9	Skylighting	
9	Energy efficient windows	
9	Variable light adjustments for classrooms & offices	
9	Rooms with a view	
9	Maximum use of natural light in all areas of building	
9	Community space natural lighting	
9	90% offices and classrooms direct outdoor view	
9	2 types of photovoltaic panels on roof for edu purposes	
9	Lighting controls - sensors that adapt the external environment	
9	Less centralized lighting control so more individual control of lighting	
9	Compact florescent bulbs (CFL's)	
9	Fair trade solar powered vending machines	
9	Wind turbines	
9	Solar panels	
9	Daylighting - passive solar heating	
9	Solar panels	
9	Sensored lighting	
10	Whiteboards	
10	Polish floors using grain stone disks	

Brainstorming of Highest Priority Goals

Renewable Energy - 1st Priority

Given the mandates of Act 141 (SB 459) created in 2006, 20% of State Facilities' energy consumption must come from renewable sources by 2011, coincidentally when this building is scheduled to go on-line. So, solar panels would be a convenient way to fulfil

Use of solar water heating for hot water and incorporate it in radiant floor. In other words, use the sun for heating water and the building reducing peak load heating for the building.

Regardless of cost efficiency, solar panels or heating should be installed for educational purposes and their educational benefits.

Focus On Energy has made solar heating a priority.

It's the RIGHT thing to do, and the sun will be around for a while!

Rainwater Systems - 3rd Priority

Rainwater for toilet flushing or landscape H²O - may need cistern?

Rainwater for Green Roof.

Rain water for Rain Garden.

Refer to attached diagram.

Regional Building Materials - 5th Priority

- Stone: Exterior, floor, walls, planters, landscaping
- Brick: Building envelope, pavers
- Wood: Finishes, casework, blocking/misc., doors
- Base Course for asphalt/concrete

Advantages of Local Materials:

- Fuel used in transport
- Local economy
- Time & availability

Products:

- Produced from renewable or sustainable or recycled products
-

Building as an Educational Tool *

Educational:

- Ex - different types of solar panels (study/see differences and results)
- Paths to showcase

75% Green space:

- Garden
- Ecosystem showcase
- Native plants
- Greenhouse

Electricity Power:

- Solar
- 2 PV types
- Solar water heating

Rain/melt/gray water system collection

- Use for garden/roof plants & surrounding grounds

Ventilation (open/close system)

Skylighting

Compost system (edu)

* Goal was not in top ten, but group chose to brainstorm anyway.

University of Wisconsin - La Crosse

New Academic Building

LEED Scorecard

May 1, 2007

Yes Maybe No

20	29	20	Total Project Score
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Certified 26 to 32 points
Silver 33 to 38 points
Gold 39 to 51 points
Platinum 52 or more points

7	6	1	Sustainable Sites	Possible Points	14
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	Y	?	N		
Y				Prereq 1	0
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

0	3	2	Water Efficiency	Possible Points	5
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	Y	?	N		
		1		Credit 1.1	1
			1	Credit 1.2	1
			1	Credit 2	1
		1		Credit 3.1	1
		1		Credit 3.2	1

3	5	9	Energy & Atmosphere	Possible Points	17
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	Y	?	N		
Y				Prereq 1	0
Y				Prereq 2	0
Y				Prereq 3	0
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

University of Wisconsin - La Crosse
New Academic Building
LEED Scorecard

May 1, 2007

Yes Maybe No

Possible Points **69**

3			6			4			Materials & Resources			Possible Points 13		
Y			?			N								
Y							Prereq 1	Storage & Collection of Recyclables						0
						1	Credit 1.1	Building Reuse , Maintain 75% of Existing Walls, Floors & Roof						1
						1	Credit 1.2	Building Reuse , Maintain 95% of Existing Walls, Floors & Roof						1
						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
1							Credit 3.1	Materials Reuse , 5%						1
			1				Credit 3.2	Materials Reuse , 10%						1
1							Credit 4.1	Recycled Content , 20% (post-consumer + 1/2 pre-consumer)						1
			1				Credit 4.2	Recycled Content , 10% (post-consumer + 1/2 pre-consumer)						1
			1				Credit 5.1	Regional Materials , 10% Extracted, Processed & Manufactured Regionally						1
						1	Credit 5.2	Regional Materials , 20% Extracted, Processed & Manufactured Regionally						1
			1				Credit 6	Rapidly Renewable Materials						1
			1				Credit 7	Certified Wood						1

6			7			2			Indoor Environmental Quality			Possible Points 15		
Y			?			N								
			Y				Prereq 1	Minimum IAQ Performance						0
Y							Prereq 2	Environmental Tobacco Smoke (ETS) Control						0
			1				Credit 1	Outdoor Air Delivery Monitoring						1
						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
							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
			1				Credit 5	Indoor Chemical & Pollutant Source Control						1
			1				Credit 6.1	Controllability of Systems , Lighting						1
						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

1			2			2			Innovation & Design Process			Possible Points 5		
Y			?			N								
			1				Credit 1.1	Innovation in Design : Specific Title						1
			1				Credit 1.2	Innovation in Design : Specific Title						1
						1	Credit 1.3	Innovation in Design : Specific Title						1
						1	Credit 1.4	Innovation in Design : Specific Title						1
1							Credit 2	LEED™ Accredited Professional						1

